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1.1 libjpeg 6b

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The Independent JPEG Group's JPEG software

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README for release 6b of 27-Mar-1998

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Serious users of this software (particularly those incorporating it into larger programs) should contact IJG at jpeg-info@uunet.uu.net to be added to our electronic mailing list. Mailing list members are notified of updates and have a chance to participate in technical discussions, etc.

This software is the work of Tom Lane, Philip Gladstone, Jim Boucher, Lee Crocker, Julian Minguillon, Luis Ortiz, George Phillips, Davide Rossi, Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG Group.

IJG is not affiliated with the official ISO JPEG standards committee.

DOCUMENTATION

ROADMAP

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This file contains the following sections:

OVERVIEW General description of JPEG and the IJG software.
LEGAL ISSUES Copyright, lack of warranty, terms of distribution.
REFERENCES Where to learn more about JPEG.
ARCHIVE LOCATIONS Where to find newer versions of this software.
RELATED SOFTWARE Other stuff you should get.
FILE FORMAT WARS Software *not* to get.
TO DO Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

install.doc How to configure and install the IJG software.
usage.doc Usage instructions for cjpeg, djpeg, jpegtran,
 rdjpgcom, and wrjpgcom.
*.1 Unix-style man pages for programs (same info as usage.doc).
wizard.doc Advanced usage instructions for JPEG wizards only.
change.log Version-to-version change highlights.

Programmer and internal
documentation:

libjpeg.doc How to use the JPEG library in your own programs.
example.c Sample code for calling the JPEG library.
structure.doc Overview of the JPEG library's internal structure.
filelist.doc Road map of IJG files.
coderules.doc Coding style rules --- please read if you contribute code.

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

OVERVIEW

=====

This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images.

JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images,

very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

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The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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REFERENCES

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We

highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44. (Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue

handy, a PostScript file containing a revised version of Wallace's article is available at <ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz>. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US\$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging \$95 for Part 1 and \$47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision

1.02. A copy of the JFIF spec is available from:

Literature Department

C-Cube Microsystems, Inc.

1778 McCarthy Blvd.

Milpitas, CA 95035

phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at

<ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz>. There is also a plain text version at <ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme

found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems.

IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6).

Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from <ftp.sgi.com> or

from <ftp://ftp.uu.net/graphics/jpeg/>. It is expected that the next revision

of the TIFF spec will replace the 6.0 JPEG design with the Note's design.

Although IJG's own code does not support TIFF/JPEG, the free libtiff library

uses our library to implement TIFF/JPEG per the Note. libtiff is available

from <ftp://ftp.sgi.com/graphics/tiff/>.

ARCHIVE LOCATIONS

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The "official" archive site for this software is <ftp.uu.net> (Internet address 192.48.96.9). The most recent released version can always be found there in directory <graphics/jpeg>. This particular version will be archived as <ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz>. If you don't have

direct Internet access, UUNET's archives are also available via UUCP; contact help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only <ftp.uu.net> is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from the SimTel archives (<ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/>), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the <ftp.uu.net> release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to

Usenet newsgroups comp.graphics.misc, news.answers, and other groups.
It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/>
and other news.answers
archive sites, including the official news.answers
archive at rtfm.mit.edu: <ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/>.
If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu
with body
send usenet/news.answers/jpeg-faq/part1
send usenet/news.answers/jpeg-faq/part2

RELATED SOFTWARE

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Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites,
notably <ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/>.
Unfortunately PBPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from <ftp://havefun.stanford.edu/pub/jpeg/>. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

FILE FORMAT WARS

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Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read.

(For example, none
of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether

SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!

TO DO

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The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to jpeg-info@uunet.uu.net.

1.2 javax-inject 1

1.2.1 Available under license :

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Version 2.0, January 2004

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1.6 jeromq 0.3.5

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1.7 annotations 13.0

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jar/org/intellij/lang/annotations/Identifier.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/intellij/lang/annotations/Pattern.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/intellij/lang/annotations/Language.java
*
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jar/org/intellij/lang/annotations/PrintFormat.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-
jar/org/intellij/lang/annotations/RegExp.java
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* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-jar/org/jetbrains/annotations/Nullable.java
* /opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-jar/org/jetbrains/annotations/NonNls.java
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/opt/cola/permits/173667507_1695324641.7896898/0/annotations-13-0-sources-jar/org/jetbrains/annotations/PropertyKey.java

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1.8 failureaccess 1.0.1

1.9 byte-buddy 1.9.10

1.10 commons-collections 4.1

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1.11 javax-ws-rs-api 2.1.1

1.12 bzip2 1.0.8

1.13 objenesis 2.6

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Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

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Upstream-Name: liblz4

Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

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1.26 swagger-core 1.6.2

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jar/org/apache/log4j/xml/DOMConfigurator.java
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* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/spi/HierarchyEventListener.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/PatternLayout.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/Logger.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/Level.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/Category.java
*
/opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/Priority.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/spi/ErrorHandler.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/spi/OptionHandler.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/FileAppender.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/LogManager.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/AppenderSkeleton.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/helpers/LogLog.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/PropertyConfigurator.java
*
/opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/Log4jLoggerFactory.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/MDC.java
* /opt/ws_local/PERMITS_SQL/1088524438_1599802440.27/0/log4j-over-slf4j-1-7-30-sources-1-
jar/org/apache/log4j/spi/Filter.java

```

1.29 jctools-core 3.1.0

1.29.1 Available under license :

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

```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <artifactId>jctools-core</artifactId>
  <groupId>org.jctools</groupId>
  <version>3.1.0</version>
  <name>Java Concurrency Tools Core Library</name>
  <description>Java Concurrency Tools Core Library</description>
  <packaging>bundle</packaging>

  <dependencies>
    <dependency>
      <groupId>org.hamcrest</groupId>
      <artifactId>hamcrest-all</artifactId>
      <version>${hamcrest.version}</version>
      <scope>test</scope>
    </dependency>

    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>${junit.version}</version>
      <scope>test</scope>
    </dependency>

    <dependency>
      <groupId>com.google.guava</groupId>
      <artifactId>guava-testlib</artifactId>
      <version>${guava-testlib.version}</version>
      <scope>test</scope>
    </dependency>
  </dependencies>
  <build>
    <plugins>
      <plugin>
        <groupId>org.apache.maven.plugins</groupId>
        <artifactId>maven-surefire-plugin</artifactId>
        <version>3.0.0-M3</version>
        <configuration>
          <includes>
            <include>*</include>
          </includes>
        </configuration>
      </plugin>
    </plugins>
  </build>
</project>
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```

<plugin>
  <groupId>org.apache.felix</groupId>
  <artifactId>maven-bundle-plugin</artifactId>
  <version>4.2.1</version>
  <extensions>>true</extensions>
  <configuration>
    <instructions>
      <Import-Package>sun.misc;resolution:=optional</Import-Package>
    </instructions>
  </configuration>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-source-plugin</artifactId>
  <version>3.2.0</version>
  <executions>
    <execution>
      <id>attach-sources</id>
      <phase>verify</phase>
      <goals>
        <goal>jar-no-fork</goal>
      </goals>
    </execution>
  </executions>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-javadoc-plugin</artifactId>
  <version>3.1.1</version>
  <configuration>
    <additionalOptions>
      <additionalOption>-Xdoclint:none</additionalOption>
    </additionalOptions>
    <source>8</source>
  </configuration>
  <executions>
    <execution>
      <id>attach-javadocs</id>
      <goals>
        <goal>jar</goal>
      </goals>
    </execution>
  </executions>
</plugin>
</plugins>
</build>

```

```

<distributionManagement>

```

```
<repository>
  <id>bintray-jctools-jctools</id>
  <name>jctools-jctools</name>
  <url>https://api.bintray.com/maven/jctools/jctools/jctools-core/;publish=1</url>
</repository>
</distributionManagement>
```

```
<url>https://github.com/JCTools</url>
<inceptionYear>2013</inceptionYear>
```

```
<licenses>
  <license>
    <name>Apache
License, Version 2.0</name>
    <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
    <distribution>repo</distribution>
  </license>
</licenses>
```

```
<scm>
  <url>https://github.com/JCTools/JCTools</url>
  <connection>scm:git:https://github.com/JCTools/JCTools</connection>
  <tag>HEAD</tag>
</scm>
```

```
<developers>
  <developer>
    <url>https://github.com/nitsanw</url>
  </developer>
  <developer>
    <url>https://github.com/mjpt777</url>
  </developer>
  <developer>
    <url>https://github.com/RichardWarburton</url>
  </developer>
  <developer>
    <url>https://github.com/kay</url>
  </developer>
  <developer>
    <url>https://github.com/franz1981</url>
  </developer>
</developers>
```

```
<prerequisites>
  <maven>3.5.0</maven>
</prerequisites>
```

```
<properties>
```

```

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
<java.version>1.6</java.version>
<java.test.version>1.8</java.test.version>

<maven.compiler.source>${java.version}</maven.compiler.source>
<maven.compiler.target>${java.version}</maven.compiler.target>
<maven.compiler.testSource>${java.test.version}</maven.compiler.testSource>
<maven.compiler.testTarget>${java.test.version}</maven.compiler.testTarget>

<hamcrest.version>1.3</hamcrest.version>
<junit.version>4.12</junit.version>
<guava-testlib.version>21.0</guava-testlib.version>
</properties>
</project>

```

Found

in path(s):

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/META-INF/maven/org.jctools/jctools-core/pom.xml

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/*

```

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*/

```

Found in path(s):

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/spec/Ordering.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCUnboundedAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpMCAtomicArrayQueue.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MessagePassingQueueUtil.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MPMCAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-

jar/org/jctools/util/UnsafeJvmInfo.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/LinkedListAtomicNode.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpseLinkedListQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscUnboundedXaddArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/spec/Preference.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscAtomicArrayQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MessagePassingQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SupportsIterator.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpmcUnboundedXaddArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscGrowArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/BaseSpseLinkedListAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/AtomicQueueFactory.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpmcArrayQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpseAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpseLinkedListAtomicQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpmcArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/AbstractEntry.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpmcUnboundedXaddChunk.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscChunkedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/maps/NonBlockingHashMapLong.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscChunkedAtomicArrayQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeLongArrayAccess.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscBlockingConsumerArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/BaseMpscLinkedAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingHashMap.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/BaseMpscLinkedArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscGrowableAtomicArrayQueue.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingIdentityHashMap.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/BaseLinkedQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/InternalAPI.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingHashSet.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/Pow2.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/spec/ConcurrentQueueSpec.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SpSCChunkedAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/ConcurrentAutoTable.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/MpscUnboundedXaddChunk.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/MpscUnboundedAtomicArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/LinkedQueueNode.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/SpSCUnboundedArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/util/PortableJvmInfo.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/ConcurrentCircularArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/maps/NonBlockingSetInt.java

*

/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/BaseLinkedAtomicQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-jar/org/jctools/queues/atomic/SequencedAtomicReferenceArrayQueue.java

* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-

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jar/org/jctools/queues/MpscLinkedQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeRefArrayAccess.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscCompoundQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCChunkedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/QueueFactory.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/UnsafeAccess.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/MpscUnboundedArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/SpSCGrowAtomicArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/IndexedQueueSizeUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/atomic/MpscLinkedAtomicQueue.java
*
/opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/SpSCGrowArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/util/RangeUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/package-info.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/BaseSpSCLinkedArrayQueue.java

```

1.30 xerces-j 2.12.2

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1.40 commons-logging 1.2

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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogFactory.java

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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/AvalonLogger.java
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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/WeakHashtable.java
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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/package.html

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/package.html

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* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogConfigurationException.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Log4JLogger.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogFactoryImpl.java

*

/opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk13LumberjackLogger.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/SimpleLog.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk14Logger.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogSource.java

* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/NoOpLog.java

```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/LogKitLogger.java
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/Log.java
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```
* /opt/cola/permits/1135840457_1613613080.13/0/commons-logging-1-1-sources-9-
jar/org/apache/commons/logging/impl/ServletContextCleaner.java
```

1.41 jul-to-slf4j 1.7.30

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*/opt/cola/permits/1135864176_1613618002.1/0/jul-to-slf4j-1-7-30-sources-1-
jar/org/slf4j/bridge/SLF4JBridgeHandler.java

1.42 commons-codec 1.14

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src/test/org/apache/commons/codec/language/DoubleMetaphoneTest.java
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1.43 javassist 3.27.0-GA

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```
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/Proxy.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Visitor.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Member.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/CannotInvokeException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/CtNewWrappedConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/LoaderClassPath.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/rmi/AppletServer.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
```

```

jar/javassist/tools/rmi/ObjectNotFoundException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/ArrayInit.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/Mnemonic.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/SignatureAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtArray.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/convert/TransformNewClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Parser.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/DefineClassHelper.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/SubroutineScanner.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtMember.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/ExceptionTable.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/expr/ConstructorCall.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/FieldInfo.java
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jar/javassist/compiler/CodeGen.java
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/URLClassPath.java
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/NestMembersAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/CannotReflectException.java
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jar/javassist/bytecode/Descriptor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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jar/javassist/bytecode/ClassFileWriter.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/analysis/Frame.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
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 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/Analyzer.java
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 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/MemberResolver.java
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 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/Util.java
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 *
 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Metaobject.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/stackmap/MapMaker.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/JvstTypeChecker.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformReadField.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Loader.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/StackMapTable.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPoolTail.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassPath.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/HotSwapper.java
 *
 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Javac.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/ControlFlow.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/Opcode.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/Executor.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/web/Webserver.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/LongVector.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/ProxyObjectOutputStream.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/CastExpr.java
 *
 /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/DeprecatedAttribute.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtClass.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Translator.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/Sample.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/CodeAttribute.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/NewArray.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassClassPath.java
 * /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/IntConst.java

* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/MethodHandler.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformNew.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolRepository.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Cast.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/NoFieldException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/SyntaxError.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/TokenId.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/RuntimeSupport.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Pair.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/convert/TransformWriteField.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ConstPool.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/MultiType.java
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/MemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-

```

jar/javassist/bytecode/annotation/EnumMemberValue.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ByteMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ClassMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/MemberValueVisitor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/FloatMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/IntegerMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/StringMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ArrayMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/BooleanMemberValue.java
*
/opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/LongMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/CharMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/Annotation.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/ShortMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/AnnotationMemberValue.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/annotation/DoubleMemberValue.java

```

1.44 classmate 1.5.1

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Java ClassMate library was originally written by Tatu Saloranta (tatu.saloranta@iki.fi)

Other developers who have contributed code are:

* Brian Langel

1.45 httpcomponents-mime 4.5.12

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1.46 jcl-over-slf4j 1.7.30

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- * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/LogFactory.java
 - * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/impl/SLF4JLogFactory.java
 - * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/LogConfigurationException.java
 - *
 - /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/Log.java
 - * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/impl/SimpleLog.java
 - * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/impl/NoOpLog.java
 - * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/impl/SLF4JLocationAwareLog.java
 - * /opt/cola/permits/1135880174_1613624046.95/0/jcl-over-slf4j-1-7-30-sources-1-jar/org/apache/commons/logging/impl/SLF4JLog.java
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1.47 jakarta-validation-api 2.0.2

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```
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/Validator.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/metadata/CascadableDescriptor.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/ConstraintTarget.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/constraints/FutureOrPresent.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/constraints/Null.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/ConstraintValidatorContext.java  
*  
/opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/metadata/ExecutableDescriptor.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/groups/Default.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/MessageInterpolator.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/metadata/package-info.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/valueextraction/Unwrapping.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/valueextraction/ValueExtractor.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/constraintvalidation/ValidationTarget.java  
*  
/opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/metadata/MethodDescriptor.java  
* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-  
jar/javax/validation/package-info.java
```

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/UnexpectedTypeException.java

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/metadata/BeanDescriptor.java

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/Digits.java

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/bootstrap/ProviderSpecificBootstrap.java

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/UnwrapByDefault.java

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/NegativeOrZero.java

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/opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintViolation.java

* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ConstraintDefinitionException.java

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* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraintvalidation/SupportedValidationTarget.java

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* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/ElementKind.java

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* /opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/valueextraction/ExtractedValue.java

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/opt/cola/permits/1135880235_1613624044.2/0/jakarta-validation-api-2-0-2-sources-3-jar/javax/validation/constraints/DecimalMin.java
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1.48 asm 7.1

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1.49 jakarta-ws-rs-api 2.1.6

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1.52 commons-codec 1.15

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1.53 fluent-hc 4.5.13

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1.54 hk2-locator 2.6.1

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1.56 hk2-utils 2.6.1

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1.58 resourcelocator 1.0.3

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1.59 jakarta-inject 2.6.1

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 - * Providing benchmark suite
- * Alec Wysoker
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```

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Ty Coon, President of Vice
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Format: <http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/>

Upstream-Name: liblz4

Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

Files: *

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1.66 asm 9.1

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Found in path(s):

```
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-  
jar/org/objectweb/asm/signature/SignatureWriter.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/TypePath.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-  
jar/org/objectweb/asm/RecordComponentVisitor.java  
*  
/opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-  
jar/org/objectweb/asm/signature/SignatureReader.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Context.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/TypeReference.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/FieldVisitor.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-  
jar/org/objectweb/asm/MethodTooLargeException.java  
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ModuleVisitor.java
```

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ClassTooLargeException.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ClassWriter.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Attribute.java

*

/opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ClassVisitor.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Handler.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/FieldWriter.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Type.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/AnnotationWriter.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Edge.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/MethodWriter.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ByteVector.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Constants.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ConstantDynamic.java

*

/opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Label.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Handle.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Opcodes.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ClassReader.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/AnnotationVisitor.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/signature/SignatureVisitor.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Frame.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/SymbolTable.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/ModuleWriter.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/MethodVisitor.java

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/opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/RecordComponentWriter.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/Symbol.java

* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/CurrentFrame.java

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* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/package.html
* /opt/cola/permits/1146079232_1616457494.45/0/asm-9-1-sources-jar/org/objectweb/asm/signature/package.html

1.67 zstd-jni 1.4.9-1

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Manifest-Version: 1.0

Automatic-Module-Name: com.github.luben.zstd_jni

Bnd-LastModified: 1615191527618

Bundle-Description: JNI bindings for Zstd native library that provides fast and high compression lossless algorithm for Java and all JVM languages.

Bundle-License: <https://opensource.org/licenses/BSD-2-Clause>;description=BSD 2-Clause License

Bundle-ManifestVersion: 2

Bundle-Name: zstd-jni

Bundle-NativeCode: aix/ppc64/libzstd-jni.so;osname=AIX;processor=ppc64, darwin/x86_64/libzstd-jni.dylib;osname=MacOS;osname=MacOSX;processor=x86_64, darwin/aarch64/libzstd-jni.dylib;osname=MacOS;osname=MacOSX;processor=aarch64, freebsd/amd64/libzstd-jni.so;osname=FreeBSD;processor=amd64, freebsd/i386/libzstd-jni.so;osname=FreeBSD;processor=i386, linux/aarch64/libzstd-jni.so;osname=Linux;processor=aarch64, linux/amd64/libzstd-jni.so;osname=Linux;processor=amd64, linux/arm/libzstd-jni.so;osname=Linux;processor=arm, linux/i386/libzstd-jni.so;osname=Linux;processor=i386, linux/mips64/libzstd-jni.so;osname=Linux;processor=mips64, linux/ppc64/libzstd-jni.so;osname=Linux;processor=ppc64, linux/ppc64le/libzstd-jni.so;osname=Linux;processor=ppc64le, linux/s390x/libzstd-jni.so;osname=Linux;processor=s390x, win/amd64/libzstd-jni.dll;osname=Win32;processor=amd64, win/x86/libzstd-jni.dll;osname=Win32;processor=x86

Bundle-SymbolicName: com.github.luben.zstd-jni
Bundle-Vendor: com.github.luben
Bundle-Version: 1.4.9.1
Created-By: 1.8.0_275 (Debian)
Export-Package: com.github.luben.zstd;version="1.4.9.1",com.github.luben.zstd.util;version="1.4.9.1"
Implementation-Title: zstd-jni
Implementation-Vendor: com.github.luben
Implementation-Vendor-Id: com.github.luben
Implementation-Version: 1.4.9-1
Import-Package: org.osgi.framework;resolution:=optional
Private-Package: linux.amd64,linux.i386,linux.aarch64,linux.arm,linux.ppc64,linux.ppc64le,linux.mips64,linux.s390x,aix.ppc64,darwin.x86_64,darwin.aarch64,win.amd64,win.x86,freebsd.amd64,freebsd.i386
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"
Specification-Title: zstd-jni
Specification-Vendor: com.github.luben
Specification-Version: 1.4.9-1
Tool: Bnd-4.0.0.201805111645

Found in path(s):

* /opt/cola/permits/1176808707_1624967190.04/0/zstd-jni-1-4-9-1-jar/META-INF/MANIFEST.MF

1.68 jakarta xml bind api 2.3.3

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jar/com/lmax/disruptor/EventReleaseAware.java
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jar/com/lmax/disruptor/WorkHandler.java
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jar/com/lmax/disruptor/EventTranslatorThreeArg.java
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jar/com/lmax/disruptor/BatchEventProcessor.java
*

/opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-
jar/com/lmax/disruptor/dsl/EventHandlerGroup.java

* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-
jar/com/lmax/disruptor/LiteBlockingWaitStrategy.java

* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/EventTranslatorVararg.java

* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/WorkerPool.java

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* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/dsl/ExceptionHandlerSetting.java

* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/WorkProcessor.java

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/opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/util/DaemonThreadFactory.java

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* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/FatalExceptionHandler.java

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/opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/SequenceGroup.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/MultiProducerSequencer.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/SequenceReportingEventHandler.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/EventTranslator.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/AggregateEventHandler.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/dsl/EventProcessorInfo.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/IgnoreExceptionHandler.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/dsl/Disruptor.java
*

/opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/ProcessingSequenceBarrier.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/SleepingWaitStrategy.java
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jar/com/lmax/disruptor/InsufficientCapacityException.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-jar/com/lmax/disruptor/Sequencer.java
* /opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-
jar/com/lmax/disruptor/DataProvider.java
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/opt/cola/permits/1185279897_1627734845.86/0/disruptor-3-4-4-sources-
jar/com/lmax/disruptor/SequenceGroups.java
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jar/com/lmax/disruptor/FixedSequenceGroup.java
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jar/com/lmax/disruptor/dsl/ProducerType.java
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Found in path(s):

```
* /opt/cola/permits/1195818461_1629833729.3/0/jul-to-slf4j-1-7-32-sources-  
jar/org/slf4j/bridge/SLF4JBridgeHandler.java
```

1.71 lz4-java 1.7.1

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1.72 servlet-api 4.0.1

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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/META-INF/validation-mapping-1.1.xsd

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/overview.html

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/META-INF/maven/org.hibernate.validator/hibernate-validator/pom.xml

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/META-INF/validation-mapping-2.0.xsd

```
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/META-
INF/validation-configuration-1.0.xsd
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/META-
INF/validation-configuration-1.1.xsd
No license file was found, but licenses were detected in source scan.
```

```
/*
* Hibernate Validator, declare and validate application constraints
*
* License: Apache License, Version 2.0
* See the license.txt file in the root directory or <http://www.apache.org/licenses/LICENSE-2.0>.
*/
/**
* <p>
* A method-level constraint, that evaluates a script expression against the
* annotated method or constructor. This constraint can be used to implement
* validation routines that depend on several parameters of the annotated
* executable.
* </p>
* <p>
* Script expressions can be written in any scripting or expression language,
* for which a <a href="http://jcp.org/en/jsr/detail?id=223">JSR 223</a>
* ("Scripting for the Java<sup>TM</sup> Platform") compatible engine can be
* found on the classpath. To refer to a parameter within the scripting
* expression, use its name as obtained by the active
* { @link javax.validation.ParameterNameProvider}. The default provider will
* return the
* actual parameter names, if the -parameters compiler option
* has been enabled, and { @code arg0}, { @code arg1} etc. otherwise.
* </p>
* <p>
* The following listing shows an example using the JavaScript engine which
* comes with the JDK:
* </p>
* <pre>
* { @code @ParameterScriptAssert(script = "start.before(end)", lang = "javascript")
* public void createEvent(Date start, Date end) { ... }
* }
* </pre>
* <p>
* Can be specified on any method or constructor.
* </p>
*
* @author Gunnar Morling
*/
```

Found in path(s):

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/constraints/ParameterScriptAssert.java

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

/*

* Hibernate Validator, declare and validate application constraints

*

* License: Apache License, Version 2.0

* See the license.txt file in the root directory or <<http://www.apache.org/licenses/LICENSE-2.0>>.

*/

/**

* Retrieves constraint related meta data for the parameters of the given executable.

*

* @param javaBeanExecutable The executable of interest.

*

* @return A list with parameter meta data for the given executable.

*/

Found in path(s):

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/provider/AnnotationMetaDataProvider.java

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

/*

* Hibernate Validator, declare and validate application constraints

*

* License: Apache License, Version 2.0

* See the license.txt file in the root directory or <<http://www.apache.org/licenses/LICENSE-2.0>>.

*/

Found in path(s):

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/raw/BeanConfiguration.java

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMaxValidatorForFloat.java

va

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/descriptor/PropertyDescriptorImpl.java

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/xml/mapping/AbstractConstrainedElementStaxBuilder.java

*

/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForHijrahDate.java

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

jar/org/hibernate/validator/internal/constraintvalidators/bv/money/PositiveOrZeroValidatorForMonetaryAmount.java

a

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-


```

jar/org/hibernate/validator/cfg/defs/pl/NIPDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/aggregated/BeanMetaDataBuilder.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraintvalidation/HibernateConstraintValidatorContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForArray.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/PredefinedScopeValidatorFactoryImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/NegativeDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/Version.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/cfg/context/ExecutableConstraintMappingContextImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/validationcontext/BeanValidationContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/messageinterpolation/LocaleResolver.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/ListPropertyValueExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/br/TituloEleitoral.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/hv/br/CNPJValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMinValidatorForCharSeq
uence.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/notempty/NotEmptyValidatorForCharSequence.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/aggregated/ContainerCascadingMetaData.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/nodenameprovider/Property.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/SetPropertyValueExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/core/ConstraintOrigin.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/scripting/DefaultScriptEvaluatorFactory.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/location/GetterConstraintLocation.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MaxValidatorForByte.java

```

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MinValidatorForNumber.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/aggregated/GroupConversionHelper.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/NotNullValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/messageinterpolation/parser/ELState.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/package-info.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/pl/REGONDef.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/messageinterpolation/AbstractMessageInterpolator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/AbstractDecimalMinValidator.java
 *
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/constraints/pl/REGON.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/FutureOrPresentDef.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/AssertTrueDef.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveValidatorForBigInteger.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/aggregated/NonContainerCascadingMetaData.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/size/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/ExecutableParameterNameProvider.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/money/NegativeOrZeroValidatorForMonetaryAmount.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/DomainNameUtil.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/messageinterpolation/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/context/TypeTarget.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/constraints/Mod11Check.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

```

jar/org/hibernate/validator/internal/cfg/context/ParameterConstraintMappingContextImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/xml/AbstractStaxBuilder.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/NullDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/raw/ConfigurationSource.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/Contracts.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/ReturnValueTarget.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveOrZeroValidatorForDouble.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/metadata/BeanMetaDataClassNormalizer.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/HibernateValidatorFactory.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/PredefinedScopeBeanMetaDataManager.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/OptionalIntValueExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/cfg/context/GetterConstraintMappingContextImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MaxValidatorForCharSequence.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/time/DurationMin.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/money/MinValidatorForMonetaryAmount.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/ru/INN.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/privilegedactions/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveOrZeroValidatorForCharSequence.j
ava
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/facets/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/ValidatorImpl.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeOrZeroValidatorForCharSequence.
java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

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jar/org/hibernate/validator/internal/constraintvalidators/bv/time/futureorpresent/FutureOrPresentValidatorForHijrahDate.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/cfg/context/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/AssertTrueValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/valueextraction/ArrayElement.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/HibernateValidatorConfiguration.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/hv/time/DurationMaxValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForYear.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/ParameterScriptAssertDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/EmailValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForReadableInstant.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/ConstraintViolationImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/PredefinedScopeValidatorContextImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/HibernateValidatorPermission.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/annotation/AnnotationDescriptor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForThaiBuddhistDate.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/money/PositiveValidatorForMonetaryAmount.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/futureorpresent/FutureOrPresentValidatorForYear.java
va
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/HibernateValidatorContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/resolver/CachingTraversableResolverForSingleValidation.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/constraintdefinition/ConstraintDefinitionContribution.java
*

/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/hv/ScriptAssertContext.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/xml/mapping/MappingXmlParser.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/messageinterpolation/ExpressionLanguageFeatureLevel.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/defs/EANDef.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/hv/AbstractScriptAssertValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/privilegedactions/GetDeclaredMethodHandle.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/defs/AssertFalseDef.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForDouble.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/logging/formatter/TypeFormatter.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/privilegedactions/SetContextClassLoader.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/xml/config/ValidationConfigStaxBuilder.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/scripting/AbstractCachingScriptEvaluatorFactory.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/AbstractPastJavaTimeValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/messageinterpolation/EITermResolver.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/PastOrPresentDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/hv/NormalizedValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/core/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/properties/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/FutureDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/aggregated/MetaDataBuilder.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/location/ReturnValueConstraintLocation.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/pl/PESELDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/MethodValidationConfiguration.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/hv/ISBNValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/annotation/ConstraintAnnotationDescriptor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/ru/INNDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/AbstractPastOrPresentEpochBasedValidator.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForArrayOfLong.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/privilegedactions/GetDeclaredMethod.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

jar/org/hibernate/validator/constraints/pl/NIP.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/aggregated/CascadingMetaData.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/constraints/ISBN.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/resourceloading/PlatformResourceBundleLocator.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/valueextraction/BooleanArrayValueExtractor.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/aggregated/ConstraintMetaData.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/groups/GroupWithInheritance.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/privilegedactions/NewInstance.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/validationcontext/ValidatorScopedContext.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/hv/time/DurationMinValidator.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/validationcontext/BaseBeanValidationContext.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForArraysOfPrimitives.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/stereotypes/ThreadSafe.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/messageinterpolation/parser/ParserState.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/descriptor/BeanDescriptorImpl.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForLocalTime.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/hv/LuhnCheckValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/AbstractMaxValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/location/ParameterConstraintLocation.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/AbstractPastOrPresentJavaTimeValid
 ator.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForYearMonth.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/defs/NotNullDef.java

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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/ContainerElementConstraintMappingContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForYearMonth.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/CompositionType.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForZonedDate
Time.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForInstant.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/location/ConstraintLocation.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/properties/javabean/JavaBeanParameter.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/privilegedactions/LoadClass.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/constraintvalidation/ConstraintValidatorDescriptor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/privilegedactions/NewProxyInstance.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForJapaneseDa
te.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/core/AnnotationProcessingOptions.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/notempty/NotEmptyValidatorForArraysOfChar.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/aggregated/rule/ParallelMethodsMustNotDefineParameterConstraints.j
ava
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForZonedDateTime.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/ReturnValueConstraintMappingContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForFloat.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/validationcontext/ExecutableValidationContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/aggregated/ClassMetaData.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMinValidatorForShort.ja
va
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/constraintvalidation/HibernateConstraintValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/raw/ConstrainedField.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MaxValidatorForShort.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/resolver/CachingJPATraversableResolverForSingleValidation.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/futureorpresent/FutureOrPresentValidatorForMingu
 oDate.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/privilegedactions/GetResolvedMemberMethods.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/logging/Log.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/valueextraction/OptionalLongValueExtractor.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/notempty/NotEmptyValidatorForArraysOfShort.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/logging/formatter/CollectionOfObjectsToStringFormatter.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/money/MaxValidatorForMonetaryAmount.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForCalendar.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveValidatorForBigDecimal.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/constraintvalidators/RegexpURLValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/BaseHibernateValidatorConfiguration.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/PredefinedScopeHibernateValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/defs/Mod10CheckDef.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/spi/properties/ConstrainableExecutable.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/futureorpresent/FutureOrPresentValidatorForLocalT
 ime.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MaxValidatorForInteger.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForYearMonth
 .java

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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/messageinterpolation/FormatterWrapper.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForByte.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/location/CrossParameterConstraintLocation.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/group/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/ParameterConstraintMappingContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/validationcontext/ValidationContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForNumber.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/constraintvalidation/HibernateConstraintValidatorInitializationContextIm
pl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/br/CPF.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/CreditCardNumber.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/cfg/context/ConstraintDefinitionContextImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/xml/mapping/AbstractConstrainedExecutableElementStaxBuilder.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveOrZeroValidatorForShort.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/AbstractConfigurationImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForReadablePartial.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MinValidatorForBigDecimal.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/ConstraintDefinitionContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MinValidatorForInteger.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/logging/LoggerFactory.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/MapValueExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/InfinityNumberComparatorHelper.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

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jar/org/hibernate/validator/spi/scripting/ScriptEngineScriptEvaluator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/scripting/ScriptEvaluationException.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MaxValidatorForBigInteger.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMaxValidatorForBigInte
ger.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/DigitsValidatorForCharSequence.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/AbstractEmailValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForMinguoDate.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForCharSequence.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/properties/javabean/JavaBeanAnnotatedElement.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/cfg/context/ConstraintMappingContextImplBase.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/notempty/NotEmptyValidatorForArraysOfLong.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/descriptor/ElementDescriptorImpl.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/aggregated/AbstractPropertyCascadable.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/context/Cascadable.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/hv/EmailValidator.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForThaiBuddhistDate.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/location/AbstractPropertyConstraintLocation.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/aggregated/ParameterMetaData.java
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jar/org/hibernate/validator/internal/engine/valueextraction/MapKeyExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/core/MetaConstraints.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/StringHelper.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/parameternameprovider/ParanamerParameterNameProvider.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForShort.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/validationcontext/ParameterExecutableValidationContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/MinDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/hv/Mod10CheckValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/groups/DefaultValidationOrder.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/properties/javabean/JavaBeanGetter.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/Mod11CheckDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/messageinterpolation/DefaultLocaleResolver.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMaxValidatorForCharSe
quence.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/NotEmptyDef.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/constraintvalidation/ClassBasedValidatorDescriptor.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/ListViewExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForArrayOfFloat.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/spi/nodenameprovider/JavaBeanProperty.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForDate.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForReadablePa
rtial.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/PropertyConstraintMappingContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

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jar/org/hibernate/validator/cfg/context/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/properties/Property.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MinValidatorForShort.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveOrZeroValidatorForNumber.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/package-info.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/descriptor/GroupConversionDescriptorImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/TypeVariables.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/ServiceLoaderBasedConstraintMappingContributor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/messageinterpolation/parser/TokenIterator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/AnnotatedObject.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/defs/PositiveOrZeroDef.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForArrayOfShort.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeOrZeroValidatorForBigDecimal.java
va
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/properties/javabean/JavaBeanExecutable.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/xml/mapping/ConstrainedGetterStaxBuilder.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/futureorpresent/FutureOrPresentValidatorForJapaneseDate.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeValidatorForBigDecimal.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/PredefinedScopeHibernateValidatorFactory.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraintvalidation/package-info.java
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jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeOrZeroValidatorForLong.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/metadata/aggregated/rule/ParallelMethodsMustNotDefineGroupConversionForCascadedReturnValue.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/AbstractFutureJavaTimeValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/valuecontext/ValueContext.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/ValidatorFactoryScopedContext.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/constraints/UniqueElements.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/location/TypeArgumentConstraintLocation.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/defs/DurationMaxDef.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/privilegedactions/GetDeclaredMethods.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForJapaneseDate.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/resourceloading/AggregateResourceBundleLocator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/xml/mapping/ClassConstraintTypeStaxBuilder.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/util/privilegedactions/NewSchema.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/xml/mapping/CrossParameterStaxBuilder.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/context/ParameterTarget.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/aggregated/rule/ReturnValueMayOnlyBeMarkedOnceAsCascadedPerH
 ierarchyLine.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/BeanMetaDataManagerImpl.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForArrayOfInt.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/constraints/time/DurationMax.java
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 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForHijrahDate.java
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 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeOrZeroValidatorForFloat.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/size/SizeValidatorForCollection.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/descriptor/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/valueextraction/OptionalValueExtractor.java

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/valueextraction/ShortArrayValueExtractor.java
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/privilegedactions/IsClassPresent.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/messageinterpolation/DefaultLocaleResolverContext.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForCalendar.java
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 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/hv/pl/REGONValidator.java
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/constraints/ConstraintComposition.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/hv/CodePointLengthValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/xml/mapping/ReturnValueStaxBuilder.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/messageinterpolation/parser/InterpolationTermState.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/valueextraction/ReadOnlyMapPropertyValueExtractor.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/cfg/context/ConstraintContextImplBase.java
 *
 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/ru/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/context/AnnotationProcessingOptions.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/messageinterpolation/parser/MessageDescriptorFormatException.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/xml/mapping/AbstractOneLineStringStaxBuilder.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/valueextraction/OptionalDoubleValueExtractor.java
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMinValidatorForBigInteger.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/privilegedactions/GetInstancesFromServiceLoader.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/xml/mapping/GroupConversionStaxBuilder.java

* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/resolver/AbstractTraversableHolder.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/ScriptAssertDef.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMinValidatorForNumber.java
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/PositiveValidatorForInteger.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/aggregated/BeanMetaDataImpl.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/messageinterpolation/el/DisabledFeatureELEException.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/cfg/defs/DurationMinDef.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/AbstractFutureEpochBasedValidator.java
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/engine/DefaultParameterNameProvider.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/time/futureorpresent/FutureOrPresentValidatorForZonedDateTime.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/metadata/location/FieldConstraintLocation.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/hv/ModCheckValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/xml/mapping/BeanStaxBuilder.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/path/package-info.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/groups/package-info.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/privilegedactions/GetResource.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/AbstractEpochBasedTimeValidator.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/PastValidatorForInstant.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/ConstraintDefinitionTarget.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForJapaneseDate.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/cfg/context/GroupConversionTargetContext.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/path/PathImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForYear.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/ValidatorFactoryImpl.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/notempty/package-info.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/constraintvalidators/bv/number/sign/NegativeOrZeroValidatorForBigInteger.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/CharArrayValueExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/group/GroupSequenceProvider.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-

jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MinValidatorForCharSequence.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/metadata/descriptor/ContainerElementTypeDescriptorImpl.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/future/FutureValidatorForOffsetTime.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/engine/DefaultPropertyNameProvider.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/resourceloading/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/parameternameprovider/package-info.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/pastorpresent/PastOrPresentValidatorForMinguoDate.java
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/cfg/defs/br/package-info.java
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 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/MinValidatorForLong.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/time/past/AbstractPastInstantBasedValidator.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMinValidatorForBigDecimal.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
 jar/org/hibernate/validator/internal/xml/mapping/ConstrainedMethodStaxBuilder.java
 * /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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 /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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jar/org/hibernate/validator/internal/xml/mapping/ContainerElementTypeStaxBuilder.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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jar/org/hibernate/validator/cfg/context/ConstructorConstraintMappingContext.java
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jar/org/hibernate/validator/internal/util/annotation/AnnotationFactory.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/messageinterpolation/TermResolver.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/constraints/CodePointLength.java
*
/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/engine/valueextraction/LongArrayValueExtractor.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/xml/mapping/AbstractMultiValuedElementStaxBuilder.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/annotation/AnnotationProxy.java
* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
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jar/org/hibernate/validator/internal/metadata/provider/XmlMetaDataProvider.java
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jar/org/hibernate/validator/internal/xml/mapping/ContainerElementTypePath.java
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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/xml/XmlParserHelper.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/bv/number/bound/decimal/DecimalMinValidatorForFloat.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/privilegedactions/GetDeclaredFields.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/spi/cfg/ConstraintMappingContributor.java
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*
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/constraintvalidators/hv/pl/NIPValidator.java
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* /opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-jar/org/hibernate/validator/internal/util/TypeHelper.java

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/opt/cola/permits/1223666055_1635937368.92/0/hibernate-validator-6-2-0-final-sources-2-
jar/org/hibernate/validator/internal/util/ConcurrentReferenceHashMap.java

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1.78 alpine-keys 2.4-r1

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1.86 hikaricp 4.0.3

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Found in path(s):

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/PoolBase.java

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- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/PoolEntry.java
- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/dropwizard/CodahaleHealthChecker.java

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- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/MetricsTrackerFactory.java
- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariJNDIFactory.java
- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/HikariPool.java
- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/dropwizard/CodaHaleMetricsTracker.java
- * /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/MetricsTracker.java

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* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/IMetricsTracker.java

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* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/prometheus/PrometheusHistogramMetricsTrackerFactory.java

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* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/SuspendResumeLock.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyResultSet.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/JavassistProxyFactory.java

*

/opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/HikariConfig.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/metrics/prometheus/HikariCPCollector.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/FastList.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/ConcurrentBag.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/DriverDataSource.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyFactory.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyConnection.java

* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/pool/ProxyLeakTaskFactory.java

*
/opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/pool/ProxyLeakTask.java
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* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/prometheus/PrometheusMetricsTrackerFactory.java
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* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/pool/ProxyCallableStatement.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/prometheus/PrometheusMetricsTracker.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-


```
jar/com/zaxxer/hikari/hibernate/HikariConfigurationUtil.java
*
/opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/HikariDataSource.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-jar/com/zaxxer/hikari/util/UtilityElf.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/HikariConfigMXBean.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/dropwizard/CodahaleMetricsTrackerFactory.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/pool/ProxyPreparedStatement.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/HikariPoolMXBean.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/prometheus/PrometheusHistogramMetricsTracker.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/util/PropertyElf.java
*
/opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/hibernate/HikariConnectionProvider.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/pool/ProxyStatement.java
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* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/metrics/PoolStats.java
* /opt/cola/permits/1257217757_1642790274.61/0/hikaricp-4-0-3-sources-
jar/com/zaxxer/hikari/util/ClockSource.java
```

1.87 dom 1.0

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```
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jar/org/apache/xerces/dom3/as/ElementEditAS.java
```

```
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASNotationDeclaration.java
```

```
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASObject.java
```

*

```
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/CharacterDataEditAS.java
```

```
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMImplementationAS.java
```

```
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
```

```
jar/org/apache/xerces/dom3/as/ASModel.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DocumentAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASAttributeDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASElementDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASEntityDeclaration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASNamedObjectMap.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASDataType.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASContentModel.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASWriter.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DocumentEditAS.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/ASObjectList.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASBuilder.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/DOMASException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom3/as/NodeEditAS.java
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```

```
*/
```

```
/**
```

```
* Checks if this content model has had its min/maxOccurs values reduced for
```

```
* purposes of speeding up UPA. If
so, this content model should not be used
* for any purpose other than checking unique particle attribution
*
* @return a boolean that says whether this content has been compacted for UPA
*/
```

Found in path(s):

```
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/models/XSCMValidator.java
```

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```

```
*/
```

```
/**
```

```
* DOM Level 3 LS CR - Experimental.
* Create a new LSParser. The newly constructed parser may
*
then be configured by means of its DOMConfiguration
* object, and used to parse documents by means of its parse
* method.
* @param mode The mode argument is either
* MODE_SYNCHRONOUS or MODE_ASYNCHRONOUS, if
* mode is MODE_SYNCHRONOUS then the
* LSParser that is created will operate in synchronous
* mode, if it's MODE_ASYNCHRONOUS then the
* LSParser that is created will operate in asynchronous
* mode.
* @param schemaType An absolute URI representing the type of the schema
* language used during the load of a Document using the
* newly created LSParser. Note that no lexical checking
* is done on the absolute URI. In order to create a
* LSParser for any kind of schema types (i.e. the
* LSParser will be free to use any schema
```

found), use the value

- * `<code>null</code>`
- * `<p >Note:` For W3C XML Schema [`XML Schema Part 1`]
- * , applications must use the value
- * `<code>"http://www.w3.org/2001/XMLSchema"</code>`. For XML DTD [`XML 1.0`],
- * applications must use the value
- * `<code>"http://www.w3.org/TR/REC-xml"</code>`. Other Schema languages
- * are outside the scope of the W3C and therefore should recommend an
- * absolute URI in order to use this method.
- * `@return` The newly created `<code>LSParser</code>` object. This
- * `<code>LSParser</code>` is either synchronous or asynchronous
- * depending on the value of the `<code>mode</code>` argument.
- * `<p >Note:` By default, the newly created `<code>LSParser</code>`
- * does not contain a `<code>DOMErrorHandler</code>`, i.e. the value of
- * the "``
- * `error-handler`" configuration parameter is `<code>null</code>`. However, implementations
- * may provide a default error handler at creation time. In that case,
- * the initial value of the `<code>"error-handler"</code>` configuration
- * parameter on the new created `<code>LSParser</code>` contains a
- * reference to the default error handler.
- * `@exception` `DOMException`
- * `NOT_SUPPORTED_ERR`: Raised if the requested mode or schema type is
- * not supported.
- */

Found in path(s):

- * `/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/CoreDOMImplementationImpl.java`
- No license file was found, but licenses were detected in source scan.

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Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDocumentInfo.java
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDElementTraverser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLErrorHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLFrameElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/XMLEntityDescriptionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/ShadowedSymbolTable.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLOptgroupElement.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredCDATASectionImpl.java
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 * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/SchemaGrammar.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/util/XSNamedMapImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/Constants.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DOMImplementationListImpl.java

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/**

* used to check the 3 constraints against each complex type
* (should be each model group):
* Unique Particle

Attribution, Particle Derivation (Restriction),

* Element Declarations Consistent.

*/

Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSConstraints.java

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Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/datatypes/package.html

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// Unique Particle Attribution

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/models/XSDFACM.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/AbstractDateTimeDV.java

*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/YearDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDKeyrefTraverser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DateDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DateTimeDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDUniqueOrKeyTraverser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/MonthDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DurationDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/MonthDayDV.java

*

/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/TimeDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSAttributeChecker.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/YearMonthDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSModelGroupImpl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDecl.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDHandler.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DayDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XMLSchemaValidator.java

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```

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DOMMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XPointerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DatatypeMessages.properties
*
/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_fr.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/SAXMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XIncludeMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XMLMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XMLSerializerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_ja.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/JAXPValidationMessages.properties

```

1.88 argparse 0.8.1

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jar/net/sourceforge/argparse4j/impl/type/ReflectArgumentType.java

* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/action/CountArgumentAction.java

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jar/net/sourceforge/argparse4j/impl/type/CaseInsensitiveEnumNameArgumentType.java

* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/type/EnumStringArgumentType.java

* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/type/CaseInsensitiveEnumStringArgumentType.java

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jar/net/sourceforge/argparse4j/inf/ArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/helper/PrefixPattern.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/internal/SubparserImpl.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/type/ConstructorArgumentType.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/inf/ArgumentGroup.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/action/VersionArgumentAction.java
*
/opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/internal/UnrecognizedArgumentException.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/inf/Subparsers.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/action/AppendConstArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/annotation/Arg.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/internal/UnrecognizedCommandException.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/inf/ArgumentType.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/helper/CJKTextWidthCounter.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/helper/TextWidthCounter.java
*
/opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/action/StoreArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/inf/Namespace.java

* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/action/StoreFalseArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/inf/FeatureControl.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/choice/CollectionArgumentChoice.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/inf/ArgumentChoice.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/internal/ArgumentGroupImpl.java
*
/opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/type/FileVerification.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/type/EnumArgumentType.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/inf/ArgumentParserException.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/inf/Subparser.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/helper/ASCIITextWidthCounter.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/helper/ReflectHelper.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/internal/ParseState.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/helper/TextHelper.java
*
/opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/action/StoreTrueArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/ArgumentParsers.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/internal/SubparsersImpl.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/inf/Argument.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/internal/ArgumentParserImpl.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/choice/RangeArgumentChoice.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/Arguments.java
*
/opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/action/AppendArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-jar/net/sourceforge/argparse4j/impl/type/StringArgumentType.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-

jar/net/sourceforge/argparse4j/inf/ArgumentParser.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/action/HelpArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/action/StoreConstArgumentAction.java
* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/internal/ArgumentImpl.java
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* /opt/cola/permits/1257333064_1642801966.95/0/argparse4j-0-8-1-sources-
jar/net/sourceforge/argparse4j/impl/type/FileArgumentType.java
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jar/net/sourceforge/argparse4j/inf/MutuallyExclusiveGroup.java

1.89 jetty-setuid-java 1.0.4

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Found in path(s):

* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/SetUIDListener.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/SetUIDServer.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/SetUID.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/Group.java
* /opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/RLimit.java
*
/opt/cola/permits/1257333122_1642801905.86/0/jetty-setuid-java-1-0-4-sources-
jar/org/eclipse/jetty/setuid/Passwd.java

1.90 profiler 1.1.1

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*  
* Date: Thu Jun 30 14:16:56 2011 -0400  
*/
```

Found in path(s):

```
* /opt/cola/permits/1257333100_1642801922.15/0/gae-mini-profiler-1-1-1-sources-jar/ca/jimr/gae/profiler/resources/jquery-1.6.2.min.js
```

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```
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* jQuery Templates Plugin 1.0.0pre  
* http://github.com/jquery/jquery-tmpl  
* Requires jQuery 1.4.2  
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```
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* /opt/cola/permits/1257333100_1642801922.15/0/gae-mini-profiler-1-1-1-sources-
 jar/com/google/appengine/tools/appstats/MiniProfilerAppstats.java
 * /opt/cola/permits/1257333100_1642801922.15/0/gae-mini-profiler-1-1-1-sources-
 jar/ca/jimr/gae/profiler/MiniProfiler.java
 * /opt/cola/permits/1257333100_1642801922.15/0/gae-mini-profiler-1-1-1-sources-
 jar/ca/jimr/gae/profiler/MiniProfilerFilter.java
 * /opt/cola/permits/1257333100_1642801922.15/0/gae-mini-profiler-1-1-1-sources-
 jar/ca/jimr/gae/profiler/resources/MiniProfilerResourceLoader.java
 * /opt/cola/permits/1257333100_1642801922.15/0/gae-mini-profiler-1-1-1-sources-
 jar/ca/jimr/gae/profiler/MiniProfilerServlet.java

1.91 dagger 2.4

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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/DelegateFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/MapKey.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Component.java

*

/opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/InstanceFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/SingleCheck.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Factory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapProviderFactory.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Collections.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/SetFactory.java

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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Multibindings.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/package-info.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntKey.java

```
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/StringKey.java
*
/opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/LongKey.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Beta.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/ClassKey.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Subcomponent.java
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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/ProviderOfLazy.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Binds.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Preconditions.java
*
/opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/DoubleCheck.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-
jar/dagger/multibindings/ElementsIntoSet.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoMap.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/package-info.java
* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoSet.java
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1.92 paranamer 2.5.1

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jar/com/thoughtworks/paranamer/NullParanamer.java

* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-

jar/com/thoughtworks/paranamer/AdaptiveParanamer.java

* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-

jar/com/thoughtworks/paranamer/ParameterNamesNotFoundException.java

*

/opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-

jar/com/thoughtworks/paranamer/CachingParanamer.java

* /opt/cola/permits/1257772269_1643010353.74/0/paranamer-2-5-1-sources-

jar/com/thoughtworks/paranamer/DefaultParanamer.java

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1.93 jctools-core 3.3.0

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*/

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* /opt/cola/permits/1257772382_1643010290.62/0/jctools-core-3-3-0-sources-jar/org/jctools/queues/ConcurrentCircularArrayQueue.java

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1.94 jakarta-el 3.0.4

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1.95 annotations 4.1.1.4

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```
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jar/android/annotation/SuppressLint.java  
* /opt/cola/permits/1258811491_1643111603.33/0/annotations-4-1-1-4-sources-  
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1.98 swagger-annotations 1.6.2

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 */
```

Found in path(s):

```
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Authorization.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ExternalDocs.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Info.java
*
/opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ExampleProperty.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiModelProperty.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
```

```
jar/io/swagger/annotations/ApiModel.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ResponseHeader.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Tag.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/SwaggerDefinition.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiResponses.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ExtensionProperty.java
*
/opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Extension.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiResponse.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/License.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Api.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiImplicitParam.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/AuthorizationScope.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiImplicitParams.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiParam.java
*
/opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/ApiOperation.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Example.java
* /opt/cola/permits/1260643097_1643189570.95/0/swagger-annotations-1-6-2-sources-
jar/io/swagger/annotations/Contact.java
```

1.99 jakarta-inject-api 2.0.1

1.99.1 Available under license :

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1.100 error_prone_annotations 2.3.3

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```

Found in path(s):

```
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/CompatibleWith.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/FormatMethod.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/MustBeClosed.java
*
/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/RestrictedApi.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-
jar/com/google/errorprone/annotations/FormatString.java
```

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* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/DoNotCall.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java
*
/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CheckReturnValue.java

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* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/NoAllocation.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java

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* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/SuppressPackageLocation.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/Immutable.java
*
/opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/RequiredModifiers.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/Var.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/ForOverride.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LazyInit.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/IncompatibleModifiers.java

1.101 logback-throttling-appender 1.1.0

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* /opt/cola/permits/1265859119_1643960119.64/0/logback-throttling-appender-1-1-0-jar/META-INF/maven/io.dropwizard.logback/logback-throttling-appender/pom.xml

1.102 picocontainer 2.15

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- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ProviderAdapter.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/ComponentLifecycle.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/security/CustomPermissionsURLClassLoader.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/ComponentMonitorStrategy.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Stored.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/FactoryInjector.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/references/SimpleReference.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Guarded.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/Provider.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/CompositeInjector.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Injector.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/InjectInto.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/references/ThreadLocalMapObjectReference.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/CompositeInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/Injector.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/MultiInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/ObjectReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Decorated.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/Reinjection.java

*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/references/ThreadLocalReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/Reinjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/MultiInjection.java

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/classname/ClassPathElement.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/classname/ClassName.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/classname/ClassLoadingPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/parameters/DefaultConstructorParameter.java

*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/classname/DefaultClassLoadingPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/parameters/NullParameter.java

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```
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/LifecycleState.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/StartableLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/MethodCallingVisitor.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/AbstractMonitoringLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/TraversalCheckingVisitor.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/converters/Converter.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/ReflectionLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/PicoVisitor.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/ComponentAdapter.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/JavaEE5LifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/Converters.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/LifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/VerifyingVisitor.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/DefaultLifecycleState.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/CompositeLifecycleStrategy.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/lifecycle/ReflectionLifecycleException.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/visitors/AbstractPicoVisitor.java
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- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AnnotatedFieldInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/NamedFieldInjector.java
- *
- /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Automated.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Locked.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/NameBinding.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/AdaptingBehavior.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/PropertyApplicator.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AnnotatedFieldInjector.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/monitors/LifecycleComponentMonitor.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/PicoContainer.java
- *
- /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Automating.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/ComponentFactory.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/adapters/AbstractAdapter.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/Injectors.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Characteristics.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/PropertyApplying.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/annotations/Inject.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/containers/TransientPicoContainer.java
- *
- /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/DefaultPicoContainer.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/lifecycle/NullLifecycleStrategy.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/parameters/BasicComponentParameter.java

* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/Synchronizing.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/NamedMethodInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/PicoVerificationException.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/PicoException.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/annotations/Cache.java
 *
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/containers/CommandLinePicoContainer.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/TypedFieldInjection.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/adapters/InstanceAdapter.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/TypedFieldInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/NamedFieldInjection.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/parameters/CollectionComponentParameter.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/Locking.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/annotations/Nullable.java
 *
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/Behaviors.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/AbstractInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/BehaviorFactory.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/PicoBuilder.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/InjectionFactory.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/injectors/AnnotatedMethodInjector.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/ImplementationHiding.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/behaviors/HiddenImplementation.java
 *
 /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
 jar/org/picocontainer/parameters/ComponentParameter.java
 * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-

jar/org/picocontainer/containers/ImmutablePicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Synchronized.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/SetterInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/PicoClassNotFoundException.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/FieldDecorating.java

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/monitors/WriterComponentMonitor.java

*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/monitors/ConsoleComponentMonitor.java

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jar/org/picocontainer/containers/CompositePicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/MutablePicoContainer.java

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jar/org/picocontainer/monitors/AbstractComponentMonitor.java

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jar/org/picocontainer/containers/PropertiesPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-

jar/org/picocontainer/injectors/MethodInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Intercepting.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/PicoLifecycleException.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/ForgetfulConstructorInjection.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Intercepted.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/containers/SystemPropertiesPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/containers/CommandLineArgumentsPicoContainer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/ParameterNameBinding.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/parameters/AbstractParameter.java
*
/opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/SingleMemberInjector.java
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jar/org/picocontainer/composers/RegexComposer.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/monitors/ComposingMonitor.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Parameter.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/containers/EmptyPicoContainer.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Startable.java
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- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Guarding.java
- *
- /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/SetterInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/MethodInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AnnotatedMethodInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/AdaptingInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ConstructorInjection.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/ThreadCaching.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ConstructorInjector.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Storing.java
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- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/PicoCompositionException.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/OptInCaching.java
- * /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Cached.java

1.103 javax-annotation-api 1.3.2

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1.108 asm 9.3

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jar/org/objectweb/asm/ClassTooLargeException.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/AnnotationWriter.java

*

/opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Attribute.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/ClassReader.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Edge.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-

jar/org/objectweb/asm/MethodTooLargeException.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/ConstantDynamic.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/ClassWriter.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Opcodes.java

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* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/MethodVisitor.java

*

/opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Handle.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/SymbolTable.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Constants.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/TypeReference.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/MethodWriter.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/CurrentFrame.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Context.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-

jar/org/objectweb/asm/RecordComponentVisitor.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/FieldWriter.java

* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Label.java

*

```
/opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Type.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-
jar/org/objectweb/asm/signature/SignatureReader.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-
jar/org/objectweb/asm/RecordComponentWriter.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/ModuleWriter.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Symbol.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Handler.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-
jar/org/objectweb/asm/signature/SignatureWriter.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/Frame.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/ModuleVisitor.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/ByteVector.java
*
/opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/FieldVisitor.java
* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-jar/org/objectweb/asm/AnnotationVisitor.java
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* /opt/cola/permits/1312150600_1650468744.15/0/asm-9-3-sources-
jar/org/objectweb/asm/signature/SignatureVisitor.java
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1.109 jackson-jr-objects 2.13.2

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```
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Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007.

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1.110 azure-core-tracing-opentelemetry 1.0.0-beta.12

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* /opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-  
jar/META-INF/maven/com.azure/azure-core-tracing-opentelemetry/pom.xml
```

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* /opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-  
jar/com/azure/core/tracing/opentelemetry/package-info.java  
* /opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-  
jar/com/azure/core/tracing/opentelemetry/implementation/AmqpPropagationFormatUtil.java  
* /opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-  
jar/com/azure/core/tracing/opentelemetry/implementation/HttpTraceUtil.java  
* /opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-  
jar/com/azure/core/tracing/opentelemetry/OpenTelemetryHttpPolicy.java  
* /opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-
```

jar/com/azure/core/tracing/opentelemetry/OpenTelemetryTracer.java

*

/opt/cola/permits/1327261614_1652475280.6910825/0/azure-core-tracing-opentelemetry-1-0-0-beta-12-sources-jar/com/azure/core/tracing/opentelemetry/implementation/AmqpTraceUtil.java

1.111 gson 2.9.0

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* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-

jar/com/google/gson/ToNumberStrategy.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-

jar/com/google/gson/ToNumberPolicy.java

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* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/GsonBuildConfig.java

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* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/TypeAdapters.java

*

*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/ArrayTypeAdapter.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/JsonReaderInternalAccess.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/TypeAdapterFactory.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/TypeAdapter.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/JsonTreeReader.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/ObjectTypeAdapter.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/JsonTreeWriter.java

*

/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/MapTypeAdapterFactory.java
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* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/annotations/JsonAdapter.java

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*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonStreamParser.java
*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/FieldAttributes.java
*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/JsonParser.java
*
```

```
*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/LongSerializationPolicy.java
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*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/JavaVersion.java
*/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/PreJava9DateFormatProvider.java
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* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/stream/JsonReader.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/stream/JsonToken.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/stream/JsonScope.java
*

/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/stream/MalformedJsonException.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/stream/JsonWriter.java

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Found in path(s):

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonSerializationContext.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/ExclusionStrategy.java

```

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/Gson.java
*
/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonPrimitive.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonIOException.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/reflect/TypeToken.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/annotations/Expose.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/ObjectConstructor.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/annotations/Since.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/$Gson$Preconditions.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/Excluder.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/FieldNamingStrategy.java
*
/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/JsonElement.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonDeserializer.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/InstanceCreator.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/JsonArray.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/JsonObject.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonDeserializationContext.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/annotations/SerializedName.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/FieldNamingPolicy.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonParseException.java
*
/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/GsonBuilder.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonSerializer.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/Primitives.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/JsonNull.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/annotations/Until.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/bind/DefaultDateTypeAdapter.java

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Found in path(s):

```
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/Streams.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/JsonSyntaxException.java
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Found in path(s):

```
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/LazilyParsedNumber.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java
* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-
jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java
```

*

/opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/ConstructorConstructor.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/DateTypeAdapter.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/UnsafeAllocator.java

* /opt/cola/permits/1331093984_1653033295.598981/0/gson-2-9-0-sources-1-jar/com/google/gson/internal/bind/TreeTypeAdapter.java

1.112 byte-buddy 1.12.10

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1.113 free-type 2.12.1

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#

include/freetype/internal/fthash.h

#

src/base/fthash.c

src/base/md5.c

src/base/md5.h

#

src/bdf/bdf.c

src/bdf/bdf.h

src/bdf/bdfdrivr.c

src/bdf/bdfdrivr.h

src/bdf/bdferror.h

src/bdf/bdflib.c

src/bdf/module.mk

src/bdf/README

src/bdf/rules.mk

#

src/pcf/module.mk

src/pcf/pcf.c

src/pcf/pcf.h

src/pcf/pcfdrivr.c

src/pcf/pcfdrivr.h

src/pcf/pcferror.h

src/pcf/pcfread.c

src/pcf/pcfread.h

src/pcf/pcfutil.c

src/pcf/pcfutil.h

```
src/pcf/README
src/pcf/rules.mk
#
src/gzip/adler32.c
src/gzip/infblock.c
src/gzip/infblock.h
src/gzip/infcodes.c
src/gzip/infcodes.h
src/gzip/inffixed.h
src/gzip/inflate.c
src/gzip/inftrees.c
src/gzip/inftrees.h
src/gzip/infutil.c
src/gzip/infutil.h
src/gzip/zconf.h
src/gzip/zlib.h
src/gzip/zutil.c
src/gzip/zutil.h
#
src/tools/apinames.c
src/tools/ftrandom/ftrandom.c
#
subprojects/dlg
#
#
```

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jar/com/beust/jcommander/defaultprovider/EnvironmentVariableDefaultProvider.java
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jar/com/beust/jcommander/IPParameterValidator.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/validators/PositiveInteger.java
*
/opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/validators/NoValueValidator.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/validators/NoValidator.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/IPParameterValidator2.java
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jar/com/beust/jcommander/JCommander.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/UnixStyleUsageFormatter.java
*

/opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/IUsageFormatter.java

* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/DefaultUsageFormatter.java

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jar/com/beust/jcommander/converters/URLConverter.java

* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/BigDecimalConverter.java
*
/opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/DoubleConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/StringConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/internal/Lists.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/IntegerConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/ParameterDescription.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/FloatConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/PathConverter.java
*
/opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/IDefaultProvider.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/IStringConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/internal/Maps.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/Parameter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/IStringConverterFactory.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/Parameters.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/defaultprovider/PropertyFileDefaultProvider.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/BooleanConverter.java
*
/opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/ParameterException.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/NoConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/ResourceBundle.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/FileConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/MissingCommandException.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-jar/com/beust/jcommander/converters/BaseConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-

```
jar/com/beust/jcommander/converters/ISO8601DateConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/converters/LongConverter.java
*
/opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/converters/URICConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/converters/CharArrayConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/internal/DefaultConverterFactory.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/converters/InetAddressConverter.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/internal/Sets.java
* /opt/cola/permits/1362173022_1657688436.1357603/0/jcommander-1-82-sources-
jar/com/beust/jcommander/ParametersDelegate.java
```

1.119 agent-api 4.5.13.27526

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```
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jar/com/appdynamics/agent/api/AppdynamicsAgent.java
* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
jar/com/appdynamics/agent/api/impl/NoOpExitCall.java
* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
jar/com/appdynamics/agent/api/ExitCall.java
* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
jar/com/appdynamics/agent/api/EumDelegate.java
* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
jar/com/appdynamics/agent/api/EventPublisher.java
*
/opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
jar/com/appdynamics/agent/api/MetricPublisher.java
* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
jar/com/appdynamics/agent/api/impl/NoOpTransaction.java
* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-
```

jar/com/appdynamics/agent/api/Transaction.java

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* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-jar/com/appdynamics/agent/api/ExitTypes.java

* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-jar/com/appdynamics/agent/api/bootstrap/NoOpTransactionDelegate.java

* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-jar/com/appdynamics/agent/api/bootstrap/IApiTransactionDelegate.java

* /opt/cola/permits/1366801991_1658170427.268079/0/agent-api-4-5-13-27526-sources-jar/com/appdynamics/agent/api/EntryTypes.java

1.120 rxjava-server 0.9.0

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1.122 jakarta-annotation-api 2.1.1

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jar/javassist/scopedpool/ScopedClassPoolFactory.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/annotation/NoSuchClassError.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/BadBytecode.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/ast/Stmnt.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/ByteArray.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/ast/Symbol.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/convert/TransformCall.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/convert/TransformFieldAccess.java
*
/opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/tools/rmi/AppletServer.java
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jar/javassist/compiler/Parser.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/util/proxy/Proxy.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/expr/NewArray.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/ast/CallExpr.java
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jar/javassist/CodeConverter.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/ast/DoubleConst.java
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/opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/convert/TransformAccessArrayField.java
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jar/javassist/tools/rmi/ObjectImporter.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/tools/reflect/CannotReflectException.java
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jar/javassist/convert/TransformWriteField.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/Opcode.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/EnclosingMethodAttribute.java
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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/compiler/ast/Declarator.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/CannotCompileException.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/stackmap/Tracer.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/CtBehavior.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/compiler/ast/IntConst.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/expr/MethodCall.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/tools/framedump.java
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/opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/util/proxy/DefinePackageHelper.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/analysis/Subroutine.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/compiler/JvstCodeGen.java
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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/CtMethod.java
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jar/javassist/runtime/DotClass.java
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jar/javassist/bytecode/CodeAttribute.java
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jar/javassist/bytecode/ConstPool.java
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jar/javassist/SerialVersionUID.java
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jar/javassist/CtNewConstructor.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/expr/ConstructorCall.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/analysis/Executor.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/SyntaxError.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/compiler/SymbolTable.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/tools/reflect/ClassMetaobject.java
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 * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/tools/Dump.java
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 * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/util/proxy/MethodHandler.java
 * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/util/proxy/ProxyObject.java
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 * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/analysis/ControlFlow.java
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 *
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 * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/tools/reflect/Sample.java
 * /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/tools/reflect/Metaobject.java
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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/bytecode/AnnotationDefaultAttribute.java
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jar/javassist/compiler/TokenId.java
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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-jar/javassist/CtField.java
* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
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* /opt/cola/permits/1434218610_1664996210.5127783/0/javassist-3-29-2-ga-sources-
jar/javassist/bytecode/CodeAnalyzer.java

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

1.124 kotlin 1.7.10

1.124.1 Available under license :

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

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{ "version":3,"file":"kotlin.js","sources":["wrapper.js","js/arrayUtils.js","js/callableReferenceUtils.js","js/conversions.js","js/core.js","js/long.js","js/markerFunctions.js","js/misc.js","js/polyfills.js","js/rtti.js","runtime/arrayUtils.kt","runtime/Enum.kt","primitiveCompanionObjects.kt","common/src/generated/_Arrays.kt","common/src/generated/_Ranges.kt","unsigned/src/kotlin/UByte.kt","unsigned/src/kotlin/UInt.kt","unsigned/src/kotlin/UShort.kt","builtin-sources/Ranges.kt","src/kotlin/collections/Collections.kt","src/kotlin/collections/Maps.kt","src/kotlin/collections/Sets.kt","src/kotlin/text/StringNumberConversions.kt","src/kotlin/time/Duration.kt","unsigned/src/kotlin/UnsignedUtils.kt","src/kotlin/collections/Iterables.kt","src/kotlin/collections/Sequences.kt","src/kotlin/util/Preconditions.kt","js/src/generated/_ArraysJs.kt","src/kotlin/comparisons/Comparisons.kt","src/kotlin/util/Standard.kt","js/src/generated/_ComparisonsJs.kt","unsigned/src/kotlin/ULong.kt","common/src/generated/_Collections.kt","js/src/kotlin/collections.kt","src/kotlin/collections/Iterators.kt","common/src/generated/_Comparisons.kt","common/src/generated/_Maps.kt","common/src/generated/_OneToManyTitlecaseMappings.kt","js/src/kotlin/text/char.kt","js/src/kotlin/text/string.kt","src/kotlin/text/Char.kt","src/kotlin/CharCode.kt","common/src/generated/_Sequences.kt","common/src/generated/_Sets.kt","common/src/generated/_Strings.kt","src/kotlin/text/Strings.kt","unsigned/src/kotlin/UByteArray.kt","unsigned/src/kotlin/UIntArray.kt","unsigned/src/kotlin/ULongArray.kt","unsigned/src/kotlin/UShortArray.kt","common/src/generated/_UArrays.kt","common/src/generated/_UCollections.kt","common/src/generated/_UComparisons.kt","common/src/generated/_URanges.kt","common/src/generated/_USequences.kt","common/src/kotlin/ExceptionsH.kt","common/src/kotlin/JsAnnotationsH.kt","common/src/kotlin/ioH.kt","builtin-sources/Collections.kt","builtin-sources/Iterators.kt","builtin-sources/ProgressionIterators.kt","builtin-sources/Progressions.kt","builtin-sources/Range.kt","builtin-sources/Unit.kt","builtin-sources/annotation/Annotations.kt","builtin-sources/internal/InternalAnnotations.kt","builtin-sources/internal/progressionUtil.kt","src/kotlin/builtins.kt","src/kotlin/jsTypeOf.kt","src/kotlin/kotlin.kt","src/kotlin/CharCode_js-v1.kt","src/kotlin/coroutines/CoroutineImpl.kt","src/kotlin/util/Result.kt","src/kotlin/coroutines/Continuation.kt","src/kotlin/coroutines/intrinsics/IntrinsicsJs.kt","src/kotlin/currentBeMisc.kt","src/kotlin/exceptions.kt","src/kotlin/jsOperators.kt","src/kotlin/math_js-v1.kt","src/kotlin/numbers_js-v1.kt","src/kotlin/reflection_js-v1.kt","src/kotlin/text/numberConversions_js-v1.kt","js/src/kotlin/js.arrays/fill.kt","js/src/kotlin/js.arrays/sort.kt","js/src/generated/_CharCategories.kt","js/src/generated/_CollectionsJs.kt","js/src/generated/_DigitChars.kt","js/src/generated/_LetterChars.kt","js/src/generated/_OtherLowercaseChars.kt","js/src/generated/_OtherUppercaseChars.kt","js/src/generated/_StringsJs.kt","js/src/generated/_TitlecaseMappings.kt","js/src/generated/_UArraysJs.kt","js/src/generated/_WhitespaceChars.kt","js/src/kotlin/Comparator.kt","js/src/kotlin/annotations.kt","js/src/kotlin/annotationsJVM.kt","js/src/kotlin/collections/AbstractMutableCollection.kt","js/src/kotlin/collections/AbstractMutableList.kt","js/src/kotlin/collections/AbstractMutableMap.kt","js/src/kotlin/collections/AbstractMutableSet.kt","js/src/kotlin/collections/ArrayList.kt","js/src/kotlin/collections/ArraySorting.kt","js/src/kotlin/collections/ArraysJs.kt","js/src/kotlin/collections/EqualityComparator.kt","js/src/kotlin/collections/HashMap.kt","js/src/kotlin/collections/HashSet.kt","js/src/kotlin/collections/InternalHashMap.kt","js/src/kotlin/collections/InternalMap.kt","js/src/kotlin/collections/InternalStringMap.kt","js/src/kotlin/collections/LinkedHashMap.kt","js/src/kotlin/collections/LinkedHashSet.kt","js/src/kotlin/concurrent.kt","js/src/kotlin/console.kt","js/src/kotlin/coroutines/SafeContinuationJs.kt","js/src/kotlin/coroutines/cancellation/CancellationException.kt","js/src/kotlin/coroutines/js/internal/EmptyContinuation.kt","js/src/kotlin/date.kt","js/src/kotlin/dom/Builders.kt","js/src/kotlin/dom/Classes.kt","js/src/kotlin/dom/Dom.kt","js/src/kotlin/dom/EventListener.kt","js/src/kotlin/dom/ItemArrayLike.kt","js/src/kotlin/dom/Mutations.kt","js/src/kotlin/dynamic.kt","js/src/kotlin/exceptionUtils.kt","js/src/kotlin/grouping.kt","src/kotlin/collections/Grouping.kt","js/src/kotlin/internalAnnotations.kt","js/src/kotlin/json.kt","js/src/kotlin/math.kt","js/src/kotlin/numbers.kt","js/src/kotlin/promise.kt","js/src/kotlin/random/PlatformRandom.kt","js/src/kotlin/reflect/AssociatedObjects.kt","js/src/kotlin/reflect/JsClass.kt","js/src/kotlin/reflect/KClassImpl.kt","js/src/kotlin/reflect/KClassesImpl.kt","js/src/kotlin/reflect/KTypeHelpers.kt","js/src/kotlin/reflect/KTypeImpl.kt","js/src/kotlin/
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Content":["(function
(root, factory) {\n  if (typeof define === 'function' && define.amd) {\n    define('kotlin', ['exports'], factory);\n  }\n  else if (typeof exports === 'object') {\n    factory(module.exports);\n  }\n  else {\n    root.kotlin = {};\n    factory(root.kotlin);\n  }\n})(this, function (Kotlin) {\n  var _ = Kotlin;\n  \n  insertContent();\n});\n", /*\n *
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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\nKotlin.isBooleanArray = function (a) {\n  return (Array.isArray(a) || a instanceof Int8Array) && a.$type$
=== \"BooleanArray\"\n};\n\nKotlin.isByteArray = function (a) {\n  return a instanceof Int8Array && a.$type$
!== \"BooleanArray\"\n};\n\nKotlin.isShortArray = function (a) {\n
  return a instanceof Int16Array\n};\n\nKotlin.isCharArray = function (a) {\n  return a instanceof Uint16Array &&
a.$type$ === \"CharArray\"\n};\n\nKotlin.isIntArray = function (a) {\n  return a instanceof
Int32Array\n};\n\nKotlin.isFloatArray = function (a) {\n  return a instanceof
Float32Array\n};\n\nKotlin.isDoubleArray = function (a) {\n  return a instanceof
```

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Float64Array\n};\n\nKotlin.isLongArray = function (a) {\n  return Array.isArray(a) && a.$type$ ===
\"LongArray\";\n};\n\nKotlin.isArray = function (a) {\n  return Array.isArray(a) &&
!a.$type$;\n};\n\nKotlin.isArrayish = function (a) {\n  return Array.isArray(a) ||
ArrayBuffer.isView(a);\n};\n\nKotlin.arrayToString = function (a) {\n  if (a === null) return \"null\"\n  var
toString = Kotlin.isCharArray(a) ? String.fromCharCode : Kotlin.toString;\n  return "[" +
Array.prototype.map.call(a, function(e) { return toString(e); }).join(", ") + "]";\n};\n\nKotlin.arrayDeepToString
= function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals = function (a, b) {\n  if (a ===
b) {\n    return true;\n  }\n  if (a === null || b === null || !Kotlin.isArrayish(b) || a.length !== b.length) {\n
return false;\n  }\n  for (var i = 0, n = a.length; i < n; i++) {\n    if (!Kotlin.equals(a[i], b[i])) {\n      return
false;\n    }\n  }\n  return true;\n};\n\nKotlin.arrayDeepEquals = function (a, b) {\n  return
Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode = function (arr) {\n  if (arr
=== null) return 0\n  var result = 1;\n  for (var i = 0, n = arr.length; i < n; i++) {\n    result = ((31 * result | 0) +
Kotlin.hashCode(arr[i])) | 0;\n  }\n  return result;\n};\n\nKotlin.arrayDeepHashCode = function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n
array.sort(Kotlin.doubleCompareTo);\n};\n\n\"/*\n
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code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\nKotlin.getCallableRef = function(name, f) {\n  f.callableName = name;\n  return
f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n  getter.get = getter;\n
getter.set = setter;\n  getter.callableName = name;\n  return getPropertyRefClass(getter, setter,
propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n
obj.$metadata$ = getPropertyRefMetadata(typeof setter === \"function\" ? cache.mutable : cache.immutable);\n
obj.constructor = obj;\n  return obj;\n}\n\nvar propertyRefClassMetadataCache = [\n  {\n    mutable: { value:
null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KMutableProperty0 }\n    },\n
immutable:
{ value: null, implementedInterface: function () {\n      return
Kotlin.kotlin.reflect.KProperty0 }\n    },\n  },\n  {\n    mutable: { value: null, implementedInterface: function
() {\n      return
Kotlin.kotlin.reflect.KMutableProperty1 }\n    },\n    immutable: { value: null, implementedInterface: function
() {\n      return Kotlin.kotlin.reflect.KProperty1 }\n    },\n  };\n}\n\nfunction getPropertyRefMetadata(cache)
{\n  if (cache.value === null) {\n    cache.value = {\n      interfaces: [cache.implementedInterface()],\n
baseClass: null,\n      functions: {},\n      properties: {},\n      types: {},\n      staticMembers: {}\n
};\n  }\n  return cache.value;\n}\n\n\"/*\n
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Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\nKotlin.toShort
= function (a) {\n  return (a & 0xFFFF) << 16 >> 16;\n};\n\nKotlin.toByte = function (a) {\n  return (a & 0xFF)
<< 24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n  return a & 0xFFFF;\n};\n\nKotlin.numberToLong = function
(a) {\n  return a instanceof Kotlin.Long ? a : Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function
(a) {\n  return a instanceof Kotlin.Long ? a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort =
function (a) {\n  return Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n
return Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n  return
+a;\n};\n\nKotlin.numberToChar = function (a) {\n  return
Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n  if (a > 2147483647) return
2147483647;\n  if (a < -2147483648) return -2147483648;\n  return a | 0;\n};\n\nKotlin.toBoxedChar = function
(a) {\n  if (a == null) return a;\n
if (a instanceof Kotlin.BoxedChar) return a;\n  return new Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar =
function(a) {\n  if (a == null) return a;\n  return Kotlin.toChar(a);\n};\n\n\"/*\n
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s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0

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license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.equals = function (obj1, obj2) {\n  if (obj1 == null) {\n    return obj2 == null;\n  }\n  if (obj2 == null) {\n    return false;\n  }\n  if (obj1 !== obj1) {\n    return obj2 !== obj2;\n  }\n  if (typeof obj1 === \"object\" && typeof obj1.equals === \"function\") {\n    return obj1.equals(obj2);\n  }\n  if (typeof obj1 === \"number\" && typeof obj2 === \"number\") {\n    return obj1 === obj2 && (obj1 !== 0 || 1 / obj1 === 1 / obj2);\n  }\n  return obj1 === obj2;\n};\n\nKotlin.hashCode = function (obj) {\n  if (obj == null) {\n    return 0;\n  }\n  var objType = typeof obj;\n  if (\"object\" === objType) {\n    return \"function\" ===\n    typeof obj.hashCode ? obj.hashCode() : getObjectHashCode(obj);\n  }\n  if (\"function\" === objType) {\n    return getObjectHashCode(obj);\n  }\n  if (\"number\" === objType) {\n    return\n    Kotlin.numberHashCode(obj);\n  }\n  if (\"boolean\" === objType) {\n    return Number(obj)\n  }\n  var str = String(obj);\n  return getStringHashCode(str);\n};\n\nKotlin.toString = function (o) {\n  if (o == null) {\n    return \"null\";\n  }\n  else if (Kotlin.isArrayish(o)) {\n    return \"[...]\";\n  }\n  else {\n    return\n    o.toString();\n  }\n};\n\n/** @const */\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol\n// type once we are on ES6.\n/** @const */\nvar OBJECT_HASH_CODE_PROPERTY_NAME =\n\"kotlinHashCodeValue\";\n\nfunction getObjectHashCode(obj) {\n  if\n  (! (OBJECT_HASH_CODE_PROPERTY_NAME in obj))\n  {\n    var hash = (Math.random() * POW_2_32) | 0; // Make 32-bit signed integer.\n    Object.defineProperty(obj, OBJECT_HASH_CODE_PROPERTY_NAME, { value: hash, enumerable: false });\n  }\n  return obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n  var\n  hash = 0;\n  for (var i = 0; i < str.length; i++) {\n    var code = str.charCodeAt(i);\n    hash = (hash * 31 +\n    code) | 0; // Keep it 32-bit.\n  }\n  return hash;\n}\n\nKotlin.identityHashCode = getObjectHashCode;\n\";/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code\n * is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n// Copyright 2009\n// The Closure Library Authors. All Rights Reserved.\n// Licensed under the Apache License, Version 2.0 (the\n// \"License\");\n// you may not use this file except in compliance with the License.\n// You may obtain a copy of the\n// License\n// at\n// http://www.apache.org/licenses/LICENSE-2.0\n// Unless required by applicable law or agreed to in\n// writing, software\n// distributed under the License is distributed on an \"AS-IS\" BASIS,\n// WITHOUT\n// WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n\n/**\n * Constructs a 64-bit two's-complement integer, given its low and high 32-bit\n * values as *signed* integers. See the from* functions below\n * for more\n * convenient ways of constructing Longs.\n * The internal representation of a long is the two given\n * signed, 32-bit values.\n * We use 32-bit pieces because these are the size of integers on which\n * Javascript\n * performs bit-operations. For operations like addition and\n * multiplication, we split each number into 16-bit\n * pieces, which can easily be\n * multiplied within Javascript's floating-point representation without overflow\n * or\n * change in sign.\n * In the algorithms below, we frequently reduce the negative case to the\n * positive case\n * by negating the input(s) and then post-processing the result.\n * Note that we must ALWAYS check specially\n * whether those values are MIN_VALUE\n * (-2^63) because -MIN_VALUE == MIN_VALUE (since 2^63 cannot\n * be represented as\n * a positive number, it overflows back into a negative). Not handling this\n * case would often\n * result in infinite recursion.\n * @param {number} low The low (signed) 32 bits of the long.\n * @param\n * {number} high The high (signed) 32 bits of the long.\n * @constructor\n * @final\n */\nKotlin.Long =\nfunction(low, high) {\n  /**\n   * @type {number}\n   * @private\n   */\n  this.low_ = low | 0; // force into 32\n  signed bits.\n\n  /**\n   * @type {number}\n   * @private\n   */\n  this.high_ = high | 0; // force into 32 signed\n  bits.\n};\n\nKotlin.Long.$metadata$ = {\n  kind: \"class\", \n  simpleName: \"Long\", \n  interfaces: []\n};\n\n// NOTE: Common constant values ZERO, ONE, NEG_ONE, etc. are defined below the\n// from* methods on which\n// they depend.\n\n/**\n * A cache of the Long representations of small integer values.\n * @type {!Object}\n * @private\n */\nKotlin.Long.IntCache_ = {};\n\n/**\n * Returns a Long representing the given (32-bit) integer value.\n * @param {number} value The 32-bit integer in question.\n * @return {!Kotlin.Long} The corresponding Long

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value.\n *\nKotlin.Long.fromInt = function(value) {\n  if (-128 <= value && value < 128) {\n    var cachedObj =
Kotlin.Long.IntCache_[value];\n    if (cachedObj) {\n      return cachedObj;\n    }\n  }\n  var obj = new
Kotlin.Long(value | 0, value < 0 ? -1 : 0);\n  if (-128 <= value && value < 128) {\n    Kotlin.Long.IntCache_[value]
= obj;\n  }\n  return obj;\n};\n\n\n/**\n * Converts this number value to `Long`.\n * The fractional part, if any, is
rounded down towards zero.\n * Returns zero if this `Double` value is `NaN`, `Long.MIN_VALUE` if it's less than
`Long.MIN_VALUE`,\n * `Long.MAX_VALUE` if it's bigger than `Long.MAX_VALUE`.\n * @param {number}
value The
number in question.\n * @return {!Kotlin.Long} The corresponding Long value.\n *\nKotlin.Long.fromNumber =
function(value) {\n  if (isNaN(value)) {\n    return Kotlin.Long.ZERO;\n  } else if (value <= -
Kotlin.Long.TWO_PWR_63_DBL_) {\n    return Kotlin.Long.MIN_VALUE;\n  } else if (value + 1 >=
Kotlin.Long.TWO_PWR_63_DBL_) {\n    return Kotlin.Long.MAX_VALUE;\n  } else if (value < 0) {\n    return
Kotlin.Long.fromNumber(-value).negate();\n  } else {\n    return new Kotlin.Long(\n      (value %
Kotlin.Long.TWO_PWR_32_DBL_) | 0,\n      (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);\n
  });\n\n\n/**\n * Returns a Long representing the 64-bit integer that comes by concatenating\n * the given high and
low bits. Each is assumed to use 32 bits.\n * @param {number} lowBits The low 32-bits.\n * @param {number}
highBits The high 32-bits.\n * @return {!Kotlin.Long} The corresponding Long value.\n *\nKotlin.Long.fromBits
= function(lowBits, highBits) {\n  return new Kotlin.Long(lowBits, highBits);\n};\n\n\n/**\n * Returns a Long representation of the given string, written using the given\n * radix.\n * @param {string} str The
textual representation of the Long.\n * @param {number=} opt_radix The radix in which the text is written.\n *
@return {!Kotlin.Long} The corresponding Long value.\n *\nKotlin.Long.fromString = function(str, opt_radix) {\n
if (str.length == 0) {\n  throw Error('number format error: empty string');\n }\n\n  var radix = opt_radix || 10;\n  if
(radix < 2 || 36 < radix) {\n    throw Error('radix out of range: ' + radix);\n }\n\n  if (str.charAt(0) == '-') {\n    return
Kotlin.Long.fromString(str.substring(1), radix).negate();\n  } else if (str.indexOf('-') >= 0) {\n    throw Error('number
format error: interior \"-\" character: ' + str);\n }\n\n  // Do several (8) digits each time through the loop, so as to\n //
minimize the calls to the very expensive emulated div.\n  var radixToPower =
Kotlin.Long.fromNumber(Math.pow(radix, 8));\n  var result
= Kotlin.Long.ZERO;\n  for (var i = 0; i < str.length; i += 8) {\n    var size = Math.min(8, str.length - i);\n    var
value = parseInt(str.substring(i, i + size), radix);\n    if (size < 8) {\n      var power =
Kotlin.Long.fromNumber(Math.pow(radix, size));\n      result =
result.multiply(power).add(Kotlin.Long.fromNumber(value));\n    } else {\n      result =
result.multiply(radixToPower);\n      result = result.add(Kotlin.Long.fromNumber(value));\n    }\n  }\n  return
result;\n};\n\n\n// NOTE: the compiler should inline these constant values below and then remove\n// these
variables, so there should be no runtime penalty for these.\n\n\n/**\n * Number used repeated below in calculations.
This must appear before the\n * first call to any from* function below.\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;\n\n\n/**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;\n\n\n/**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_32_DBL_
=\n Kotlin.Long.TWO_PWR_16_DBL_ * Kotlin.Long.TWO_PWR_16_DBL_;\n\n\n/**\n * @type {number}\n
* @private\n *\nKotlin.Long.TWO_PWR_31_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ / 2;\n\n\n/**\n *
@type {number}\n * @private\n *\nKotlin.Long.TWO_PWR_48_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_
* Kotlin.Long.TWO_PWR_16_DBL_;\n\n\n/**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_64_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ *
Kotlin.Long.TWO_PWR_32_DBL_;\n\n\n/**\n * @type {number}\n * @private\n
*\nKotlin.Long.TWO_PWR_63_DBL_ =\n Kotlin.Long.TWO_PWR_64_DBL_ / 2;\n\n\n/**\n * @type
{!Kotlin.Long} *\nKotlin.Long.ZERO = Kotlin.Long.fromInt(0);\n\n\n/**\n * @type {!Kotlin.Long}
*\nKotlin.Long.ONE = Kotlin.Long.fromInt(1);\n\n\n/**\n * @type {!Kotlin.Long} *\nKotlin.Long.NEG_ONE =
Kotlin.Long.fromInt(-1);\n\n\n/**\n * @type {!Kotlin.Long} *\nKotlin.Long.MAX_VALUE =\n
Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);\n\n\n/**\n * @type {!Kotlin.Long}

```

```

*^ Kotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0,
0x80000000 | 0);
Kotlin.Long.fromInt(1 << 24);
*^ Kotlin.Long.TWO_PWR_24_ =
Kotlin.Long.fromInt(1 << 24);
*^ Kotlin.Long.prototype.toInt = function() {
return this.low_;
}
*^ Kotlin.Long.prototype.toNumber = function() {
return this.high_ *
Kotlin.Long.TWO_PWR_32_DBL_ +
this.getLowBitsUnsigned();
}
*^ Kotlin.Long.prototype.hashCode = function() {
return this.high_ ^
this.low_;
}
*^ Kotlin.Long.prototype.toString =
function(opt_radix) {
var radix = opt_radix || 10;
if (radix < 2 || 36 < radix) {
throw Error('radix out of
range: ' + radix);
}
if (this.isZero()) {
return '0';
}
if (this.isNegative()) {
if
(this.equalsLong(Kotlin.Long.MIN_VALUE)) {
// We need to change the Long value before it can be negated,
so we remove
// the bottom-most digit in this base and then recurse to do the rest.
var radixLong =
Kotlin.Long.fromNumber(radix);
var div = this.div(radixLong);
var rem =
div.multiply(radixLong).subtract(this);
return div.toString(radix) + rem.toInt().toString(radix);
} else {
return '-' + this.negate().toString(radix);
}
}
// Do several (5) digits each time through the loop, so as to
// minimize the calls to the very expensive emulated div.
var radixToPower =
Kotlin.Long.fromNumber(Math.pow(radix, 5));
var rem = this;
var result = "";
while (true) {
var
remDiv = rem.div(radixToPower);
var intVal = rem.subtract(remDiv.multiply(radixToPower)).toInt();
var
digits = intVal.toString(radix);
rem = remDiv;
if (rem.isZero()) {
return digits + result;
} else {
while (digits.length < 5) {
digits = '0' + digits;
}
result = " + digits + result;
}
}
}
*^ Kotlin.Long.prototype.getHighBits = function() {
return this.high_;
}
*^ Kotlin.Long.prototype.getLowBits = function() {
return this.low_;
}
*^ Kotlin.Long.prototype.getLowBitsUnsigned = function() {
return (this.low_ >= 0) ?
this.low_ :
Kotlin.Long.TWO_PWR_32_DBL_ + this.low_;
}
*^ Kotlin.Long.prototype.getNumBitsAbs = function() {
if (this.isNegative()) {
if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {
return 64;
} else {
return this.negate().getNumBitsAbs();
}
} else {
var val = this.high_ != 0 ? this.high_ : this.low_;
for (var bit = 31; bit > 0; bit--) {
if ((val & (1 << bit)) != 0) {
break;
}
}
return this.high_ !=
0 ? bit + 33 : bit + 1;
}
}
*^ Kotlin.Long.prototype.isZero = function() {
return this.high_ == 0 && this.low_ == 0;
}
*^ Kotlin.Long.prototype.isNegative = function() {
return this.high_ <
0;
}
*^ Kotlin.Long.prototype.isOdd = function() {
return (this.low_ & 1) == 1;
}
*^ Kotlin.Long.prototype.equalsLong = function(other) {
return (this.high_ == other.high_) && (this.low_ == other.low_);
}
*^ Kotlin.Long.prototype.equalsLong = function(other) {
return (this.high_ == other.high_) && (this.low_ == other.low_);
}
*^ Kotlin.Long.prototype.notEqualsLong = function(other) {
return (this.high_ != other.high_) || (this.low_ !=
other.low_);
}
*^ Kotlin.Long.prototype.lessThan = function(other) {
return this.compare(other) < 0;
}
*^ Kotlin.Long.prototype.lessThanOrEqual =
function(other) {
return this.compare(other) <= 0;
}
*^ Kotlin.Long.prototype.greaterThan = function(other) {
return this.compare(other) > 0;
}

```

```

@param {Kotlin.Long} other Long to compare against.\n
* @return {boolean} Whether this Long is greater than or equal to the other.\n
*/\nKotlin.Long.prototype.greaterThanOrEqual = function(other) {\n return this.compare(other) >=
0;\n};\n\n/**\n * Compares this Long with the given one.\n * @param {Kotlin.Long} other Long to compare
against.\n * @return {number} 0 if they are the same, 1 if the this is greater, and -1\n * if the given one is
greater.\n */\nKotlin.Long.prototype.compare = function(other) {\n if (this.equalsLong(other)) {\n return 0;\n
}\n\n var thisNeg = this.isNegative();\n var otherNeg = other.isNegative();\n if (thisNeg && !otherNeg) {\n
return -1;\n }\n if (!thisNeg && otherNeg) {\n return 1;\n }\n\n // at this point, the signs are the same, so
subtraction will not overflow\n if (this.subtract(other).isNegative()) {\n return -1;\n } else {\n return 1;\n
}\n};\n\n/**\n * @return {!Kotlin.Long} The negation of this value.\n */\nKotlin.Long.prototype.negate = function()
{\n if (this.equalsLong(Kotlin.Long.MIN_VALUE))\n {\n return Kotlin.Long.MIN_VALUE;\n } else {\n return this.not().add(Kotlin.Long.ONE);\n }\n};\n\n/**\n * Returns the sum of this and the given Long.\n * @param {Kotlin.Long} other Long to add to this one.\n * @return
{!Kotlin.Long} The sum of this and the given Long.\n */\nKotlin.Long.prototype.add = function(other) {\n //
Divide each number into 4 chunks of 16 bits, and then sum the chunks.\n\n var a48 = this.high_ >>> 16;\n var a32
= this.high_ & 0xFFFF;\n var a16 = this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n var b48 = other.high_
>>> 16;\n var b32 = other.high_ & 0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ &
0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00 += a00 + b00;\n c16 += c00 >>> 16;\n c00 &=
0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 + b32;\n c48 += c32 >>>
16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &= 0xFFFF;\n return Kotlin.Long.fromBits((c16
<<< 16) | c00, (c48 <<< 16) | c32);\n};\n\n/**\n * Returns the difference of this and the given Long.\n * @param
{Kotlin.Long} other Long to subtract from this.\n * @return {!Kotlin.Long} The difference of this and the given
Long.\n */\nKotlin.Long.prototype.subtract = function(other) {\n return this.add(other.negate());\n};\n\n/**\n *
Returns the product of this and the given long.\n * @param {Kotlin.Long} other Long to multiply with this.\n *
@return {!Kotlin.Long} The product of this and the other.\n */\nKotlin.Long.prototype.multiply = function(other)
{\n if (this.isZero()) {\n return Kotlin.Long.ZERO;\n } else if (other.isZero()) {\n return Kotlin.Long.ZERO;\n
}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return other.isOdd() ? Kotlin.Long.MIN_VALUE :
Kotlin.Long.ZERO;\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return this.isOdd() ?
Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n if (other.isNegative())\n {\n return this.negate().multiply(other.negate());\n } else {\n return this.negate().multiply(other).negate();\n
}\n } else if (other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }\n\n // If both longs are
small, use float multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n
other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() *
other.toNumber());\n }\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can
skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 =
this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ &
0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00
= 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 +=
c16 >>> 16;\n c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 *
b00;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n
c32 += a00 * b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 * b32 + a00 *
b48;\n c48 &= 0xFFFF;\n return Kotlin.Long.fromBits((c16 <<< 16) | c00, (c48 <<< 16) | c32);\n};\n\n/**\n *
Returns this Long divided by the given one.\n * @param {Kotlin.Long} other Long by which to divide.\n * @return
{!Kotlin.Long} This Long divided by the given one.\n */\nKotlin.Long.prototype.div = function(other) {\n if
(other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return Kotlin.Long.ZERO;\n
}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if (other.equalsLong(Kotlin.Long.ONE) ||\n
other.equalsLong(Kotlin.Long.NEG_ONE)) {\n return Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE
== MIN_VALUE\n

```



```

    } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n    return Kotlin.Long.ONE;\n    } else {\n    // At
this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|.\n    var halfThis = this.shiftRight(1);\n    var
approx = halfThis.div(other).shiftLeft(1);\n    if (approx.equalsLong(Kotlin.Long.ZERO)) {\n    return
other.isNegative() ? Kotlin.Long.ONE : Kotlin.Long.NEG_ONE;\n    } else {\n    var rem =
this.subtract(other.multiply(approx));\n    var result = approx.add(rem.div(other));\n    return result;\n    }\n
}\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n    return Kotlin.Long.ZERO;\n    }\n\n if
(this.isNegative()) {\n    if (other.isNegative()) {\n    return this.negate().div(other.negate());\n    } else {\n    return
this.negate().div(other).negate();\n    }\n } else if (other.isNegative()) {\n    return
this.div(other.negate()).negate();\n    }\n\n // Repeat the following until the remainder is less than other:
    find a\n // floating-point that approximates remainder / other *from below*, add this\n // into the result, and
subtract it from the remainder. It is critical that\n // the approximate value is less than or equal to the real value so
that the\n // remainder never becomes negative.\n    var res = Kotlin.Long.ZERO;\n    var rem = this;\n    while
(rem.greaterThanOrEqual(other)) {\n    // Approximate the result of division. This may be a little greater or\n //
smaller than the actual value.\n    var approx = Math.max(1, Math.floor(rem.toNumber() / other.toNumber()));\n\n
// We will tweak the approximate result by changing it in the 48-th digit or\n // the smallest non-fractional digit,
whichever is larger.\n    var log2 = Math.ceil(Math.log(approx) / Math.LN2);\n    var delta = (log2 <= 48) ? 1 :
Math.pow(2, log2 - 48);\n\n    // Decrease the approximation until it is smaller than the remainder. Note\n // that if
it is too large, the product overflows and is negative.\n
    var approxRes = Kotlin.Long.fromNumber(approx);\n    var approxRem = approxRes.multiply(other);\n    while
(approxRem.isNegative() || approxRem.greaterThan(rem)) {\n    approx -= delta;\n    approxRes =
Kotlin.Long.fromNumber(approx);\n    approxRem = approxRes.multiply(other);\n    }\n\n // We know the
answer can't be zero... and actually, zero would cause\n // infinite recursion since we would make no progress.\n
if (approxRes.isZero()) {\n    approxRes = Kotlin.Long.ONE;\n    }\n\n    res = res.add(approxRes);\n    rem =
rem.subtract(approxRem);\n    }\n    return res;\n};\n\n\n/**\n * Returns this Long modulo the given one.\n * @param
{Kotlin.Long} other Long by which to mod.\n * @return {!Kotlin.Long} This Long modulo the given one.\n
*\nKotlin.Long.prototype.modulo = function(other) {\n    return
this.subtract(this.div(other).multiply(other));\n};\n\n\n/**\n * @return {!Kotlin.Long} The bitwise-NOT of this value.
*\nKotlin.Long.prototype.not = function() {\n    return Kotlin.Long.fromBits(~this.low_,
~this.high_);\n};\n\n\n/**\n * Returns the bitwise-AND of this Long and the given one.\n * @param {Kotlin.Long}
other The Long with which to AND.\n * @return {!Kotlin.Long} The bitwise-AND of this and the other.\n
*\nKotlin.Long.prototype.and = function(other) {\n    return Kotlin.Long.fromBits(this.low_ & other.low_,\n
this.high_ & other.high_);\n};\n\n\n/**\n * Returns the bitwise-OR of this Long and the given one.\n *
@param {Kotlin.Long} other The Long with which to OR.\n * @return {!Kotlin.Long} The bitwise-OR of this and
the other.\n *\nKotlin.Long.prototype.or = function(other) {\n    return Kotlin.Long.fromBits(this.low_ |
other.low_,\nthis.high_ | other.high_);\n};\n\n\n/**\n * Returns the bitwise-XOR of this Long
and the given one.\n * @param {Kotlin.Long} other The Long with which to XOR.\n * @return {!Kotlin.Long}
The bitwise-XOR of this and the other.\n *\nKotlin.Long.prototype.xor
= function(other) {\n    return Kotlin.Long.fromBits(this.low_ ^ other.low_,\nthis.high_ ^
other.high_);\n};\n\n\n/**\n * Returns this Long with bits shifted to the left by the given amount.\n * @param
{number} numBits The number of bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the left by the
given amount.\n *\nKotlin.Long.prototype.shiftLeft = function(numBits) {\n    numBits &= 63;\n    if (numBits == 0)
{\n    return this;\n    } else {\n    var low = this.low_;\n    if (numBits < 32) {\n    var high = this.high_;\n    return
Kotlin.Long.fromBits(\n        low << numBits,\n        (high << numBits) | (low >>> (32 - numBits));\n    } else
{\n    return Kotlin.Long.fromBits(0, low << (numBits - 32));\n    }\n    }\n};\n\n\n/**\n * Returns this Long with
bits shifted to the right by the given amount.\n * @param {number} numBits The number of bits by which to shift.\n
* @return {!Kotlin.Long} This shifted to the right by the given
amount.\n *\nKotlin.Long.prototype.shiftRight = function(numBits) {\n    numBits &= 63;\n    if (numBits == 0) {\n
return this;\n    } else {\n    var high = this.high_;\n    if (numBits < 32) {\n    var low = this.low_;\n    return

```

```

Kotlin.Long.fromBits((low >>> numBits) | (high << (32 - numBits)),
    high >> numBits);
} else {
return Kotlin.Long.fromBits(high >> (numBits - 32),
    high >= 0 ? 0 : -1);
}
}

/**
 * Returns this Long with bits shifted to the right by the given amount, with
 * zeros placed into the new leading bits.
 * @param {number} numBits The number of bits by which to shift.
 * @return {!Kotlin.Long} This shifted to the right by the given amount, with
 * zeros placed into the new leading bits.
 */
Kotlin.Long.prototype.shiftRightUnsigned = function(numBits) {
    numBits &= 63;
    if (numBits == 0) {
return this;
    } else {
    var high = this.high_;
    if (numBits < 32) {
        var low = this.low_;
        return Kotlin.Long.fromBits(
            (low >>> numBits) | (high << (32 - numBits)),
            high >>> numBits);
    } else if (numBits == 32) {
return Kotlin.Long.fromBits(high, 0);
    } else {
return Kotlin.Long.fromBits(high >>> (numBits - 32), 0);
    }
};

// Support for
Kotlin
Kotlin.Long.prototype.equals = function (other) {
return other instanceof Kotlin.Long &&
this.equalsLong(other);
};
Kotlin.Long.prototype.compareTo_11rb$ =
Kotlin.Long.prototype.compareTo;
Kotlin.Long.prototype.inc = function () {
return
this.add(Kotlin.Long.ONE);
};
Kotlin.Long.prototype.dec = function () {
return
this.add(Kotlin.Long.NEG_ONE);
};
Kotlin.Long.prototype.valueOf = function () {
return
this.toNumber();
};
Kotlin.Long.prototype.unaryPlus = function () {
return
this;
};
Kotlin.Long.prototype.unaryMinus = Kotlin.Long.prototype.negate;
Kotlin.Long.prototype.inv =
Kotlin.Long.prototype.not;
Kotlin.Long.prototype.rangeTo
= function (other) {
return new Kotlin.kotlin.ranges.LongRange(this, other);
};

/**
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 Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
/**
 * @param {string} id
 * @param {Object} declaration
 */
Kotlin.defineModule = function (id, declaration)
{
};
Kotlin.defineInlineFunction = function(tag, fun) {
return fun;
};
Kotlin.wrapFunction =
function(fun) {
    var f = function () {
        f = fun();
        return f.apply(this, arguments);
    };
    return
function () {
return f.apply(this, arguments);
};
};
Kotlin.isTypeOf = function(type) {
return
function (object) {
return typeof object === type;
}
};
Kotlin.isInstanceOf = function (klass) {
return
function (object) {
return Kotlin.isType(object, klass);
}
};
Kotlin.orNull
= function (fn) {
return
function (object) {
return object == null || fn(object);
}
};
Kotlin.andPredicate = function (a, b) {
return
function (object) {
return a(object) && b(object);
}
};
Kotlin.kotlinModuleMetadata = function (abiVersion, moduleName, data) {
};
Kotlin.suspendCall =
function(value) {
return value;
};
Kotlin.coroutineResult = function(qualifier) {
throwMarkerError();
};
Kotlin.coroutineController = function(qualifier) {
throwMarkerError();
};
Kotlin.coroutineReceiver = function(qualifier) {
throwMarkerError();
};
Kotlin.setCoroutineResult = function(value, qualifier) {
throwMarkerError();
};
Kotlin.getReifiedTypeParameterKType = function(typeParameter) {
throwMarkerError();
};
function throwMarkerError() {
throw new Error(
    "This marker function
should never be called. "
    + "Looks like compiler did not eliminate it properly.
"
    + "Please, report an issue if you caught this exception.");
}
Kotlin.getFunctionById = function(id,
    defaultValue) {
return
function () {
return defaultValue;
}
};

/**
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 license that can be found in the license/LICENSE.txt file.
 */
Kotlin.compareTo = function (a, b) {
    var
    typeA = typeof a;
    if (typeA === "number") {
        if (typeof b === "number") {
return
Kotlin.doubleCompareTo(a, b);
        }
return Kotlin.primitiveCompareTo(a, b);
    }
    if (typeA ===
"string" || typeA === "boolean") {
return
Kotlin.primitiveCompareTo(a, b);
    }
return
a.compareTo_11rb$(b);
};
Kotlin.primitiveCompareTo = function (a, b) {
return a < b ? -1 : a > b ? 1 :
0;
};
Kotlin.doubleCompareTo = function (a, b) {
if (a < b) return -1;
if (a
> b) return 1;
if (a === b) {
    if (a !== 0) return 0;
    var ia = 1 / a;
    return ia === 1 / b ? 0 : (ia
< 0 ? -1 : 1);
}
return a !== a ? (b !== b ? 0 : 1) : -1;
};
Kotlin.charInc = function (value) {
return

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Kotlin.toChar(value+1);
Kotlin.charDec = function (value) {
    return Kotlin.toChar(value-1);
};
Kotlin.imul = Math.imul || imul;
Kotlin.imulEmulated = imul;
function imul(a, b) {
    return ((a & 0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;
}
function() {
    var buf = new ArrayBuffer(8);
    var bufFloat64 = new Float64Array(buf);
    var bufFloat32 = new Float32Array(buf);
    var bufInt32 = new Int32Array(buf);
    var lowIndex = 0;
    var highIndex = 1;
    bufFloat64[0] = -1; // bff00000_00000000
    if (bufInt32[lowIndex] !== 0) {
        lowIndex = 1;
        highIndex = 0;
    }
    Kotlin.doubleToBits = function(value) {
        return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);
    };
    Kotlin.doubleToRawBits = function(value) {
        bufFloat64[0] = value;
        return Kotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);
    };
    Kotlin.doubleFromBits = function(value) {
        bufInt32[lowIndex] = value.low_;
        bufInt32[highIndex] = value.high_;
        return bufFloat64[0];
    };
    Kotlin.floatToBits = function(value) {
        return Kotlin.floatToRawBits(isNaN(value) ? NaN : value);
    };
    Kotlin.floatToRawBits = function(value) {
        bufFloat32[0] = value;
        return bufInt32[0];
    };
    Kotlin.floatFromBits = function(value) {
        bufInt32[0] = value;
        return bufFloat32[0];
    };
    // returns zero value for number with positive sign bit and non-zero value for number with negative sign bit.
    Kotlin.doubleSignBit = function(value) {
        bufFloat64[0] = value;
        return bufInt32[highIndex] & 0x80000000;
    };
    Kotlin.numberHashCode = function(obj) {
        if ((obj | 0) === obj) {
            return obj | 0;
        } else {
            bufFloat64[0] = obj;
            return (bufInt32[highIndex] * 31 | 0) + bufInt32[lowIndex] | 0;
        }
    };
}
Kotlin.ensureNotNull = function(x) {
    return x != null ? x : Kotlin.throwNPE();
};
/*
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Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
*/
String.prototype.startsWith === "undefined" ? Object.defineProperty(String.prototype, "startsWith", {
    value: function (searchString, position) {
        position = position || 0;
        return this.lastIndexOf(searchString, position) === position;
    }
}) : String.prototype.endsWith === "undefined" ? Object.defineProperty(String.prototype, "endsWith", {
    value: function (searchString, position) {
        var subjectString = this.toString();
        if (position === undefined || position > subjectString.length) {
            position = subjectString.length;
        }
        position -= searchString.length;
        var lastIndex = subjectString.indexOf(searchString, position);
        return lastIndex !== -1 && lastIndex === position;
    }
}) : ES6 Math polyfills
Math.sign === "undefined" ? Math.sign = function(x) {
    x = +x; // convert to a number
    if (x === 0 || isNaN(x)) {
        return Number(x);
    }
    return x > 0 ? 1 : -1;
} : Math.trunc === "undefined" ? Math.trunc = function(x) {
    if (isNaN(x)) {
        return NaN;
    }
    if (x > 0) {
        return Math.floor(x);
    }
    return Math.ceil(x);
} : (function() {
    var epsilon = 2.220446049250313E-16;
    var taylor_2_bound = Math.sqrt(epsilon);
    var taylor_n_bound = Math.sqrt(taylor_2_bound);
    var upper_taylor_2_bound = 1/taylor_2_bound;
    var upper_taylor_n_bound = 1/taylor_n_bound;
    if (typeof Math.sinh === "undefined") {
        Math.sinh = function(x) {
            if (Math.abs(x) < taylor_n_bound) {
                var result = x;
                if (Math.abs(x) > taylor_2_bound) {
                    result += (x * x * x) / 6;
                }
                return result;
            } else {
                var y = Math.exp(x);
                var y1 = 1 / y;
                if (!isFinite(y)) return Math.exp(x - Math.LN2);
                if (!isFinite(y1)) return -Math.exp(-x - Math.LN2);
                return (y - y1) / 2;
            }
        };
    }
    if (typeof Math.cosh === "undefined") {
        Math.cosh = function(x) {
            var y = Math.exp(x);
            var y1 = 1 / y;
            if (!isFinite(y) || !isFinite(y1)) return Math.exp(Math.abs(x) - Math.LN2);
            return (y + y1) / 2;
        };
    }
    if (typeof Math.tanh === "undefined") {
        Math.tanh = function(x) {
            if (Math.abs(x) < taylor_n_bound) {
                var result = x;
                if (Math.abs(x) > taylor_2_bound) {
                    result -= (x * x * x) / 3;
                }
                return result;
            } else {
                var a = Math.exp(+x), b = Math.exp(-x);
                return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);
            }
        };
    }
    // Inverse hyperbolic function implementations derived from boost special math functions.
    // Copyright Eric Ford &

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Hubert Holin 2001.\n\n if (typeof Math.asinh === \"undefined\") {\n     var asinh = function(x) {\n         if (x\n >= +taylor_n_bound)\n             {\n                 if (x > upper_taylor_n_bound)\n                     {\n                         if (x > upper_taylor_2_bound)\n                             {\n                                 // approximation by laurent series in 1/x\n at 0+ order from -1 to 0\n                                 return Math.log(x) + Math.LN2;\n                             }\n                         else\n                             {\n                                 // approximation by laurent series in 1/x at 0+ order from -1 to 1\n                                 return\n Math.log(x * 2 + (1 / (x * 2)));\n                             }\n                         else\n                             {\n                                 return\n Math.log(x + Math.sqrt(x * x + 1));\n                             }\n                         else if (x <= -taylor_n_bound)\n                             {\n                                 return\n -asinh(-x);\n                             }\n                         else\n                             {\n                                 // approximation by taylor series in x at 0 up to\n order 2\n                                 var result = x;\n                                 if (Math.abs(x) >= taylor_2_bound)\n                                     {\n                                         var x3 =\n x * x * x;\n                                         // approximation by taylor series in x at 0 up to order 4\n                                         result -= x3 / 6;\n                                     }\n                                 return result;\n                             }\n                 }\n     }; Math.asinh = asinh;\n } if (typeof Math.acosh === \"undefined\") {\n     Math.acosh = function(x) {\n         if (x < 1)\n             {\n                 return NaN;\n             }\n         else if (x - 1\n >= taylor_n_bound)\n             {\n                 if (x > upper_taylor_2_bound)\n                     {\n                         // approximation by laurent series in 1/x at 0+ order from -1 to 0\n                         return Math.log(x) + Math.LN2;\n                     }\n                 else\n                     {\n                         return Math.log(x + Math.sqrt(x * x - 1));\n                     }\n                 }\n             }\n         else\n             {\n                 var y = Math.sqrt(x - 1);\n                 // approximation by taylor series in y at 0 up to\n order 2\n                 var result =\n y;\n                 if (y >= taylor_2_bound)\n                     {\n                         var y3 = y * y * y;\n                         // approximation\n by taylor series in y at 0 up to order 4\n                         result -= y3 / 12;\n                     }\n                 return Math.sqrt(2) *\n result;\n             }\n     }; }\n } if (typeof Math.atanh === \"undefined\") {\n     Math.atanh = function(x) {\n         if (Math.abs(x) < taylor_n_bound) {\n             var result = x;\n             if (Math.abs(x) > taylor_2_bound) {\n                 result += (x * x * x) / 3;\n             }\n             return result;\n         }\n         return Math.log((1 + x)\n / (1 - x)) / 2;\n     }; }\n } if (typeof Math.log1p === \"undefined\") {\n     Math.log1p = function(x) {\n         if (Math.abs(x) < taylor_n_bound) {\n             var x2 = x * x;\n             var x3 = x2 * x;\n             var x4 = x3 *\n x;\n             // approximation by\n taylor series in x at 0 up to order 4\n             return (-x4 / 4 + x3 / 3 - x2 / 2 + x);\n         }\n         return\n Math.log(x + 1);\n     }; }\n } if (typeof Math.expm1 === \"undefined\") {\n     Math.expm1 = function(x)\n {\n     if (Math.abs(x) < taylor_n_bound) {\n         var x2 = x * x;\n         var x3 = x2 * x;\n         var\n x4 = x3 * x;\n         // approximation by taylor series in x at 0 up to order 4\n         return (x4 / 24 + x3 / 6 +\n x2 / 2 + x);\n     }\n     return Math.exp(x) - 1;\n }; }\n }()\n } if (typeof Math.hypot ===\n \"undefined\") {\n     Math.hypot = function() {\n         var y = 0;\n         var length = arguments.length;\n         for\n (var i = 0; i < length; i++) {\n             if (arguments[i] === Infinity || arguments[i] === -Infinity) {\n                 return\n Infinity;\n             }\n             y += arguments[i] * arguments[i];\n         }\n         return Math.sqrt(y);\n     }\n }; }\n } if (typeof Math.log10 === \"undefined\") {\n     Math.log10 = function(x) {\n         return Math.log(x) *\n Math.LOG10E;\n     }; }\n } if (typeof Math.log2 === \"undefined\") {\n     Math.log2 = function(x) {\n         return\n Math.log(x) * Math.LOG2E;\n     }; }\n } if (typeof Math.clz32 === \"undefined\") {\n     Math.clz32 = (function(log,\n LN2) {\n         return function(x) {\n             var asUint = x >>> 0;\n             if (asUint === 0) {\n                 return\n 32;\n             }\n             return 31 - (log(asUint) / LN2 | 0) | 0; // the \"| 0\" acts like math.floor\n         }; }\n })(Math.log, Math.LN2);\n }\n }\n // For HtmlUnit and PhantomJs\n } if (typeof ArrayBuffer.isView === \"undefined\") {\n     ArrayBuffer.isView = function(a) {\n         return a != null && a.__proto__ != null && a.__proto__.__proto__\n === Int8Array.prototype.__proto__;\n     }; }\n }\n } if (typeof Array.prototype.fill === \"undefined\") {\n     // Polyfill\n from https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/fill#Polyfill\n     Object.defineProperty(Array.prototype, 'fill', {\n         value: function (value) {\n             // Steps 1-2.\n             if\n (this == null) {\n                 throw new TypeError('this is null or not defined');\n             }\n             var O =\n Object(this);\n             // Steps 3-5.\n             var len = O.length >>> 0;\n             // Steps 6-7.\n             var start =\n arguments[1];\n             var relativeStart = start >> 0;\n             // Step 8.\n             var k = relativeStart < 0 ?\n Math.max(len + relativeStart, 0) : \n Math.min(relativeStart, len);\n             // Steps 9-10.\n         }\n     });\n }

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var end = arguments[2];\n      var relativeEnd = end === undefined ?\n      len : end >> 0;\n\n// Step 11.\n      var finalValue = relativeEnd < 0 ?\n      Math.max(len + relativeEnd, 0) :\n      Math.min(relativeEnd, len);\n\n// Step 12.\n      while (k < finalValue) {\n      O[k] =\n      value;\n      k++;\n      }\n\n// Step 13.\n      return O;\n    }\n\n(function() {\n  function normalizeOffset(offset, length) {\n    if (offset < 0) return Math.max(0, offset + length);\n    return Math.min(offset, length);\n  }\n  function typedArraySlice(begin, end) {\n    if (typeof end === "undefined")\n    {\n      end = this.length;\n    }\n    begin = normalizeOffset(begin || 0, this.length);\n    end =\n    Math.max(begin, normalizeOffset(end, this.length));\n    return new this.constructor(this.subarray(begin, end));\n  }\n\n  var arrays = [Int8Array, Int16Array, Uint16Array, Int32Array, Float32Array, Float64Array];\n  for (var i =\n  0; i < arrays.length; ++i) {\n    var TypedArray = arrays[i];\n    if (typeof TypedArray.prototype.fill ===\n    "undefined")\n    {\n      Object.defineProperty(TypedArray.prototype, 'fill', {\n      value: Array.prototype.fill\n      });\n    }\n    if (typeof TypedArray.prototype.slice === "undefined") {\n      Object.defineProperty(TypedArray.prototype, 'slice', {\n      value: typedArraySlice\n      });\n    }\n  }\n\n  // Patch apply to work with TypedArrays if needed.\n  try {\n    (function() {}).apply(null, new\n    Int32Array(0))\n  } catch (e) {\n    var apply = Function.prototype.apply;\n    Object.defineProperty(Function.prototype, 'apply', {\n      value: function(self, array) {\n      return\n      apply.call(this, self, [].slice.call(array));\n      }\n    });\n  }\n\n  // Patch map to work with TypedArrays if\n  needed.\n  for (var i = 0; i < arrays.length; ++i) {\n    var TypedArray = arrays[i];\n    if (typeof\n    TypedArray.prototype.map === "undefined") {\n      Object.defineProperty(TypedArray.prototype,\n      'map', {\n      value: function(callback, self) {\n      return [].slice.call(this).map(callback, self);\n      }\n      });\n    }\n  }\n\n  // Patch sort to work with TypedArrays if needed.\n  // TODO: consider to\n  remove following function and replace it with `Kotlin.doubleCompareTo` (see misc.js)\n  var\n  totalOrderComparator = function (a, b) {\n    if (a < b) return -1;\n    if (a > b) return 1;\n\n    if (a === b) {\n      if (a !== 0) return 0;\n      var ia = 1 / a;\n      return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n    }\n\n    return a !== a ? (b !== b ? 0 : 1) : -1\n  };\n\n  for (var i = 0; i < arrays.length; ++i) {\n    var TypedArray =\n    arrays[i];\n    if (typeof TypedArray.prototype.sort === "undefined") {\n      Object.defineProperty(TypedArray.prototype, 'sort', {\n      value: function(compareFunction) {\n      return Array.prototype.sort.call(this, compareFunction || totalOrderComparator);\n      }\n      });\n    }\n  }\n\n  //\n  **\n  * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. Use\n  of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n  *\n  *\n  Kotlin.Kind = {\n    CLASS: "class",\n    INTERFACE: "interface",\n    OBJECT:\n    "object"\n  };\n\n  Kotlin.callGetter = function (thisObject, klass, propertyName) {\n    var propertyDescriptor =\n    Object.getOwnPropertyDescriptor(klass, propertyName);\n    if (propertyDescriptor != null &&\n    propertyDescriptor.get != null) {\n      return propertyDescriptor.get.call(thisObject);\n    }\n\n    propertyDescriptor =\n    Object.getOwnPropertyDescriptor(thisObject, propertyName);\n    if (propertyDescriptor != null && "value" in\n    propertyDescriptor) {\n      return thisObject[propertyName];\n    }\n\n    return Kotlin.callGetter(thisObject,\n    Object.getPrototypeOf(klass), propertyName);\n  };\n\n  Kotlin.callSetter = function (thisObject, klass, propertyName,\n  value) {\n    var propertyDescriptor =\n    Object.getOwnPropertyDescriptor(klass, propertyName);\n    if\n    (propertyDescriptor != null && propertyDescriptor.set != null) {\n      propertyDescriptor.set.call(thisObject,\n      value);\n      return;\n    }\n\n    propertyDescriptor =\n    Object.getOwnPropertyDescriptor(thisObject,\n    propertyName);\n    if (propertyDescriptor != null && "value" in propertyDescriptor) {\n      thisObject[propertyName] = value;\n      return;\n    }\n\n    Kotlin.callSetter(thisObject,\n    Object.getPrototypeOf(klass), propertyName, value);\n  };\n\n  function isInheritanceFromInterface(ctor, iface) {\n    if\n    (ctor === iface) return true;\n\n    var metadata = ctor.$metadata$;\n    if (metadata != null) {\n      var interfaces =\n      metadata.interfaces;\n      for (var i = 0; i < interfaces.length; i++) {\n        if\n        (isInheritanceFromInterface(interfaces[i],\n
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iface)) {\n        return true;\n    }\n }\n }\n\n var superPrototype = ctor.prototype != null ?
Object.getPrototypeOf(ctor.prototype) : null;\n var superConstructor = superPrototype != null ?
superPrototype.constructor : null;\n return superConstructor != null &&
isInheritanceFromInterface(superConstructor, iface);\n}\n\n/**\n * \n * @param {*} object\n * @param
{Function|Object} klass\n * @returns {Boolean}\n */\nKotlin.isType = function (object, klass) {\n if (klass ===
Object) {\n switch (typeof object) {\n case "string":\n case "number":\n case
"boolean":\n case "function":\n return true;\n default:\n return object instanceof
Object;\n }\n }\n }\n\n if (object == null || klass == null || (typeof object !== 'object' && typeof object !==
'function')) {\n return false;\n }\n\n if (typeof klass === "function" && object instanceof
klass) {\n return true;\n }\n\n var proto = Object.getPrototypeOf(klass);\n var constructor = proto != null ?
proto.constructor : null;\n if (constructor != null && "$metadata" in constructor) {\n var metadata =
constructor.$metadata$;\n if (metadata.kind === Kotlin.Kind.OBJECT) {\n return object === klass;\n
}\n }\n\n var classMetadata = klass.$metadata$;\n\n // In WebKit (JavaScriptCore) for some interfaces from
DOM typeof returns "object", nevertheless they can be used in RHS of instanceof\n if (classMetadata == null)
{\n return object instanceof klass;\n }\n\n if (classMetadata.kind === Kotlin.Kind.INTERFACE &&
object.constructor != null) {\n return isInheritanceFromInterface(object.constructor, klass);\n }\n\n return
false;\n};\n\nKotlin.isNumber = function (a) {\n return typeof a == "number" || a instanceof
Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n return
value instanceof Kotlin.BoxedChar;\n};\n\nKotlin.isComparable = function (value) {\n var type = typeof
value;\n return type === "string" ||\n type === "boolean" ||\n Kotlin.isNumber(value) ||\n
Kotlin.isType(value, Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n return
typeof value === "string" || Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};\n\n/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get
declarations directly under the module\n\n@PublishedApi\ninternal fun <T> Array(size: Int):
Array<T>\n\n@JsName("newArray")\nfun <T> newArray(size: Int, initialValue: T) = fillArrayVal(Array<T>(size),
initialValue)\n\n@JsName("newArrayF")\ninline fun <T> arrayWithFun(size: Int, init: (Int) -> T) =
fillArrayFun(Array<T>(size),
init)\n\n@JsName("fillArray")\ninline fun <T> fillArrayFun(array: Array<T>, init: (Int) -> T): Array<T> {\n for
(i in 0..array.size - 1) {\n array[i] = init(i)\n }\n return array\n}\n\n@JsName("booleanArray")\nfun
booleanArray(size: Int, init: dynamic): Array<Boolean> {\n val result: dynamic = Array<Boolean>(size)\n
result.`$type$` = "BooleanArray"\n return when (init) {\n null, true -> fillArrayVal(result, false)\n false -
-> result\n else -> fillArrayFun<Boolean>(result, init)\n }\n}\n\n@JsName("booleanArrayF")\ninline fun
booleanArrayWithFun(size: Int, init: (Int) -> Boolean): Array<Boolean> = fillArrayFun(booleanArray(size, false),
init)\n\n@JsName("charArray")\n@Suppress("UNUSED_PARAMETER")\nfun charArray(size: Int, init:
dynamic): Array<Char> {\n val result = js("new Uint16Array(size)")\n result.`$type$` = "CharArray"\n
return when (init) {\n null, true, false -> result // For consistency\n
else -> fillArrayFun<Char>(result, init)\n }\n}\n\n@JsName("charArrayF")\ninline fun
charArrayWithFun(size: Int, init: (Int) -> Char): Array<Char> {\n val array = charArray(size, null)\n for (i in
0..array.size - 1) {\n @Suppress("UNUSED_VARIABLE") // used in js block\n val value = init(i)\n
js("array[i] = value;")\n }\n return array\n}\n\n@JsName("untypedCharArrayF")\ninline fun
untypedCharArrayWithFun(size: Int, init: (Int) -> Char): Array<Char> {\n val array = Array<Char>(size)\n for
(i in 0..array.size - 1) {\n @Suppress("UNUSED_VARIABLE") // used in js block\n val value = init(i)\n
js("array[i] = value;")\n }\n return array\n}\n\n@JsName("longArray")\nfun longArray(size: Int, init:
dynamic): Array<Long> {\n val result: dynamic = Array<Long>(size)\n result.`$type$` = "LongArray"\n
return when (init) {\n null, true -> fillArrayVal(result, 0L)\n false -> result\n
else -> fillArrayFun<Long>(result, init)\n }\n}\n\n@JsName("longArrayF")\ninline fun
longArrayWithFun(size: Int, init: (Int) -> Long): Array<Long> = fillArrayFun(longArray(size, false),

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init)\n\nprivate fun <T> fillArrayVal(array: Array<T>, initialValue: T): Array<T> {\n  for (i in 0..array.size - 1) {\n    array[i] = initialValue\n  }\n  return array\n}", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\npublic class Enum<T : Enum<T>> :
Comparable<Enum<T>> {\n  @JsName("name$") private var _name: String = ""\n  @JsName("ordinal$")
private var _ordinal: Int = 0\n  val name: String\n  get() = _name\n  val ordinal: Int\n  get() =
_ordinal\n\n  override fun compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)\n\n  override fun
equals(other: Any?) = this ===
other\n\n  override fun hashCode(): Int = js("Kotlin.identityHashCode")(this)\n\n  override fun toString() =
name\n\n  companion object\n}", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.js.internal\n\n@JsName("DoubleCompanionObject")\n\ninternal
object DoubleCompanionObject {\n  @JsName("MIN_VALUE")\n  const val MIN_VALUE: Double = 4.9E-
324\n\n  @JsName("MAX_VALUE")\n  const val MAX_VALUE: Double = 1.7976931348623157E308\n\n  @JsName("POSITIVE_INFINITY")\n  @Suppress("DIVISION_BY_ZERO")\n  const val
POSITIVE_INFINITY: Double = 1.0 / 0.0\n\n  @JsName("NEGATIVE_INFINITY")\n  @Suppress("DIVISION_BY_ZERO")\n  const val NEGATIVE_INFINITY: Double = -1.0 / 0.0\n\n  @JsName("NaN")\n  @Suppress("DIVISION_BY_ZERO")\n  const val NaN: Double = -(0.0 / 0.0)\n\n  @JsName("SIZE_BYTES")\n
const val SIZE_BYTES = 8\n\n  @JsName("SIZE_BITS")\n  const val SIZE_BITS =
64\n\n  @JsName("FloatCompanionObject")\n  internal object FloatCompanionObject {\n
@JsName("MIN_VALUE")\n  const val MIN_VALUE: Float = 1.4E-45F\n\n  @JsName("MAX_VALUE")\n
const val MAX_VALUE: Float = 3.4028235E38F\n\n  @JsName("POSITIVE_INFINITY")\n
@Suppress("DIVISION_BY_ZERO")\n  const val POSITIVE_INFINITY: Float = 1.0F / 0.0F\n\n
@JsName("NEGATIVE_INFINITY")\n  @Suppress("DIVISION_BY_ZERO")\n  const val
NEGATIVE_INFINITY: Float = -1.0F / 0.0F\n\n  @JsName("NaN")\n  @Suppress("DIVISION_BY_ZERO")\n  const val NaN: Float = -(0.0F / 0.0F)\n\n
@JsName("SIZE_BYTES")\n  const val SIZE_BYTES = 4\n\n  @JsName("SIZE_BITS")\n  const val
SIZE_BITS = 32\n\n  @JsName("IntCompanionObject")\n  internal object IntCompanionObject {\n
@JsName("MIN_VALUE")\n  val MIN_VALUE: Int = -2147483647 - 1\n\n  @JsName("MAX_VALUE")\n
val MAX_VALUE: Int = 2147483647\n\n  @JsName("SIZE_BYTES")\n  const val SIZE_BYTES = 4\n\n
@JsName("SIZE_BITS")\n  const val SIZE_BITS = 32\n\n  @JsName("LongCompanionObject")\n  internal
object LongCompanionObject {\n  @JsName("MIN_VALUE")\n  val MIN_VALUE: Long =
js("Kotlin.Long.MIN_VALUE")\n\n  @JsName("MAX_VALUE")\n  val MAX_VALUE: Long =
js("Kotlin.Long.MAX_VALUE")\n\n  @JsName("SIZE_BYTES")\n  const val SIZE_BYTES = 8\n\n
@JsName("SIZE_BITS")\n  const val SIZE_BITS = 64\n\n  @JsName("ShortCompanionObject")\n  internal
object ShortCompanionObject {\n  @JsName("MIN_VALUE")\n  val MIN_VALUE: Short = -32768\n\n
@JsName("MAX_VALUE")\n  val MAX_VALUE: Short = 32767\n\n  @JsName("SIZE_BYTES")\n  const
val SIZE_BYTES = 2\n\n  @JsName("SIZE_BITS")\n  const val SIZE_BITS =
16\n\n  @JsName("ByteCompanionObject")\n  internal object ByteCompanionObject {\n
@JsName("MIN_VALUE")\n  val MIN_VALUE: Byte = -128\n\n
@JsName("MAX_VALUE")\n  val MAX_VALUE: Byte = 127\n\n  @JsName("SIZE_BYTES")\n  const
val SIZE_BYTES = 1\n\n  @JsName("SIZE_BITS")\n  const val SIZE_BITS =
8\n\n  @JsName("CharCompanionObject")\n  internal object CharCompanionObject {\n
@JsName("MIN_VALUE")\n  public const val MIN_VALUE: Char = "\u0000"\n\n
@JsName("MAX_VALUE")\n  public const val MAX_VALUE: Char = "\uFFFF"\n\n
@JsName("MIN_HIGH_SURROGATE")\n  public const val MIN_HIGH_SURROGATE: Char = "\uD800"\n\n
@JsName("MAX_HIGH_SURROGATE")\n  public const val MAX_HIGH_SURROGATE: Char =

```

```

\uDBFF\n @JsName("MIN_LOW_SURROGATE")\n public const val MIN_LOW_SURROGATE: Char =
\uDC00\n @JsName("MAX_LOW_SURROGATE")\n public const val MAX_LOW_SURROGATE: Char =
\uDFFF\n @JsName("MIN_SURROGATE")\n public const val MIN_SURROGATE: Char =
MIN_HIGH_SURROGATE\n @JsName("MAX_SURROGATE")\n public const val MAX_SURROGATE:
Char = MAX_LOW_SURROGATE\n\n

```

```

@JsName("SIZE_BYTES")\n const val SIZE_BYTES = 2\n @JsName("SIZE_BITS")\n const val
SIZE_BITS = 16\n\ninternal object StringCompanionObject {\n\ninternal object BooleanCompanionObject
{\n\n"/\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n @file:kotlin.jvm.JvmMultifileClass\n @file:kotlin.jvm.JvmName("ArraysKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the
size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun <T> Array<out T>.component1(): T {\n
return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
ByteArray.component1(): Byte {\n return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the
size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun ShortArray.component1(): Short {\n
return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun IntArray.component1():
Int {\n return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less
than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun LongArray.component1(): Long {\n
return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun FloatArray.component1(): Float {\n
return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun DoubleArray.component1(): Double {\n
return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun BooleanArray.component1(): Boolean {\n
return get(0)\n }\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun CharArray.component1():
Char {\n return get(0)\n }\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less
than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun <T> Array<out T>.component2(): T {\n
return get(1)\n }\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this
array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is
unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun ByteArray.component2(): Byte {\n
return get(1)\n }\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun ShortArray.component2(): Short {\n
return

```



```

get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component2(): Int {\n    return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsException] except
in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun
LongArray.component2(): Long {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If
the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component2():
Float {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less
than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component2(): Double {\n    return
get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic
inline operator fun BooleanArray.component2(): Boolean {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element*
from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun
CharArray.component2(): Char {\n    return get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If
the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out
T>.component3(): T {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of
this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is
unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator
fun ByteArray.component3(): Byte {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component3():
Short {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less
than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component3(): Int {\n    return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component3(): Long {\n    return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component3(): Float {\n    return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component3(): Double {\n    return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component3(): Boolean {\n    return
get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component3():
Char {\n    return get(2)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less
than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

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*^@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component4(): T {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component4(): Byte {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep]
except in Kotlin/JS\n * where the behavior is unspecified.\n *^@kotlin.internal.InlineOnly\npublic inline operator
fun ShortArray.component4(): Short {\n  return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the
behavior is unspecified.\n *^@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component4(): Int
{\n  return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4,
throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component4(): Long {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is
unspecified.\n *^@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component4(): Float {\n
return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4,
throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component4(): Double {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component4(): Boolean {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic
inline operator fun CharArray.component4(): Char {\n  return get(3)\n}\n\n/**\n * Returns 5th *element* from the
array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n
* where the behavior is unspecified.\n *^@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out
T>.component5(): T {\n  return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of
this array is less than 5, throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is
unspecified.\n *^@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component5(): Byte {\n
return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5,
throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component5(): Short {\n
return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5,
throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component5(): Int {\n  return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component5(): Long {\n  return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*^@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component5(): Float {\n  return
get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where
the behavior is unspecified.\n *^@kotlin.internal.InlineOnly\npublic inline operator fun
DoubleArray.component5(): Double {\n  return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the

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behavior is unspecified.

```

@kotlin.internal.InlineOnly
public inline operator fun BooleanArray.component5(): Boolean {
    return get(4)
}
Returns 5th element from the array.
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS where the behavior is unspecified.

@kotlin.internal.InlineOnly
public inline operator fun CharArray.component5(): Char {
    return get(4)
}
Returns true if [element] is found in the array.

@kotlin.internal.OnlyInputTypes
T> Array<out T>.contains(element: T): Boolean {
    return indexOf(element) >= 0
}
Returns true if [element] is found in the array.

public operator fun ByteArray.contains(element: Byte): Boolean {
    return indexOf(element) >= 0
}
Returns true if [element] is found in the array.

public operator fun ShortArray.contains(element: Short): Boolean {
    return indexOf(element) >= 0
}
Returns true if [element] is found in the array.

public operator fun IntArray.contains(element: Int): Boolean {
    return indexOf(element) >= 0
}
Returns true if [element] is found in the array.

public operator fun LongArray.contains(element: Long): Boolean {
    return indexOf(element) >= 0
}
Returns true if [element] is found in the array.

@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'any { it == element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the same search behavior as in a list.", ReplaceWith("any { it == element }"))
public operator fun FloatArray.contains(element: Float): Boolean {
    return any { it == element }
}
Returns true if [element] is found in the array.

@Deprecated("The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'any { it == element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the same search behavior as in a list.", ReplaceWith("any { it == element }"))
public operator fun DoubleArray.contains(element: Double): Boolean {
    return any { it == element }
}
Returns true if [element] is found in the array.

public operator fun BooleanArray.contains(element: Boolean): Boolean {
    return indexOf(element) >= 0
}
Returns true if [element] is found in the array.

public operator fun CharArray.contains(element: Char): Boolean {
    return indexOf(element) >= 0
}
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun <T> Array<out T>.elementAt(index: Int): T
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun ByteArray.elementAt(index: Int): Byte
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun ShortArray.elementAt(index: Int): Short
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun IntArray.elementAt(index: Int): Int
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun LongArray.elementAt(index: Int): Long
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun FloatArray.elementAt(index: Int): Float
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun DoubleArray.elementAt(index: Int): Double
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

@sample
samples.collections.Collections.Elements.elementAt

public expect fun BooleanArray.elementAt(index: Int): Boolean
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the

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[index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\npublic expect fun CharArray.elementAt(index: Int): Char\n\n/**\n * Returns an element at the given [index] or
the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out
T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    return if (index >= 0 && index <= lastIndex)
get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Byte): Byte {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Short): Short {\n    return if (index >= 0 && index <=
lastIndex)
get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Int): Int {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Long): Long {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling
the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Float): Float {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Double): Double {\n    return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.elementAtOrElse(index: Int, defaultValue: (Int) ->
Boolean): Boolean {\n    return if (index >= 0 && index <= lastIndex) get(index) else
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.elementAtOrNull(index: Int): T? {\n
    return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of
bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.elementAtOrNull(index: Int): Byte? {\n    return

```

```

this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds
of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.elementAtOrNull(index: Int): Short? {\n    return
this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds
of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.elementAtOrNull(index: Int): Int? {\n    return
this.getOrNull(index)\n}\n\n/**\n
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.elementAtOrNull(index: Int): Long? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.elementAtOrNull(index: Int): Float? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.elementAtOrNull(index: Int): Double? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given
[index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.elementAtOrNull(index: Int): Boolean? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.elementAtOrNull(index: Int): Char? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns the first
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out
T>.find(predicate: (T) -> Boolean): T? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if
no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
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firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such
element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.find(predicate: (Short) -> Boolean): Short? {\n
    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.find(predicate: (Int) -> Boolean): Int? {\n    return
firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such
element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.find(predicate: (Long) -> Boolean): Long? {\n
    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.find(predicate: (Float) -> Boolean): Float? {\n
    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.find(predicate: (Double) -> Boolean): Double? {\n
    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.find(predicate: (Boolean) -> Boolean): Boolean?
{\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if

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no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.find(predicate: (Char) -> Boolean): Char? {\n  return
firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such
element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.findLast(predicate: (T) -> Boolean): T? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic
inline fun ByteArray.findLast(predicate: (Byte) -> Boolean): Byte? {\n  return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.findLast(predicate: (Short) -> Boolean): Short? {\n  return lastOrNull(predicate)\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.findLast(predicate: (Int) -> Boolean): Int? {\n  return lastOrNull(predicate)\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.findLast(predicate:
(Long) -> Boolean): Long? {\n  return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the
given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.findLast(predicate: (Float) -> Boolean): Float? {\n  return lastOrNull(predicate)\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.findLast(predicate: (Double) -> Boolean): Double? {\n  return lastOrNull(predicate)\n}\n\n/**\n *
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no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.findLast(predicate: (Char) -> Boolean): Char? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the first element.\n * \n * @throws NoSuchElementException if
the array is empty.\n * \npublic fun <T> Array<out T>.first(): T {\n  if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n  return this[0]\n}\n\n/**\n * Returns the first element.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \npublic fun ByteArray.first(): Byte {\n  if
(isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return this[0]\n}\n\n/**\n * Returns the
first element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \npublic fun ShortArray.first():
Short
{\n  if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return this[0]\n}\n\n/**\n *
Returns the first element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \npublic fun
IntArray.first(): Int {\n  if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return
this[0]\n}\n\n/**\n * Returns the first element.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\npublic fun LongArray.first(): Long {\n  if (isEmpty())\n    throw NoSuchElementException("Array is
empty.")\n  return this[0]\n}\n\n/**\n * Returns the first element.\n * \n * @throws NoSuchElementException if
the array is empty.\n * \npublic fun FloatArray.first(): Float {\n  if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n  return this[0]\n}\n\n/**\n * Returns the first element.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \npublic fun DoubleArray.first(): Double {\n  if

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(isEmpty())\n    throw NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns the first element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\npublic fun
BooleanArray.first(): Boolean {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns the first element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\npublic fun CharArray.first(): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Array<out T>.first(predicate: (T) -> Boolean): T {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ByteArray.first(predicate: (Byte) -> Boolean): Byte {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.first(predicate: (Short) -> Boolean): Short {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun IntArray.first(predicate: (Int) -> Boolean): Int {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun LongArray.first(predicate: (Long) -> Boolean): Long {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun FloatArray.first(predicate: (Float) -> Boolean): Float {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.first(predicate: (Double) -> Boolean): Double {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun BooleanArray.first(predicate: (Boolean) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.first(predicate: (Char) -> Boolean): Char {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this array in iteration order,\n * or throws [NoSuchElementException] if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Array<out T>.firstNotNullOf(transform: (T) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the array was transformed to a non-null value.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this array in iteration order,\n * or `null` if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf

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*  

@SinceKotlin("1.5")  

@kotlin.internal.InlineOnly  

public inline fun <T, R : Any> Array<out  

T>.firstNotNullOrNull(transform: (T) -> R?): R? {  

    for (element in this) {  

        val result =  

transform(element)  

        if (result != null) {  

            return result  

        }  

    }  

    return null  

}
  

* Returns the first element, or  

`null` if the array is empty.  

  

public fun <T> Array<out T>.firstOrNull(): T? {  

    return if (isEmpty()) null else  

this[0]  

}
  

* Returns the first element, or `null` if the array is empty.  

  

public fun  

ByteArray.firstOrNull(): Byte? {  

    return if (isEmpty()) null else this[0]  

}
  

* Returns the first element, or  

`null` if the array is empty.  

  

public fun  

ShortArray.firstOrNull(): Short? {  

    return if (isEmpty()) null else  

this[0]  

}
  

* Returns the first element, or `null` if the array is empty.  

  

public fun  

IntArray.firstOrNull():  

Int? {  

    return if (isEmpty()) null else this[0]  

}
  

* Returns the first element, or `null` if the array is  

empty.  

  

public fun  

LongArray.firstOrNull():  

Long? {  

    return if (isEmpty()) null else this[0]  

}
  

* Returns the first element,  

or `null` if the array is empty.  

  

public fun  

FloatArray.firstOrNull():  

Float? {  

    return if (isEmpty()) null else  

this[0]  

}
  

* Returns the first element, or `null` if the array is empty.  

  

public fun  

DoubleArray.firstOrNull():  

Double? {  

    return if (isEmpty()) null else this[0]  

}
  

* Returns the first  

element, or `null` if the array is empty.  

  

public fun  

BooleanArray.firstOrNull():  

Boolean? {  

    return if  

(isEmpty()) null else this[0]  

}
  

* Returns the first element, or `null` if the array is empty.  

  

public fun  

CharArray.firstOrNull():  

Char? {  

    return if (isEmpty()) null else this[0]  

}
  

* Returns the first element  

matching the given [predicate], or `null` if element was not found.  

  

public inline fun <T> Array<out  

T>.firstOrNull(predicate: (T) -> Boolean): T? {  

    for (element in this) if (predicate(element)) return element  

    return null  

}
  

* Returns the first element matching the given [predicate], or  

`null` if element was not found.  

  

public inline fun  

ByteArray.firstOrNull(predicate: (Byte) -> Boolean): Byte?  

{  

    for (element in this) if (predicate(element)) return element  

    return null  

}
  

* Returns the first  

element matching the given [predicate], or `null` if element was not found.  

  

public inline fun  

ShortArray.firstOrNull(predicate: (Short) -> Boolean): Short?  

{  

    for (element in this) if (predicate(element))  

return element  

    return null  

}
  

* Returns the first element matching the given [predicate], or `null` if  

element was not found.  

  

public inline fun  

IntArray.firstOrNull(predicate: (Int) -> Boolean): Int? {  

    for  

(element in this) if (predicate(element)) return element  

    return null  

}
  

* Returns the first element  

matching the given [predicate], or `null` if element was not found.  

  

public inline fun  

LongArray.firstOrNull(predicate: (Long) -> Boolean): Long? {  

    for (element in this) if (predicate(element))  

return  

element  

    return null  

}
  

* Returns the first element matching the given [predicate], or `null` if element  

was not found.  

  

public inline fun  

FloatArray.firstOrNull(predicate: (Float) -> Boolean): Float? {  

    for  

(element in this) if (predicate(element)) return element  

    return null  

}
  

* Returns the first element  

matching the given [predicate], or `null` if element was not found.  

  

public inline fun  

DoubleArray.firstOrNull(predicate: (Double) -> Boolean): Double? {  

    for (element in this) if  

(predicate(element)) return element  

    return null  

}
  

* Returns the first element matching the given  

[predicate], or `null` if element was not found.  

  

public inline fun  

BooleanArray.firstOrNull(predicate:  

(Boolean) -> Boolean): Boolean? {  

    for (element in this) if (predicate(element)) return element  

    return  

null  

}
  

* Returns the first element matching the given [predicate], or `null` if element was not found.  

  

public inline  

  

fun  

CharArray.firstOrNull(predicate: (Char) -> Boolean): Char? {  

    for (element in this) if (predicate(element))  

return element  

    return null  

}
  

* Returns an element at the given [index] or the result of calling the  

[defaultValue] function if the [index] is out of bounds of this array.  

  

@kotlin.internal.InlineOnly  

public inline  

fun <T> Array<out T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {  

    return if (index >= 0 && index <= lastIndex) get(index) else  

defaultValue(index)  

}
  

* Returns an element at the given [index] or the result of  

calling the [defaultValue] function if the [index] is out of bounds of this array.  

  

public inline fun  

ByteArray.getOrNull(index: Int, defaultValue: (Int) -> Byte):

```



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Byte {\n    return if (index >= 0 && index <= lastIndex) get(index) else default\n\n * Returns  
an element at the given [index] or the result of calling the [defaultValue] function if the [index] is  
out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.getOrNull(index: Int,  
defaultValue: (Int) -> Short): Short {\n    return if (index >= 0 && index <= lastIndex) get(index) else  
defaultValue(index)\n}\n\n * Returns an element at the given [index] or the result of calling the [defaultValue]  
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun  
IntArray.getOrNull(index: Int, defaultValue: (Int) -> Int): Int {\n    return if (index >= 0 && index <= lastIndex)  
get(index) else defaultValue(index)\n}\n\n * Returns an element at the given [index] or the result of calling the  
[defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun  
LongArray.getOrNull(index: Int, defaultValue: (Int) -> Long): Long {\n    return if (index >= 0 && index <=  
lastIndex) get(index) else defaultValue(index)\n}\n\n * Returns an element at the  
given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.getOrNull(index: Int, defaultValue: (Int) -> Float):  
Float {\n    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n * Returns  
an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of  
this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.getOrNull(index: Int, defaultValue:  
(Int) -> Double): Double {\n    return if (index >= 0 && index <= lastIndex) get(index) else  
defaultValue(index)\n}\n\n * Returns an element at the given [index] or the result of calling the [defaultValue]  
function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun  
BooleanArray.getOrNull(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n    return if (index  
>= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n * Returns an element at the given  
[index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.getOrNull(index: Int, defaultValue: (Int) -> Char):  
Char {\n    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n * Returns  
an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.getOrNull\n */\npublic fun <T> Array<out T>.getOrNull(index: Int): T?  
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n * Returns an element at the  
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.getOrNull\n */\npublic fun ByteArray.getOrNull(index: Int): Byte? {\n    return if (index >=  
0 && index <= lastIndex) get(index) else null\n}\n\n * Returns an element at the given [index] or `null` if the  
[index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun ShortArray.getOrNull(index: Int): Short? {\n    return if (index >= 0 && index <= lastIndex)  
get(index) else null\n}\n\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of  
this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun  
IntArray.getOrNull(index: Int): Int? {\n    return if (index >= 0 && index <= lastIndex) get(index) else  
null\n}\n\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n *\n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun LongArray.getOrNull(index: Int):  
Long? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n * Returns an element  
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.getOrNull\n */\npublic fun FloatArray.getOrNull(index: Int): Float? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n * Returns an element at the given  
[index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.getOrNull\n */\npublic fun DoubleArray.getOrNull(index: Int): Double?  
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n * Returns an element at the  
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  
samples.collections.Collections.Elements.getOrNull\n */\npublic fun BooleanArray.getOrNull(index: Int): Boolean?  
{\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n * Returns an element at the
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given [index] or `null` if the [index] is out of bounds

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of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n * \npublic fun  
CharArray.getOrNull(index: Int): Char? {\n    return if (index >= 0 && index <= lastIndex) get(index) else  
    null\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n * \npublic fun  
<@kotlin.internal.OnlyInputTypes T> Array<out T>.indexOf(element: T): Int {\n    if (element == null) {\n        for  
(index in indices) {\n            if (this[index] == null) {\n                return index\n            }\n        }\n    } else {\n        for (index in indices) {\n            if (element == this[index]) {\n                return index\n            }\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n * \npublic fun  
ByteArray.indexOf(element: Byte): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return  
-1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n * \npublic fun  
ShortArray.indexOf(element: Short): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not  
contain element.\n * \npublic fun  
IntArray.indexOf(element: Int): Int {\n    for (index in indices) {\n        if (element  
== this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -  
1 if the array does not contain element.\n * \npublic fun  
LongArray.indexOf(element: Long): Int {\n    for (index in  
indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns  
first index of [element], or -1 if the array does not contain element.\n * \npublic inline fun  
@Deprecated("The function has unclear  
behavior when searching  
for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }'  
instead to continue using this  
behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a list.",  
ReplaceWith("indexOfFirst { it == element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =  
"1.6", hiddenSince = "1.7")\npublic fun  
FloatArray.indexOf(element: Float): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of  
[element], or -1 if the array does not contain element.\n * \npublic inline fun  
@Deprecated("The function has unclear behavior when  
searching for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }'  
instead to continue  
using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a list.",  
ReplaceWith("indexOfFirst { it == element }"))\n@DeprecatedSinceKotlin(warningSince = "1.4",  
errorSince = "1.6", hiddenSince = "1.7")\npublic fun  
DoubleArray.indexOf(element: Double): Int {\n    for  
(index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n * \npublic fun  
BooleanArray.indexOf(element: Boolean): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not  
contain element.\n * \npublic fun  
CharArray.indexOf(element: Char): Int {\n    for (index in indices) {\n        if  
(element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first  
element matching the given [predicate], or -1 if the array does not contain such element.\n * \npublic inline fun  
<T>  
Array<out T>.indexOfFirst(predicate: (T) ->  
Boolean): Int {\n    for (index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not  
contain such element.\n * \npublic inline fun  
ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {\n    for  
(index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n * \npublic inline fun  
ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {\n    for (index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first  
element matching the given [predicate], or -1 if the array does not contain such element.\n * \npublic inline fun  
IntArray.indexOfFirst(predicate:  
(Int) -> Boolean): Int {\n    for (index in indices) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array
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does not contain such element.\n
*/\npublic inline fun LongArray.indexOfFirst(predicate: (Long) -> Boolean): Int
{\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n } }\n return -
1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n
*/\npublic inline fun FloatArray.indexOfFirst(predicate: (Float) -> Boolean): Int {\n for (index in
indices) {\n if (predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns
index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic
inline fun DoubleArray.indexOfFirst(predicate: (Double) -> Boolean): Int {\n for (index in indices) {\n if
(predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun
BooleanArray.indexOfFirst(predicate: (Boolean) -> Boolean): Int {\n for (index in indices) {\n if
(predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun
CharArray.indexOfFirst(predicate: (Char) -> Boolean): Int {\n for (index in indices) {\n if
(predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array
does not contain such element.\n
*/\npublic inline fun <T> Array<out T>.indexOfLast(predicate: (T) -> Boolean):
Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n } }\n
}\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not
contain such element.\n
*/\npublic inline fun ByteArray.indexOfLast(predicate: (Byte) -> Boolean): Int {\n for
(index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n } }\n return -
1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n
*/\npublic inline fun ShortArray.indexOfLast(predicate: (Short) -> Boolean): Int {\n for (index in
indices.reversed()) {\n if (predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n
* Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun
IntArray.indexOfLast(predicate: (Int) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun
LongArray.indexOfLast(predicate: (Long) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n
*/\npublic inline fun
FloatArray.indexOfLast(predicate: (Float) -> Boolean): Int {\n for (index in indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n } }\n
}\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array
does not contain such element.\n
*/\npublic inline fun DoubleArray.indexOfLast(predicate: (Double) -> Boolean):
Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n } }\n
}\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not
contain such element.\n
*/\npublic inline fun BooleanArray.indexOfLast(predicate: (Boolean) -> Boolean): Int {\n for
(index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n } }\n return -
1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n
*/\npublic inline fun CharArray.indexOfLast(predicate: (Char) -> Boolean): Int {\n for (index in
indices.reversed()) {\n if
(predicate(this[index])) {\n return index\n } }\n return -1\n}\n\n/**\n * Returns the last element.\n
*/\n * @throws NoSuchElementException if the array is empty.\n
*/\n * @sample
samples.collections.Collections.Elements.last\n
*/\npublic fun <T> Array<out T>.last(): T {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n
*/\n * @throws NoSuchElementException if the array is empty.\n
*/\n * @sample

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samples.collections.Collections.Elements.last\n */\npublic fun ByteArray.last(): Byte {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun ShortArray.last(): Short {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun IntArray.last(): Int {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun LongArray.last(): Long {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun FloatArray.last(): Float {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun DoubleArray.last(): Double {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun BooleanArray.last(): Boolean {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun CharArray.last(): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Array<out T>.last(predicate: (T) -> Boolean): T {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ByteArray.last(predicate: (Byte) -> Boolean): Byte {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ShortArray.last(predicate: (Short) -> Boolean): Short {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun IntArray.last(predicate: (Int) -> Boolean): Int {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun LongArray.last(predicate: (Long) -> Boolean): Long {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element matching the

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predicate.\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun FloatArray.last(predicate: (Float) -> Boolean):
Float {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element))
return element\n    }\n    throw NoSuchElementException("\nArray contains no element matching the
predicate.\n")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n
* \n * @sample samples.collections.Collections.Elements.last\n */\npublic inline fun DoubleArray.last(predicate:
(Double) -> Boolean): Double {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n
if (predicate(element)) return element\n    }\n    throw NoSuchElementException("\nArray contains no element
matching the predicate.\n")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun BooleanArray.last(predicate: (Boolean) ->
Boolean): Boolean {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    throw NoSuchElementException("\nArray contains no element
matching the predicate.\n")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such
element is found.\n * \n * @sample samples.collections.Collections.Elements.last\n */\npublic inline fun
CharArray.last(predicate: (Char) -> Boolean): Char {\n    for (index in this.indices.reversed()) {\n        val element =
this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("\nArray contains
no element matching the predicate.\n")\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not
contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.lastIndexOf(element: T): Int
{\n    if (element == null) {\n        for (index in indices.reversed()) {\n            if (this[index] == null) {\n
return index\n            }\n        }\n    } else {\n        for (index in indices.reversed()) {\n            if (element ==
this[index]) {\n                return index\n            }\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain
element.\n */\npublic fun ByteArray.lastIndexOf(element: Byte): Int {\n    for (index in indices.reversed()) {\n        if
(element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of
[element], or -1 if the array does not contain element.\n */\npublic fun ShortArray.lastIndexOf(element: Short): Int
{\n    for (index in indices.reversed()) {\n        if (element == this[index]) {\n            return index\n        }\n
}\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun
IntArray.lastIndexOf(element: Int): Int {\n    for (index in indices.reversed()) {\n        if (element == this[index]) {\n
return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not
contain element.\n */\npublic fun LongArray.lastIndexOf(element: Long): Int {\n    for (index in indices.reversed()) {\n
if (element == this[index]) {\n        return index\n    }\n    }\n    return -1\n}\n\n/**\n * Returns last index of [element], or -
1 if the array does not contain element.\n */\n@Deprecated("\nThe function has unclear behavior when searching for
NaN or zero values and will be removed soon. Use 'indexOfLast { it == element }' instead to continue using this
behavior, or '.asList().lastIndexOf(element: T)' to get the same search behavior as in a list.\n",
ReplaceWith("\nindexOfLast { it == element }\n"))\n@DeprecatedSinceKotlin(warningSince = "\n1.4\n", errorSince =
"\n1.6\n", hiddenSince = "\n1.7\n")\npublic fun FloatArray.lastIndexOf(element: Float): Int {\n    for (index in
indices.reversed()) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return
-1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain
element.\n */\n@Deprecated("\nThe function has unclear behavior when searching for NaN or zero values and will
be removed soon. Use 'indexOfLast { it == element }' instead to continue using this behavior, or
'.asList().lastIndexOf(element: T)' to get the same search behavior as in a list.\n", ReplaceWith("\nindexOfLast { it ==
element }\n"))\n@DeprecatedSinceKotlin(warningSince = "\n1.4\n", errorSince = "\n1.6\n", hiddenSince =
"\n1.7\n")\npublic fun DoubleArray.lastIndexOf(element: Double): Int {\n    for (index in indices.reversed()) {\n
if

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(element == this[index]) {\n        return index\n    }\n }\n return -1\n}\n\n/**\n * Returns last index of
[element], or -1 if the array does not contain element.\n */\npublic fun BooleanArray.lastIndexOf(element:
Boolean): Int {\n    for (index in indices.reversed()) {\n        if (element == this[index]) {\n            return index\n
}\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does
not contain element.\n */\npublic fun CharArray.lastIndexOf(element: Char): Int {\n    for (index in
indices.reversed()) {\n        if (element == this[index]) {\n            return index\n        }\n }\n return -1\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic fun <T> Array<out T>.lastOrNull(): T? {\n    return if
(isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic fun ByteArray.lastOrNull(): Byte? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic fun ShortArray.lastOrNull(): Short? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array
is empty.\n */\n @sample samples.collections.Collections.Elements.last\n */\npublic fun IntArray.lastOrNull():
Int? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is
empty.\n */\n @sample samples.collections.Collections.Elements.last\n */\npublic fun LongArray.lastOrNull():
Long? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array
is empty.\n */\n @sample samples.collections.Collections.Elements.last\n */\npublic fun FloatArray.lastOrNull():
Float? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array
is empty.\n */\n @sample samples.collections.Collections.Elements.last\n */\npublic fun
DoubleArray.lastOrNull(): Double? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last
element, or `null` if the array is empty.\n */\n @sample samples.collections.Collections.Elements.last\n
*/\npublic fun BooleanArray.lastOrNull(): Boolean? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic fun CharArray.lastOrNull(): Char? {\n    return if
(isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if
no such element was found.\n */\n @sample samples.collections.Collections.Elements.last\n */\npublic inline fun
<T> Array<out T>.lastOrNull(predicate: (T) -> Boolean): T? {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ByteArray.lastOrNull(predicate:
(Byte) -> Boolean): Byte? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ShortArray.lastOrNull(predicate: (Short) ->
Boolean): Short? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun IntArray.lastOrNull(predicate: (Int) ->
Boolean): Int? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element
was found.\n */\n @sample samples.collections.Collections.Elements.last\n */\npublic inline fun
LongArray.lastOrNull(predicate: (Long) -> Boolean): Long? {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n */\n @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun FloatArray.lastOrNull(predicate: (Float) ->
Boolean): Float? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if

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(predicate(element)) return element\n } \n return null\n}\n\n/**\n * Returns the last element matching the given
 [predicate], or `null` if no such element was found.\n * \n * @sample
 samples.collections.Collections.Elements.last\n
 *^ \npublic inline fun DoubleArray.lastOrNull(predicate: (Double) -> Boolean): Double? {\n for (index in
 this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n
 return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was
 found.\n * \n * @sample samples.collections.Collections.Elements.last\n *^ \npublic inline fun
 BooleanArray.lastOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n for (index in this.indices.reversed()) {\n
 val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns
 the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
 samples.collections.Collections.Elements.last\n *^ \npublic inline fun CharArray.lastOrNull(predicate: (Char) ->
 Boolean): Char? {\n for (index in this.indices.reversed()) {\n val element
 = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a random
 element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
 *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.random(): T {\n
 return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
 NoSuchElementException if this array is empty.\n *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
 inline fun ByteArray.random(): Byte {\n return random(Random)\n}\n\n/**\n * Returns a random element from
 this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
 *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.random(): Short {\n return
 random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
 NoSuchElementException if this array is empty.\n *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
 inline fun IntArray.random(): Int {\n return random(Random)\n}\n\n/**\n * Returns a random element from this
 array.\n * \n * @throws NoSuchElementException if this array is empty.\n
 *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.random(): Long {\n return
 random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
 NoSuchElementException if this array is empty.\n *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
 inline fun FloatArray.random(): Float {\n return random(Random)\n}\n\n/**\n * Returns a random element from
 this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
 *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.random(): Double {\n
 return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws
 NoSuchElementException if this array is empty.\n *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic
 inline fun BooleanArray.random(): Boolean {\n return random(Random)\n}\n\n/**\n * Returns a random element
 from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
 *^ \n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.random(): Char {\n return
 random(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of
 randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n *^ \n@SinceKotlin("1.3")\npublic
 fun <T> Array<out T>.random(random: Random): T {\n if (isEmpty())\n throw
 NoSuchElementException("Array is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
 element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
 this array is empty.\n *^ \n@SinceKotlin("1.3")\npublic fun ByteArray.random(random: Random): Byte {\n if
 (isEmpty())\n throw NoSuchElementException("Array
 is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the
 specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
 *^ \n@SinceKotlin("1.3")\npublic fun ShortArray.random(random: Random): Short {\n if (isEmpty())\n
 throw NoSuchElementException("Array is empty.")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a
 random element from this array using the specified source of randomness.\n * \n * @throws
 NoSuchElementException if this array is empty.\n *^ \n@SinceKotlin("1.3")\npublic fun IntArray.random(random:

```

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Random): Int {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return
    get(random.nextInt(size))
}

/**
 * Returns a random element from this array using the specified source of
 * randomness.
 * @throws NoSuchElementException if this array is empty.
 */
@SinceKotlin("1.3")
public fun LongArray.random(random:
    Random): Long {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return
    get(random.nextInt(size))
}

/**
 * Returns a random element from this array using the specified source of
 * randomness.
 * @throws NoSuchElementException if this array is empty.
 */
@SinceKotlin("1.3")
public fun FloatArray.random(random: Random): Float {
    if (isEmpty())
        throw
        NoSuchElementException("Array is empty.")
    return
    get(random.nextInt(size))
}

/**
 * Returns a random
 * element from this array using the specified source of randomness.
 * @throws NoSuchElementException if
 * this array is empty.
 */
@SinceKotlin("1.3")
public fun DoubleArray.random(random: Random): Double {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return
    get(random.nextInt(size))
}

/**
 * Returns a random element from this array using the specified source of
 * randomness.
 * @throws NoSuchElementException
 * if this array is empty.
 */
@SinceKotlin("1.3")
public fun BooleanArray.random(random: Random): Boolean {
    if (isEmpty())
        throw NoSuchElementException("Array is empty.")
    return
    get(random.nextInt(size))
}

/**
 * Returns a random element from this array using the specified source of
 * randomness.
 * @throws NoSuchElementException if this array is empty.
 */
@SinceKotlin("1.3")
public fun CharArray.random(random: Random): Char {
    if (isEmpty())
        throw NoSuchElementException("Array
        is empty.")
    return
    get(random.nextInt(size))
}

/**
 * Returns a random element from this array, or `null` if
 * this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.randomOrNull(): T? {
    return
    randomOrNull(Random)
}

/**
 * Returns a
 * random element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun ByteArray.randomOrNull(): Byte? {
    return
    randomOrNull(Random)
}

/**
 * Returns a random
 * element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun ShortArray.randomOrNull(): Short? {
    return
    randomOrNull(Random)
}

/**
 * Returns a
 * random element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun IntArray.randomOrNull(): Int? {
    return
    randomOrNull(Random)
}

/**
 * Returns a random
 * element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun LongArray.randomOrNull(): Long? {
    return
    randomOrNull(Random)
}

/**
 * Returns a random element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun FloatArray.randomOrNull(): Float? {
    return
    randomOrNull(Random)
}

/**
 * Returns a
 * random element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun DoubleArray.randomOrNull(): Double? {
    return
    randomOrNull(Random)
}

/**
 * Returns a
 * random element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    inline fun BooleanArray.randomOrNull(): Boolean? {
    return
    randomOrNull(Random)
}

/**
 * Returns a
 * random element from this array, or `null` if this array is empty.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public
    c

```



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inline fun CharArray.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> Array<out
T>.randomOrNull(random: Random): T? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
ByteArray.randomOrNull(random: Random): Byte? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
fun ShortArray.randomOrNull(random: Random): Short? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntArray.randomOrNull(random: Random): Int? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongArray.randomOrNull(random: Random): Long? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array
is empty.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
FloatArray.randomOrNull(random: Random): Float? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
DoubleArray.randomOrNull(random: Random): Double? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
BooleanArray.randomOrNull(random: Random): Boolean? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified
source of randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharArray.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n *\npublic fun <T> Array<out T>.single(): T {\n    return when (size) {\n        0 ->
throw NoSuchElementException("Array is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n *\npublic fun ByteArray.single(): Byte
{\n    return when (size) {\n        0 -> throw NoSuchElementException("Array is empty.")\n        1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n *\npublic fun ShortArray.single(): Short {\n    return when (size) {\n        0 -> throw
NoSuchElementException("Array is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n *\npublic fun IntArray.single(): Int {\n

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return when (size) {n    0 -> throw NoSuchElementException("Array is empty.")\n    1 -> this[0]\n    else -
> throw IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n * Returns the single
element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun
LongArray.single(): Long {\n    return when (size) {\n        0 -> throw NoSuchElementException("Array is
empty.")\n        1 -> this[0]\n        else -> throw IllegalArgumentException("Array has more than one element.")\n
}\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun FloatArray.single(): Float {\n    return when (size) {\n        0 -> throw
NoSuchElementException("Array is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun DoubleArray.single():
Double {\n    return when (size) {\n        0 -> throw NoSuchElementException("Array is empty.")\n        1 ->
this[0]\n        else -> throw IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n *
Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\npublic
fun BooleanArray.single():
Boolean {\n    return when (size) {\n        0 -> throw NoSuchElementException("Array is empty.")\n        1 ->
this[0]\n        else -> throw IllegalArgumentException("Array has more than one element.")\n    }\n}\n\n/**\n *
Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\npublic
fun CharArray.single(): Char {\n    return when (size) {\n        0 -> throw NoSuchElementException("Array is
empty.")\n        1 -> this[0]\n        else -> throw IllegalArgumentException("Array has more than one element.")\n
}\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or
more than one matching element.\n */\npublic inline fun <T> Array<out T>.single(predicate: (T) -> Boolean): T {\n
var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("Array contains more
than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n@Suppress("UNCHECKED_CAST")\n return single as T\n}\n\n/**\n * Returns the single element matching the
given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
ByteArray.single(predicate: (Byte) -> Boolean): Byte {\n    var single: Byte? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n@Suppress("UNCHECKED_CAST")\n return single as Byte\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
ShortArray.single(predicate: (Short) -> Boolean): Short {\n    var single: Short? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n@Suppress("UNCHECKED_CAST")\n return single as Short\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun
IntArray.single(predicate: (Int) -> Boolean): Int {\n    var single: Int? = null\n    var found = false\n    for (element in
this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n
found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n}\n\n@Suppress("UNCHECKED_CAST")\n return single as Int\n}\n\n/**\n * Returns the single
element matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*/\npublic inline fun LongArray.single(predicate: (Long) -> Boolean): Long {\n    var single: Long? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw

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IllegalArgumentException("Array contains more than one matching element.")\n        single = element\n
found = true\n    }\n }\n if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Long\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n *\npublic inline fun FloatArray.single(predicate: (Float) -> Boolean): Float {\n    var single:
Float? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found)
throw ArgumentException("Array contains more than one matching element.")\n                single = element\n
found = true\n            }\n        }\n        if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n    }\n    @Suppress("UNCHECKED_CAST")\n    return single as Float\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n *\npublic inline fun DoubleArray.single(predicate: (Double) -> Boolean): Double {\n    var
single: Double? = null\n    var found = false\n    for (element in this) {\n
        if (predicate(element)) {\n            if (found) throw ArgumentException("Array contains more than one
matching element.")\n                single = element\n                found = true\n            }\n        }\n        if (!found) throw
NoSuchElementException("Array contains no element matching the predicate.")\n    }\n    @Suppress("UNCHECKED_CAST")\n    return single as Double\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n *\npublic
inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n    var single: Boolean? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n                single = element\n
found = true\n            }\n        }\n        if (!found) throw NoSuchElementException("Array contains no element
matching the
predicate.")\n    }\n    @Suppress("UNCHECKED_CAST")\n    return single as Boolean\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n *\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? =
null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found)
throw
IllegalArgumentException("Array contains more than one matching element.")\n                single = element\n
found = true\n            }\n        }\n        if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n    }\n    @Suppress("UNCHECKED_CAST")\n    return single as Char\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n *\npublic fun <T> Array<out
T>.singleOrNull(): T? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element,
or `null` if the array is empty or has more than one element.\n *\npublic fun ByteArray.singleOrNull(): Byte? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n *\npublic fun ShortArray.singleOrNull(): Short? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n *\npublic
fun IntArray.singleOrNull(): Int? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element,
or `null` if the array is empty or has more than one element.\n *\npublic fun LongArray.singleOrNull(): Long? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n *\npublic fun FloatArray.singleOrNull(): Float? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array
is empty or has more than one element.\n *\npublic fun DoubleArray.singleOrNull(): Double? {\n    return if (size
== 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one
element.\n *\npublic fun BooleanArray.singleOrNull(): Boolean? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n *\npublic
fun CharArray.singleOrNull(): Char? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n *\n
public inline fun <T> Array<out T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single: T? = null\n
var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n

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single = element\n        found = true\n        }\n }\n
    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or
`null` if element was not found or more than one element was found.\n */\npublic inline fun
ByteArray.singleOrNull(predicate: (Byte) -> Boolean): Byte? {\n    var single: Byte? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n    var single: Short? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single
= element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given
[predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun
IntArray.singleOrNull(predicate: (Int) -> Boolean): Int? {\n    var single: Int? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun LongArray.singleOrNull(predicate: (Long) -> Boolean): Long? {\n    var single: Long? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single
= element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given
[predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun
FloatArray.singleOrNull(predicate: (Float) -> Boolean): Float? {\n    var single: Float? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun DoubleArray.singleOrNull(predicate: (Double) -> Boolean): Double? {\n    var single: Double? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun BooleanArray.singleOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n    var single: Boolean? =
null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one
element was found.\n */\npublic inline fun CharArray.singleOrNull(predicate: (Char) -> Boolean): Char? {\n    var
single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is
negative.\n */\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Array<out
T>.drop(n: Int): List<T> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return
takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws IllegalArgumentException if [n] is negative.\n */\n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun ByteArray.drop(n: Int): List<Byte> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n */\n * @throws
IllegalArgumentException\n */

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if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun
ShortArray.drop(n: Int): List<Short> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n}
return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n]
elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun IntArray.drop(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun LongArray.drop(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less
than zero.\" }\n    return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements
except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun FloatArray.drop(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun DoubleArray.drop(n: Int): List<Double> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun BooleanArray.drop(n: Int):
List<Boolean> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun CharArray.drop(n: Int): List<Char> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Array<out T>.dropLast(n: Int): List<T>
{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return
takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun ByteArray.dropLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun ShortArray.dropLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun IntArray.dropLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than
zero.\" }\n    return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun LongArray.dropLast(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample

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samples.collections.Collections.Transformations.drop\n *\npublic fun FloatArray.dropLast(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n
* Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n]
is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic fun
DoubleArray.dropLast(n: Int): List<Double> {\n require(n >= 0) { \"Requested element count $n is less than
zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun BooleanArray.dropLast(n: Int):
List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic
fun CharArray.dropLast(n: Int): List<Char> {\n require(n >= 0) { \"Requested element count $n is less than
zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last
elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T> Array<out
T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n for (index in lastIndex downTo 0) {\n if
(!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns
a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ByteArray.dropLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy
the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline
fun ShortArray.dropLastWhile(predicate: (Short) -> Boolean): List<Short> {\n for (index in lastIndex downTo 0)
{\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n
* Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun IntArray.dropLastWhile(predicate:
(Int) -> Boolean): List<Int> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
LongArray.dropLastWhile(predicate: (Long) -> Boolean): List<Long> {\n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun FloatArray.dropLastWhile(predicate:
(Float) -> Boolean): List<Float> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun DoubleArray.dropLastWhile(predicate:
(Double) -> Boolean): List<Double> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
BooleanArray.dropLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given

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[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
CharArray.dropLastWhile(predicate: (Char) -> Boolean): List<Char> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n
return take(index + 1)\n  }\n }\n return emptyList()\n}\n\n\n * Returns a list containing all elements
except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T> Array<out
T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n  var yielding = false\n  val list = ArrayList<T>()\n  for
(item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n
yielding = true\n    }\n  return list\n}\n\n\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic
inline fun ByteArray.dropWhile(predicate: (Byte) -> Boolean): List<Byte> {\n  var yielding = false\n  val list =
ArrayList<Byte>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n
list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ShortArray.dropWhile(predicate:
(Short) -> Boolean): List<Short> {\n  var yielding = false\n  val list = ArrayList<Short>()\n  for (item in this)\n
if (yielding)\n    list.add(item)\n  else if (!predicate(item)) {\n    list.add(item)\n    yielding =
true\n  }\n  return list\n}\n\n\n * Returns a list containing all elements except first elements that satisfy the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
IntArray.dropWhile(predicate: (Int) -> Boolean): List<Int> {\n  var yielding = false\n  val list =
ArrayList<Int>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n
list.add(item)\n      yielding =
true\n    }\n  return list\n}\n\n\n * Returns a list containing all elements except first elements that satisfy the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
LongArray.dropWhile(predicate: (Long) -> Boolean): List<Long> {\n  var yielding = false\n  val list =
ArrayList<Long>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n    list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun FloatArray.dropWhile(predicate:
(Float) -> Boolean): List<Float> {\n  var yielding = false\n
val list = ArrayList<Float>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if
(!predicate(item)) {\n    list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n\n * Returns a list
containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun DoubleArray.dropWhile(predicate:
(Double) -> Boolean): List<Double> {\n  var yielding = false\n  val list = ArrayList<Double>()\n  for (item in
this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n    list.add(item)\n
yielding = true\n    }\n  return list\n}\n\n\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic
inline fun BooleanArray.dropWhile(predicate:
(Boolean) -> Boolean): List<Boolean> {\n  var yielding = false\n  val list = ArrayList<Boolean>()\n  for (item
in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n    list.add(item)\n
yielding = true\n    }\n  return list\n}\n\n\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic
inline fun CharArray.dropWhile(predicate: (Char) -> Boolean): List<Char> {\n  var yielding = false\n  val list =
ArrayList<Char>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n
list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n\n * Returns a list containing only
elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\npublic inline

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fun <T> Array<out T>.filter(predicate: (T) -> Boolean): List<T> {\n  return filterTo(ArrayList<T>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun ByteArray.filter(predicate: (Byte) -> Boolean):
List<Byte> {\n  return filterTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements
matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline
fun ShortArray.filter(predicate: (Short) -> Boolean): List<Short> {\n  return filterTo(ArrayList<Short>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun IntArray.filter(predicate: (Int) -> Boolean):
List<Int> {\n  return filterTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns
a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun LongArray.filter(predicate: (Long) ->
Boolean): List<Long> {\n  return filterTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing
only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\n
public inline fun FloatArray.filter(predicate: (Float) -> Boolean): List<Float> {\n  return
filterTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
DoubleArray.filter(predicate: (Double) -> Boolean): List<Double> {\n  return filterTo(ArrayList<Double>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun BooleanArray.filter(predicate: (Boolean) ->
Boolean): List<Boolean> {\n  return
filterTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
CharArray.filter(predicate: (Char) -> Boolean): List<Char> {\n  return filterTo(ArrayList<Char>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic
inline fun <T> Array<out T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n  return
filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given
[predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n
public inline fun ByteArray.filterIndexed(predicate: (index: Int, Byte) -> Boolean): List<Byte> {\n  return
filterIndexedTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n *
and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun ShortArray.filterIndexed(predicate:
(index: Int, Short) -> Boolean): List<Short> {\n  return filterIndexedTo(ArrayList<Short>(), predicate)\n}\n\n/**\n *
Returns a list containing only elements matching the given [predicate].\n * \n * @param [predicate] function
that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the
element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun
IntArray.filterIndexed(predicate: (index: Int, Int) -> Boolean): List<Int> {\n  return
filterIndexedTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n *
and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun LongArray.filterIndexed(predicate:
(index: Int, Long) -> Boolean): List<Long> {\n  return filterIndexedTo(ArrayList<Long>(), predicate)\n}\n\n/**\n *
Returns a list containing only elements matching the given [predicate].\n * \n * @param [predicate] function that
takes the index of an element and the element

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itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample

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samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun FloatArray.filterIndexed(predicate:
(index: Int, Float) -> Boolean): List<Float> {\n    return filterIndexedTo(ArrayList<Float>(), predicate)\n}\n\n/**\n
* Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes
the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n
* @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun
DoubleArray.filterIndexed(predicate: (index: Int, Double) -> Boolean): List<Double> {\n    return
filterIndexedTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result
of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n
*/\npublic inline fun BooleanArray.filterIndexed(predicate: (index: Int, Boolean) -> Boolean): List<Boolean> {\n
return filterIndexedTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements
matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element
itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun CharArray.filterIndexed(predicate:
(index: Int, Char) -> Boolean): List<Char> {\n    return filterIndexedTo(ArrayList<Char>(), predicate)\n}\n\n/**\n
* Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that
takes the index of an element and the element itself\n * and returns the result of predicate evaluation
on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun
<T, C : MutableCollection<in T>> Array<out T>.filterIndexedTo(destination: C, predicate: (index: Int, T) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Byte>>
ByteArray.filterIndexedTo(destination: C, predicate: (index: Int, Byte) -> Boolean): C {\n    forEachIndexed {
index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return
destination\n}\n\n/**\n
* Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function
that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the
element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C :
MutableCollection<in Short>> ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Int>>
IntArray.filterIndexedTo(destination:
C, predicate: (index: Int, Int) -> Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index,
element)) destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all elements matching the
given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and
the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Long>>
LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {\n    forEachIndexed {
index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and

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returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n * \n public inline fun <C : MutableCollection<in Float>>
FloatArray.filterIndexedTo(destination: C, predicate: (index: Int, Float) -> Boolean): C {\n   forEachIndexed {
index, element ->\n     if (predicate(index, element)) destination.add(element)\n   }\n   return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*/\n public inline fun <C : MutableCollection<in Double>> DoubleArray.filterIndexedTo(destination: C, predicate:
(index: Int, Double) -> Boolean): C {\n   forEachIndexed { index, element ->\n     if (predicate(index, element))
destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given
[destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n */\n public inline fun <C : MutableCollection<in
Boolean>> BooleanArray.filterIndexedTo(destination: C, predicate: (index: Int, Boolean) -> Boolean): C {\n
forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n }\n return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*/\n public inline fun
<C : MutableCollection<in Char>> CharArray.filterIndexedTo(destination: C, predicate: (index: Int, Char) ->
Boolean): C {\n   forEachIndexed { index, element ->\n     if (predicate(index, element))
destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Returns a list containing all elements that are
instances of specified type parameter R.\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstance\n */\n public inline fun <reified R>
Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n   return
filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type
parameter R to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstanceTo\n */\n public inline fun <reified R, C :
MutableCollection<in R>> Array<*>.filterIsInstanceTo(destination: C): C {\n   for (element in this) if (element is
R) destination.add(element)\n   return destination\n}\n\n/**\n * Returns
a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\n public inline fun <T> Array<out T>.filterNot(predicate: (T) ->
Boolean): List<T> {\n   return filterNotTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing all
elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*/\n public inline fun ByteArray.filterNot(predicate: (Byte) -> Boolean): List<Byte> {\n   return
filterNotTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the
given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\n public inline fun
ShortArray.filterNot(predicate: (Short) -> Boolean): List<Short> {\n   return filterNotTo(ArrayList<Short>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\n public inline fun
IntArray.filterNot(predicate: (Int) -> Boolean): List<Int> {\n   return
filterNotTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given
[predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\n public inline fun
LongArray.filterNot(predicate: (Long) -> Boolean): List<Long> {\n   return filterNotTo(ArrayList<Long>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\n public inline fun FloatArray.filterNot(predicate: (Float) ->
Boolean): List<Float> {\n   return filterNotTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list

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containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n */\npublic inline fun DoubleArray.filterNot(predicate: (Double) ->
Boolean):
List<Double> {\n return filterNotTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing all
elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*/\npublic inline fun BooleanArray.filterNot(predicate: (Boolean) -> Boolean): List<Boolean> {\n return
filterNotTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the
given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun
CharArray.filterNot(predicate: (Char) -> Boolean): List<Char> {\n return filterNotTo(ArrayList<Char>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements that are not `null`.\n * \n * @sample
samples.collections.Collections.Filtering.filterNotNull\n */\npublic fun <T : Any> Array<out T?>.filterNotNull():
List<T> {\n return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the
given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C
: MutableCollection<in T>, T : Any> Array<out T?>.filterNotNullTo(destination: C): C {\n for (element in this) if
(element != null) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*/\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterNotTo(destination: C, predicate: (T) ->
Boolean): C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return
destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in
Byte>> ByteArray.filterNotTo(destination: C, predicate: (Byte) -> Boolean): C {\n for
(element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Short>>
ShortArray.filterNotTo(destination: C, predicate: (Short) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Int>>
IntArray.filterNotTo(destination: C, predicate: (Int) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Long>>
LongArray.filterNotTo(destination: C, predicate: (Long) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Float>>
FloatArray.filterNotTo(destination: C, predicate: (Float) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Double>>
DoubleArray.filterNotTo(destination: C, predicate: (Double) -> Boolean): C {\n for (element
in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements
not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Boolean>>
BooleanArray.filterNotTo(destination: C, predicate: (Boolean) -> Boolean): C {\n for (element in this) if
(!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Char>>

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CharArray.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>>
Array<out T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n  for (element in this) if
(predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*/\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterTo(destination: C, predicate: (Byte) ->
Boolean): C {\n  for (element in this) if (predicate(element)) destination.add(element)\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in
Short>> ShortArray.filterTo(destination: C, predicate: (Short) -> Boolean): C {\n  for (element in this) if
(predicate(element))
destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun
<C : MutableCollection<in Int>> IntArray.filterTo(destination: C, predicate: (Int) -> Boolean): C {\n  for (element
in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Long>>
LongArray.filterTo(destination: C, predicate: (Long) -> Boolean): C {\n  for (element in this) if
(predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*/\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterTo(destination: C, predicate: (Float) ->
Boolean): C {\n  for (element in this) if (predicate(element)) destination.add(element)\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in
Double>> DoubleArray.filterTo(destination: C, predicate: (Double) -> Boolean): C {\n  for (element in this) if
(predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*/\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterTo(destination: C, predicate:
(Boolean) -> Boolean): C {\n  for (element in this) if (predicate(element)) destination.add(element)\n
return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
* \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in
Char>> CharArray.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n  for (element in this) if
(predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Returns a list containing elements
at indices in the specified [indices] range.\n */\npublic fun <T> Array<out T>.slice(indices: IntRange): List<T> {\n
if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun ByteArray.slice(indices: IntRange): List<Byte> {\n  if (indices.isEmpty()) return listOf()\n  return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n */\npublic fun ShortArray.slice(indices: IntRange):
List<Short> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun IntArray.slice(indices: IntRange): List<Int> {\n  if (indices.isEmpty()) return listOf()\n  return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun LongArray.slice(indices: IntRange): List<Long> {\n  if
(indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic

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fun FloatArray.slice(indices: IntRange): List<Float> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/* Returns a list containing elements at indices in the specified [indices] range. */
public fun DoubleArray.slice(indices: IntRange): List<Double> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/* Returns a list containing elements at indices in the specified [indices] range. */
public fun BooleanArray.slice(indices: IntRange): List<Boolean> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/* Returns a list containing elements at indices in the specified [indices] range. */
public fun CharArray.slice(indices: IntRange): List<Char> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/* Returns a list containing elements at specified [indices]. */
public fun <T> Array<out T>.slice(indices: Iterable<Int>): List<T> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<T>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun ByteArray.slice(indices: Iterable<Int>): List<Byte> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Byte>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun ShortArray.slice(indices: Iterable<Int>): List<Short> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Short>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun IntArray.slice(indices: Iterable<Int>): List<Int> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Int>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun LongArray.slice(indices: Iterable<Int>): List<Long> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Long>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun FloatArray.slice(indices: Iterable<Int>): List<Float> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Float>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun DoubleArray.slice(indices: Iterable<Int>): List<Double> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Double>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun BooleanArray.slice(indices: Iterable<Int>): List<Boolean> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Boolean>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns a list containing elements at specified [indices]. */
public fun CharArray.slice(indices: Iterable<Int>): List<Char> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<Char>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/* Returns an array containing elements of this array at specified [indices]. */
public fun <T> Array<T>.sliceArray(indices: Collection<Int>): Array<T> {
    val result = arrayOfNulls(this, indices.size)
    var targetIndex = 0
    for (sourceIndex in indices) {
        result[targetIndex++] = this[sourceIndex]
    }
    return result
}
/* Returns an array containing elements of this array at specified [indices]. */
public fun ByteArray.sliceArray(indices: Collection<Int>): ByteArray {
    val result = ByteArray(indices.size)
    var targetIndex = 0
    for (sourceIndex in indices) {
        result[targetIndex++] = this[sourceIndex]
    }
    return result
}
/* Returns an array containing elements of this array at specified [indices]. */
public fun ShortArray.sliceArray(indices: Collection<Int>): ShortArray {
    val result = ShortArray(indices.size)
    var targetIndex = 0
    for (sourceIndex in indices) {
        result[targetIndex++] = this[sourceIndex]
    }
    return result
}

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Returns an array containing elements of this array at specified [indices].\n *\npublic fun
IntArray.sliceArray(indices: Collection<Int>): IntArray {\n  val result = IntArray(indices.size)\n  var targetIndex
= 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n  return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
LongArray.sliceArray(indices: Collection<Int>): LongArray {\n  val result = LongArray(indices.size)\n  var
targetIndex = 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n  return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic
fun FloatArray.sliceArray(indices: Collection<Int>): FloatArray {\n  val result = FloatArray(indices.size)\n  var
targetIndex = 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n  return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
DoubleArray.sliceArray(indices: Collection<Int>): DoubleArray {\n  val result = DoubleArray(indices.size)\n
var targetIndex = 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n
return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\npublic fun
BooleanArray.sliceArray(indices: Collection<Int>): BooleanArray {\n  val result = BooleanArray(indices.size)\n
var targetIndex = 0\n  for (sourceIndex in indices) {\n    result[targetIndex++] = this[sourceIndex]\n  }\n
return result\n}\n\n/**\n * Returns an array containing
elements of this array at specified [indices].\n *\npublic fun CharArray.sliceArray(indices: Collection<Int>):
CharArray {\n  val result = CharArray(indices.size)\n  var targetIndex = 0\n  for (sourceIndex in indices) {\n
result[targetIndex++] = this[sourceIndex]\n  }\n  return result\n}\n\n/**\n * Returns an array containing elements
at indices in the specified [indices] range.\n *\npublic fun <T> Array<T>.sliceArray(indices: IntRange): Array<T>
{\n  if (indices.isEmpty()) return copyOfRange(0, 0)\n  return copyOfRange(indices.start, indices.endInclusive +
1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
ByteArray.sliceArray(indices: IntRange): ByteArray {\n  if (indices.isEmpty()) return ByteArray(0)\n  return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices
in the specified [indices] range.\n *\npublic fun ShortArray.sliceArray(indices:
IntRange): ShortArray {\n  if (indices.isEmpty()) return ShortArray(0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices]
range.\n *\npublic fun IntArray.sliceArray(indices: IntRange): IntArray {\n  if (indices.isEmpty()) return
IntArray(0)\n  return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array
containing elements at indices in the specified [indices] range.\n *\npublic fun LongArray.sliceArray(indices:
IntRange): LongArray {\n  if (indices.isEmpty()) return LongArray(0)\n  return copyOfRange(indices.start,
indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices]
range.\n *\npublic fun FloatArray.sliceArray(indices: IntRange): FloatArray {\n  if (indices.isEmpty()) return
FloatArray(0)\n  return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
DoubleArray.sliceArray(indices: IntRange): DoubleArray {\n  if (indices.isEmpty()) return DoubleArray(0)\n
return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at
indices in the specified [indices] range.\n *\npublic fun BooleanArray.sliceArray(indices: IntRange): BooleanArray
{\n  if (indices.isEmpty()) return BooleanArray(0)\n  return copyOfRange(indices.start, indices.endInclusive +
1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\npublic fun
CharArray.sliceArray(indices: IntRange): CharArray {\n  if (indices.isEmpty()) return CharArray(0)\n  return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns a list containing first [n] elements.\n *\n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\npublic fun <T> Array<out T>.take(n: Int): List<T> {\n  require(n >= 0) { "Requested element count $n is less
than zero." }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return
listOf(this[0])\n  var count = 0\n  val list = ArrayList<T>(n)\n  for (item in this) {\n    list.add(item)\n    if
(++count == n)\n      break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n *\n * \n *

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@throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ByteArray.take(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Byte>(n)\n for
(item in this) {\n list.add(item)\n if (++count
== n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ShortArray.take(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Short>(n)\n for
(item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun IntArray.take(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0)
return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list
= ArrayList<Int>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n
return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic fun
LongArray.take(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if
(n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n
val list = ArrayList<Long>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n
}\n return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic fun
FloatArray.take(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if
(n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n
val list = ArrayList<Float>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n
}\n return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic fun
DoubleArray.take(n: Int): List<Double> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n
if (n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var
count = 0\n val list = ArrayList<Double>(n)\n for (item in this)
{\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list
containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun BooleanArray.take(n: Int): List<Boolean> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Boolean>(n)\n
for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n *
Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *^\npublic fun CharArray.take(n: Int): List<Char>
{\n require(n >= 0) { \"Requested element
count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1)
return listOf(this[0])\n var count = 0\n val list = ArrayList<Char>(n)\n for (item in this) {\n
list.add(item)\n if (++count == n)\n break\n }\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun <T> Array<out T>.takeLast(n: Int): List<T>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =

```

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ArrayList<T>(n) for (index in size - n until size) list.add(this[index]) return list
Returns a list containing last [n] elements. @throws IllegalArgumentException
if [n] is negative. @sample samples.collections.Collections.Transformations.take
ByteArray.takeLast(n: Int): List<Byte> { require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return emptyList() val size = size if (n >= size) return toList() if (n == 1) return
listOf(this[size - 1]) val list = ArrayList<Byte>(n) for (index in size - n until size)
list.add(this[index]) return list
Returns a list containing last [n] elements. @throws
IllegalArgumentException if [n] is negative. @sample
samples.collections.Collections.Transformations.take
public fun ShortArray.takeLast(n: Int): List<Short> {
require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return emptyList() val size =
size if (n >= size) return toList() if (n == 1) return listOf(this[size - 1]) val list = ArrayList<Short>(n)
for (index in size - n until size) list.add(this[index]) return list
Returns a list containing
last [n] elements. @throws IllegalArgumentException if [n] is negative. @sample
samples.collections.Collections.Transformations.take
public fun IntArray.takeLast(n: Int): List<Int> {
require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return emptyList() val size =
size if (n >= size) return toList() if (n == 1) return listOf(this[size - 1]) val list = ArrayList<Int>(n)
for (index in size - n until size) list.add(this[index]) return list
Returns a list containing last
[n] elements. @throws IllegalArgumentException if [n] is negative. @sample
samples.collections.Collections.Transformations.take
public fun LongArray.takeLast(n: Int): List<Long> {
require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return emptyList() val size = size
if (n >= size) return toList() if (n == 1) return
listOf(this[size - 1]) val list = ArrayList<Long>(n) for (index in size - n until size)
list.add(this[index]) return list
Returns a list containing last [n] elements. @throws
IllegalArgumentException if [n] is negative. @sample
samples.collections.Collections.Transformations.take
public fun FloatArray.takeLast(n: Int): List<Float> {
require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return emptyList() val size =
size if (n >= size) return toList() if (n == 1) return listOf(this[size - 1]) val list = ArrayList<Float>(n)
for (index in size - n until size) list.add(this[index]) return list
Returns a list containing last
[n] elements. @throws IllegalArgumentException if [n] is negative. @sample
samples.collections.Collections.Transformations.take
public fun DoubleArray.takeLast(n: Int): List<Double> {
require(n >= 0) { "Requested element count $n is
less than zero." }
if (n == 0) return emptyList() val size = size
if (n >= size) return toList() if (n ==
1) return listOf(this[size - 1]) val list = ArrayList<Double>(n) for (index in size - n until size)
list.add(this[index]) return list
Returns a list containing last [n] elements. @throws
IllegalArgumentException if [n] is negative. @sample
samples.collections.Collections.Transformations.take
public fun BooleanArray.takeLast(n: Int):
List<Boolean> {
require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return
emptyList() val size = size
if (n >= size) return toList() if (n == 1) return listOf(this[size - 1]) val list
= ArrayList<Boolean>(n) for (index in size - n until size) list.add(this[index])
return list
Returns a list containing last [n] elements. @throws IllegalArgumentException if
[n] is negative. @sample samples.collections.Collections.Transformations.take
public fun
CharArray.takeLast(n: Int): List<Char> {
require(n >= 0) { "Requested element count $n is less than zero." }
if (n == 0) return emptyList() val size = size
if (n >= size) return toList() if (n == 1) return
listOf(this[size - 1]) val list = ArrayList<Char>(n) for (index in size - n until size)
list.add(this[index]) return list
Returns a list containing last elements satisfying the given
[predicate]. @sample samples.collections.Collections.Transformations.take
public inline fun <T>
Array<out T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {
for (index in lastIndex downTo 0) {
if (!predicate(this[index])) {
return drop(index + 1)
}
}
}

```



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    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun ByteArray.takeLastWhile(predicate: (Byte) -> Boolean): List<Byte> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun ShortArray.takeLastWhile(predicate: (Short) -> Boolean): List<Short> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun IntArray.takeLastWhile(predicate: (Int) -> Boolean): List<Int> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun LongArray.takeLastWhile(predicate: (Long) -> Boolean): List<Long> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun FloatArray.takeLastWhile(predicate: (Float) -> Boolean): List<Float> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun DoubleArray.takeLastWhile(predicate: (Double) -> Boolean): List<Double> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun BooleanArray.takeLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing last elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun CharArray.takeLastWhile(predicate: (Char) -> Boolean): List<Char> {
  for (index in lastIndex downTo 0) {
    if (!predicate(this[index])) {
      return drop(index + 1)
    }
  }
  return toList()
}

/**
 * Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun <T> Array<out T>.takeWhile(predicate: (T) -> Boolean): List<T> {
  val list = ArrayList<T>()
  for (item in this) {
    if (!predicate(item)) {
      break
    }
    list.add(item)
  }
  return list
}

/**
 * Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun ByteArray.takeWhile(predicate: (Byte) -> Boolean): List<Byte> {
  val list = ArrayList<Byte>()
  for (item in this) {
    if (!predicate(item)) {
      break
    }
    list.add(item)
  }
  return list
}

/**
 * Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun ShortArray.takeWhile(predicate: (Short) -> Boolean): List<Short> {
  val list = ArrayList<Short>()
  for (item in this) {
    if (!predicate(item)) {
      break
    }
    list.add(item)
  }
  return list
}

/**
 * Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun IntArray.takeWhile(predicate: (Int) -> Boolean): List<Int> {
  val list = ArrayList<Int>()
  for (item in this) {
    if (!predicate(item)) {
      break
    }
    list.add(item)
  }
  return list
}

/**
 * Returns a list containing first elements satisfying the given [predicate].
 * @sample samples.collections.Collections.Transformations.take
 */
public inline fun LongArray.takeWhile(predicate: (Long) -> Boolean): List<Long> {
  val list = ArrayList<Long>()
  for (item

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in this) {\n    if (!predicate(item))\n        break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun FloatArray.takeWhile(predicate:
(Float) -> Boolean): List<Float> {\n    val list = ArrayList<Float>()\n    for (item in this) {\n        if
(!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\npublic inline fun DoubleArray.takeWhile(predicate: (Double) -> Boolean): List<Double> {\n    val list =
ArrayList<Double>()\n
    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun BooleanArray.takeWhile(predicate:
(Boolean) -> Boolean): List<Boolean> {\n    val list = ArrayList<Boolean>()\n    for (item in this) {\n        if
(!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\npublic inline fun CharArray.takeWhile(predicate: (Char) -> Boolean): List<Char> {\n    val list =
ArrayList<Char>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n}\n\n/**\n * Reverses elements in the
array in-place.\n *\npublic fun <T> Array<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint <
0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses
elements in the array in-place.\n *\npublic fun ByteArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if
(midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun ShortArray.reverse(): Unit {\n    val midPoint = (size / 2) -
1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp =
this[index]\n        this[index] = this[reverseIndex]\n
        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun IntArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var
reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the
array in-place.\n *\npublic fun LongArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0)
return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index]
= this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in
the array in-place.\n *\npublic fun FloatArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0)
return\n    var reverseIndex
= lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n
this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun DoubleArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var
reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the
array in-place.\n *\npublic fun BooleanArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0)
return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index]
= this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in
the array in-place.\n *\npublic
fun CharArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex =
lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n
this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified
range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end

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of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater
than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun <T> Array<T>.reverse(fromIndex: Int, toIndex: Int): Unit
{\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  val midPoint = (fromIndex + toIndex) / 2\n  if
(fromIndex == midPoint) return\n  var reverseIndex
= toIndex - 1\n  for (index in fromIndex until midPoint) {\n    val tmp = this[index]\n    this[index] =
this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n  }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun
ByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n  val midPoint = (fromIndex + toIndex) / 2\n  if (fromIndex == midPoint) return\n  var reverseIndex =
toIndex - 1\n  for (index in fromIndex until midPoint) {\n    val tmp = this[index]\n    this[index]
= this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n  }\n}\n\n/**\n * Reverses elements of
the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun
ShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n  val midPoint = (fromIndex + toIndex) / 2\n  if (fromIndex == midPoint) return\n  var reverseIndex =
toIndex - 1\n  for (index in fromIndex until midPoint) {\n    val tmp = this[index]\n    this[index] =
this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n  }\n}\n\n/**\n * Reverses
elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic
fun IntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n  val midPoint = (fromIndex + toIndex) / 2\n  if (fromIndex == midPoint) return\n  var reverseIndex =
toIndex - 1\n  for (index in fromIndex until midPoint) {\n    val tmp = this[index]\n    this[index] =
this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n  }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive)
to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic
fun LongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n  val midPoint = (fromIndex + toIndex) / 2\n  if (fromIndex == midPoint) return\n  var
reverseIndex = toIndex - 1\n  for (index in fromIndex until midPoint) {\n    val tmp = this[index]\n
this[index] = this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n  }\n}\n\n/**\n * Reverses
elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.4")\npublic fun
FloatArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n  val midPoint = (fromIndex + toIndex) / 2\n  if (fromIndex == midPoint) return\n  var reverseIndex =
toIndex - 1\n  for (index in fromIndex until midPoint) {\n    val tmp = this[index]\n    this[index] =
this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n  }\n}\n\n/**\n * Reverses elements of the

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array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException

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if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun DoubleArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun BooleanArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.4")\npublic fun CharArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun <T> Array<out T>.reversed(): List<T> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun ByteArray.reversed(): List<Byte> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun ShortArray.reversed(): List<Short> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun IntArray.reversed(): List<Int> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun LongArray.reversed(): List<Long> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun FloatArray.reversed(): List<Float> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun DoubleArray.reversed(): List<Double> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun BooleanArray.reversed(): List<Boolean> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n *\npublic fun CharArray.reversed(): List<Char> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n *\npublic fun <T> Array<T>.reversedArray(): Array<T> {\n    if (isEmpty()) return this\n    val result = arrayOfNulls(this, size)\n    val lastIndex = lastIndexOf\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n *\npublic fun ByteArray.reversedArray(): ByteArray {\n    if (isEmpty()) return this\n    val result = ByteArray(size)\n    val lastIndex = lastIndexOf\n    for (i in 0..lastIndex)\n        result[lastIndex - i] =

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this[i]\n    return result\n}\n\n/**\n * Returns an array
with elements of this array in reversed order.\n */\npublic fun ShortArray.reversedArray(): ShortArray {\n    if
(isEmpty()) return this\n    val result = ShortArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n    result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed
order.\n */\npublic fun IntArray.reversedArray(): IntArray {\n    if (isEmpty()) return this\n    val result =
IntArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return
result\n}\n\n/**\n * Returns an array with elements of this array in reversed
order.\n */\npublic fun
LongArray.reversedArray(): LongArray {\n    if (isEmpty()) return this\n    val result = LongArray(size)\n    val
lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed
order.\n */\npublic fun FloatArray.reversedArray(): FloatArray {\n    if (isEmpty()) return this\n    val result =
FloatArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return
result\n}\n\n/**\n * Returns an array with elements of this array in reversed
order.\n */\npublic fun
DoubleArray.reversedArray(): DoubleArray {\n    if (isEmpty()) return this\n    val result = DoubleArray(size)\n    val
lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this array in reversed
order.\n */\npublic fun BooleanArray.reversedArray():
BooleanArray {\n    if (isEmpty()) return this\n    val result = BooleanArray(size)\n    val lastIndex = lastIndex\n    for
(i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with
elements of this array in reversed order.\n */\npublic fun
CharArray.reversedArray(): CharArray {\n    if (isEmpty()) return this\n    val result = CharArray(size)\n    val
lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun <T>
Array<T>.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly
shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun ShortArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun IntArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly
shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun LongArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun FloatArray.shuffle():
Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun DoubleArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly
shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun BooleanArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun CharArray.shuffle(): Unit {\n    shuffle(Random)\n}\n\n/**\n * Randomly
shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n */\n * \n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n */\n@SinceKotlin("1.4")\npublic fun <T> Array<T>.shuffle(random: Random): Unit {\n    for (i in lastIndex
downTo 1) {\n        val j = random.nextInt(i
+ 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly shuffles
elements in this array in-place using the specified [random] instance as the source of randomness.\n */\n * \n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.shuffle(random: Random): Unit {\n    for (i in lastIndex
downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n */\n * \n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n */\n@SinceKotlin("1.4")\npublic fun ShortArray.shuffle(random: Random): Unit {\n    for (i in lastIndex
downTo

```

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1) {
    val j = random.nextInt(i + 1)
    val copy = this[i]
    this[i] = this[j]
    this[j] = copy
}
}

* Randomly shuffles elements in this array in-place using the specified
[random] instance as the source of randomness.
* See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm

@SinceKotlin("1.4")
public fun IntArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

* Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.
* See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm

@SinceKotlin("1.4")
public fun LongArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

* Randomly shuffles
elements in this array in-place using the specified [random] instance as the source of randomness.
* See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm

@SinceKotlin("1.4")
public fun FloatArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

* Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.
* See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm

@SinceKotlin("1.4")
public fun DoubleArray.shuffle(random: Random): Unit {
    for (i in lastIndex
downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

* Randomly shuffles elements in this array in-place using the specified [random]
instance as the source of randomness.
* See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm

@SinceKotlin("1.4")
public fun BooleanArray.shuffle(random: Random): Unit {
    for (i in lastIndex
downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

* Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.
* See:
https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\_shuffle#The\_modern\_algorithm

@SinceKotlin("1.4")
public fun CharArray.shuffle(random: Random): Unit {
    for (i in lastIndex downTo 1) {
        val j = random.nextInt(i + 1)
        val copy = this[i]
        this[i] = this[j]
        this[j] = copy
    }
}

* Sorts elements in the array in-place according to natural sort order of the value returned by specified
[selector] function.
*

The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.

@public inline fun <T, R : Comparable<R>> Array<out T>.sortBy(crossinline selector: (T) -> R?): Unit {
    if (size > 1)
        sortWith(compareBy(selector))
}

* Sorts elements in the array in-place descending according to
natural sort order of the value returned by specified [selector] function.
* The sort is _stable_. It means that
equal elements preserve their order relative to each other after sorting.

@public inline fun <T, R :
Comparable<R>> Array<out T>.sortByDescending(crossinline selector: (T) -> R?): Unit {
    if (size > 1)
        sortWith(compareByDescending(selector))
}

* Sorts elements in the array in-place descending according
to their natural sort order.
* The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.

@public fun <T : Comparable<T>> Array<out T>.sortDescending():
Unit {
    sortWith(reverseOrder())
}

* Sorts elements in the array in-place descending according to their
natural sort order.

@public fun ByteArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

* Sorts elements in the array in-place descending according to their natural sort order.

@public fun ShortArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

* Sorts elements in the array in-place descending according to their natural sort order.

@public fun
IntArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

* Sorts elements

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in the array in-place descending according to their natural sort order.\n */\npublic fun LongArray.sortDescending():
Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place
descending according to their natural sort order.\n
*/\npublic fun FloatArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun
DoubleArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts
elements in the array in-place descending according to their natural sort order.\n */\npublic fun
CharArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Returns a list
of all elements sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements
preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<out
T>.sorted(): List<T> {\n return sortedArray().asList()\n}\n\n/**\n * Returns a list of all elements sorted according
to their natural sort order.\n */\npublic fun ByteArray.sorted(): List<Byte>
{\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to
their natural sort order.\n */\npublic fun ShortArray.sorted(): List<Short> {\n return toTypedArray().apply { sort()
}.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun
IntArray.sorted(): List<Int> {\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all
elements sorted according to their natural sort order.\n */\npublic fun LongArray.sorted(): List<Long> {\n return
toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural
sort order.\n */\npublic fun FloatArray.sorted(): List<Float> {\n return toTypedArray().apply { sort()
}.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun
DoubleArray.sorted(): List<Double> {\n return toTypedArray().apply
{ sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n
*/\npublic fun CharArray.sorted(): List<Char> {\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n *
Returns an array with all elements of this array sorted according to their natural sort order.\n * \n * The sort is
_stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T :
Comparable<T>> Array<T>.sortedArray(): Array<T> {\n if (isEmpty()) return this\n return this.copyOf().apply
{ sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*/\npublic fun ByteArray.sortedArray(): ByteArray {\n if (isEmpty()) return this\n return this.copyOf().apply {
sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*/\npublic fun ShortArray.sortedArray(): ShortArray
{\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted according to their natural sort order.\n */\npublic fun IntArray.sortedArray(): IntArray
{\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted according to their natural sort order.\n */\npublic fun LongArray.sortedArray():
LongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array
with all elements of this array sorted according to their natural sort order.\n */\npublic fun FloatArray.sortedArray():
FloatArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array
with all elements of this array sorted according to their natural sort order.\n */\npublic fun
DoubleArray.sortedArray(): DoubleArray {\n if (isEmpty()) return this\n
return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted
according to their natural sort order.\n */\npublic fun CharArray.sortedArray(): CharArray {\n if (isEmpty())
return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array
sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements
preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>>
Array<T>.sortedArrayDescending(): Array<T> {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortWith(reverseOrder()) }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending
according to their natural sort order.\n */\npublic fun ByteArray.sortedArrayDescending(): ByteArray {\n if
(isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all

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elements of this array sorted descending according to their natural sort order.\n */\npublic fun
ShortArray.sortedArrayDescending(): ShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun IntArray.sortedArrayDescending(): IntArray {\n if (isEmpty()) return
this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this
array sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedArrayDescending():
LongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun
FloatArray.sortedArrayDescending(): FloatArray {\n if (isEmpty()) return this\n return this.copyOf().apply
{ sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun DoubleArray.sortedArrayDescending(): DoubleArray {\n if (isEmpty())
return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted descending according to their natural sort order.\n */\npublic fun
CharArray.sortedArrayDescending(): CharArray {\n if (isEmpty()) return this\n return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Array<out T>.sortedArrayWith(comparator: Comparator<in T>): Array<out T>
{\n if (isEmpty()) return this\n return this.copyOf().apply { sortWith(comparator) }\n}\n\n/**\n
* Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector]
function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after
sorting.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <T, R :
Comparable<R>> Array<out T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>>
ByteArray.sortedBy(crossinline selector: (Byte) -> R?): List<Byte> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n
*/\npublic inline fun <R : Comparable<R>> ShortArray.sortedBy(crossinline selector: (Short) -> R?): List<Short>
{\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural
sort order of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>>
IntArray.sortedBy(crossinline selector: (Int) -> R?): List<Int> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>>
LongArray.sortedBy(crossinline selector: (Long) -> R?): List<Long> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural
sort order of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>>
FloatArray.sortedBy(crossinline selector: (Float) -> R?): List<Float> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>>
DoubleArray.sortedBy(crossinline selector: (Double) -> R?): List<Double> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample

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samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
BooleanArray.sortedBy(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order
of the value returned by specified [selector] function.\n * \n * @sample
samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <R : Comparable<R>>
CharArray.sortedBy(crossinline selector: (Char) -> R?): List<Char> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n *\npublic inline fun <T, R : Comparable<R>>
Array<out T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic
inline fun <R : Comparable<R>> ByteArray.sortedByDescending(crossinline selector: (Byte) -> R?): List<Byte>
{\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted
descending according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline
fun <R : Comparable<R>> ShortArray.sortedByDescending(crossinline selector: (Short) -> R?): List<Short> {\n
return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> IntArray.sortedByDescending(crossinline selector: (Int) -> R?): List<Int> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline
fun <R : Comparable<R>> LongArray.sortedByDescending(crossinline selector: (Long) -> R?): List<Long> {\n
return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> FloatArray.sortedByDescending(crossinline selector: (Float) -> R?): List<Float> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> DoubleArray.sortedByDescending(crossinline selector: (Double) -> R?): List<Double> {\n
return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> BooleanArray.sortedByDescending(crossinline selector: (Boolean) -> R?): List<Boolean> {\n
return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to natural sort order of the value returned by specified [selector] function.\n *\npublic inline fun <R :
Comparable<R>> CharArray.sortedByDescending(crossinline selector: (Char) -> R?): List<Char> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n *\npublic fun <T : Comparable<T>> Array<out T>.sortedDescending():
List<T> {\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n *\npublic fun ByteArray.sortedDescending(): List<Byte> {\n return
copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their
natural sort order.\n *\npublic fun ShortArray.sortedDescending(): List<Short> {\n return copyOf().apply { sort()
}.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n\n*\npublic fun IntArray.sortedDescending(): List<Int> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n *
Returns a list of all elements sorted descending according to their natural sort order.\n *\npublic fun
LongArray.sortedDescending(): List<Long> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns
a list of all elements sorted descending according to their natural sort order.\n *\npublic fun
FloatArray.sortedDescending(): List<Float> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns
a list of all elements sorted descending according to their natural sort order.\n *\npublic fun

```

DoubleArray.sortedDescending(): List<Double> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun

CharArray.sortedDescending(): List<Char> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T> Array<out T>.sortedWith(comparator: Comparator<in T>): List<T> {\n return

sortedArrayWith(comparator).asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun ByteArray.sortedWith(comparator: Comparator<in Byte>): List<Byte> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic

fun ShortArray.sortedWith(comparator: Comparator<in Short>): List<Short> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun IntArray.sortedWith(comparator: Comparator<in Int>): List<Int> {\n return

toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun FloatArray.sortedWith(comparator:

Comparator<in Float>): List<Float> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun DoubleArray.sortedWith(comparator:

Comparator<in Double>): List<Double> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun BooleanArray.sortedWith(comparator: Comparator<in Boolean>): List<Boolean> {\n return

toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> {\n return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun <T> Array<out T>.asList(): List<T>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun ByteArray.asList(): List<Byte>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun ShortArray.asList(): List<Short>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun IntArray.asList(): List<Int>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun LongArray.asList(): List<Long>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun FloatArray.asList(): List<Float>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun DoubleArray.asList(): List<Double>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun BooleanArray.asList(): List<Boolean>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun CharArray.asList(): List<Char>\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic expect infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The specified arrays are also considered deeply equal if both are `null`.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not

equal to `-0.0`.
`@SinceKotlin("1.4")`
`public expect infix fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean`
 Returns a hash code based on the contents of this array as if it is `[List]`.
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level the behavior is undefined.
`@SinceKotlin("1.1")`
`@kotlin.internal.LowPriorityInOverloadResolution`
`public expect fun <T> Array<out T>.contentDeepHashCode(): Int`
 Returns a hash code based on the contents of this array as if it is `[List]`.
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level the behavior is undefined.
`@SinceKotlin("1.4")`
`public expect fun <T> Array<out T>?.contentDeepHashCode(): Int`
 Returns a string representation of the contents of this array as if it is a `[List]`.
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level that reference is rendered as `"[...]"` to prevent recursion.
 @sample
 samples.collections.Arrays.ContentOperations.contentDeepToString
`@SinceKotlin("1.1")`
`@kotlin.internal.LowPriorityInOverloadResolution`
`public expect fun <T> Array<out T>.contentDeepToString(): String`
 Returns a string representation of the contents of this array as if it is a `[List]`.
 Nested arrays are treated as lists too.
 If any of arrays contains itself on any nesting level that reference is rendered as `"[...]"` to prevent recursion.
 @sample
 samples.collections.Arrays.ContentOperations.contentDeepToString
`@SinceKotlin("1.4")`
`public expect fun <T> Array<out T>?.contentDeepToString(): String`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the `[equals][Any.equals]` function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the `[equals][Any.equals]` function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun ByteArray.contentEquals(other: ByteArray): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the `[equals][Any.equals]` function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun ShortArray.contentEquals(other: ShortArray): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the `[equals][Any.equals]` function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun IntArray.contentEquals(other: IntArray): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the `[equals][Any.equals]` function.
 For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun LongArray.contentEquals(other: LongArray): Boolean`
 Returns `true` if the two specified arrays are *structurally* equal to one another, i.e. contain the same number of the same elements in the same order.
 The elements are compared for equality with the `[equals][Any.equals]` function.
 For floating point numbers it means that `NaN` is equal to itself

and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun FloatArray.contentEquals(other: FloatArray): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public expect infix fun CharArray.contentEquals(other: CharArray): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public expect infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public expect infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public expect infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public expect infix fun IntArray?.contentEquals(other: IntArray?): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public expect infix fun LongArray?.contentEquals(other: LongArray?): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public expect infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean`
`* Returns `true` if the two specified arrays are *structurally* equal to one another, * i.e. contain the same number of the same elements in the same order. * The elements are compared for equality with the [equals][Any.equals] function. * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`@SinceKotlin("1.4")`
`public`

expect infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

*\n@SinceKotlin("1.4")\npublic expect infix fun BooleanArray?.contentEquals(other: BooleanArray?):

Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals]

function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

*\n@SinceKotlin("1.4")\npublic expect infix fun CharArray?.contentEquals(other: CharArray?): Boolean\n\n/**\n

* Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince =

"1.4")\npublic expect fun <T> Array<out T>.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun

ByteArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince

= "1.4")\npublic expect fun ShortArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun

IntArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince

= "1.4")\npublic expect fun LongArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun

FloatArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based

on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun

DoubleArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun

BooleanArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation

warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun

CharArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun <T> Array<out T>?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

CharArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

IntArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

LongArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

FloatArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

DoubleArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

ShortArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

IntArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

LongArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

FloatArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

DoubleArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

ShortArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

IntArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

LongArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

FloatArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

DoubleArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun

`Int`
`* Returns a hash code based on the contents of this array as if it is [List].`
`*\n@SinceKotlin("1.4")\npublic expect fun BooleanArray?.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin("1.4")\npublic expect fun CharArray?.contentHashCode(): Int\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun <T> Array<out T>.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun ByteArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun ShortArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun IntArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun LongArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun FloatArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun DoubleArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun BooleanArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic expect fun CharArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\n\npublic expect fun <T> Array<out T>?.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\n\npublic expect fun ByteArray?.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@SinceKotlin("1.4")\n\npublic expect fun ShortArray?.contentToString(): String\n\n**\n * Returns a string`

representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^\n@SinceKotlin("1.4")\npublic expect fun
IntArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*^\n@SinceKotlin("1.4")\npublic expect fun LongArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^\n@SinceKotlin("1.4")\npublic expect fun
FloatArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*^\n@SinceKotlin("1.4")\npublic expect fun DoubleArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^\n@SinceKotlin("1.4")\npublic expect fun
BooleanArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*^\n@SinceKotlin("1.4")\npublic expect fun CharArray?.contentToString(): String\n\n/**\n * Copies this array or
its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the
[destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param
destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by
default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param
endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't
fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n *^\n@SinceKotlin("1.3")\npublic
expect fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0,
endIndex: Int = size): Array<T>\n\n/**\n * Copies this array or its subrange into the [destination] array and returns
that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it
overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset
the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of
the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this
array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException]
when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n *^\n@SinceKotlin("1.3")\npublic expect fun ByteArray.copyInto(destination: ByteArray,
destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray\n\n/**\n * Copies this array or its
subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the
[destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param
destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by
default.\n * @param startIndex the beginning (inclusive) of the subrange
to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or
[endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n *^\n@SinceKotlin("1.3")\npublic expect fun ShortArray.copyInto(destination: ShortArray,
destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray\n\n/**\n * Copies this array or its

subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray\n\n**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray\n\n**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray\n\n**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * @return the [destination] array.\n *\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray\n\n**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n

* \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n

* \n @SinceKotlin("1.3") \n public expect fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray \n \n /** \n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n

* \n @SinceKotlin("1.3") \n public expect fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n @Suppress("NO_ACTUAL_FOR_EXPECT") \n public expect fun <T> Array<T>.copyOf(): Array<T> \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun ByteArray.copyOfOf(): ByteArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun ShortArray.copyOfOf(): ShortArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun IntArray.copyOfOf(): IntArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun LongArray.copyOfOf(): LongArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun FloatArray.copyOfOf(): FloatArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun DoubleArray.copyOfOf(): DoubleArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun BooleanArray.copyOfOf(): BooleanArray \n \n /** \n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf \n

* \n public expect fun CharArray.copyOfOf(): CharArray \n \n /** \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with zero values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n

* \n public expect fun ByteArray.copyOfOf(newSize: Int): ByteArray \n \n /** \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with zero values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n

* \n public expect fun ShortArray.copyOfOf(newSize: Int): ShortArray \n \n /** \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with zero values

if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n * \n * \n * public expect fun

IntArray.copyOf(newSize: Int): IntArray \n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with zero values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n * \n * \n * public expect fun

LongArray.copyOf(newSize: Int): LongArray \n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with zero values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n * \n * \n * public expect fun

FloatArray.copyOf(newSize: Int): FloatArray \n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with zero values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n * \n * \n * public expect fun

DoubleArray.copyOf(newSize: Int): DoubleArray \n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with `false` values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `false` values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n * \n * \n * public expect fun

BooleanArray.copyOf(newSize: Int): BooleanArray \n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with null char (`\u0000`) values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char (`\u0000`) values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf \n * \n * \n * public expect fun

CharArray.copyOf(newSize: Int): CharArray \n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize]. \n * The copy is either truncated or padded at the end with `null` values if necessary. \n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize]. \n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf \n * \n * \n * public expect fun

<T> Array<T>.copyOf(newSize: Int): Array<T?> \n * \n * \n * Returns a new array which is a copy of the specified range of the original array. \n * \n * \n * @param fromIndex the start of the range (inclusive) to copy. \n * \n * @param toIndex the end of the range (exclusive) to copy. \n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. \n * \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex]. \n * \n * \n * public expect fun

<T> Array<T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> \n * \n * \n * Returns a new array which is a copy of the specified range of the original array. \n * \n * \n * @param fromIndex the start of the range (inclusive) to copy. \n * \n * @param toIndex the end of the range (exclusive) to copy. \n * \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. \n * \n * @throws IllegalArgumentException if [fromIndex] is greater than

[toIndex].\n *\npublic expect fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic expect fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.3")\npublic expect fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.3")\npublic expect fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the

start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^\n@SinceKotlin("1.3")\npublic expect fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val <T> Array<out T>.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val ByteArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val ShortArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val IntArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val LongArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val FloatArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val DoubleArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val BooleanArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns the range of valid indices for the array.\n *^\npublic val CharArray.indices: IntRange\n get() = IntRange(0, lastIndex)\n\n**\n * Returns `true`

if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun IntArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun LongArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isEmpty(): Boolean { \n return size == 0\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun IntArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun LongArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n *^@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isNotEmpty(): Boolean { \n return !isEmpty()\n}\n\n/**\n * Returns the last valid index for the array.\n *^@public val <T> Array<out T>.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val ByteArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val ShortArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val IntArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val LongArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val FloatArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val DoubleArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val BooleanArray.lastIndex: Int\n get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n *^@public val CharArray.lastIndex: Int\n get() = size - 1\n\nReturns an array containing all elements of the original array and then the given [element].\n *^@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T> Array<T>.plus(element: T): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n *^@public expect operator fun ByteArray.plus(element: Byte): ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n *^@public expect operator fun ShortArray.plus(element: Short): ShortArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n *^@public expect operator fun IntArray.plus(element: Int): IntArray\n\nReturns an array containing all elements of the original array and then the given [element].\n *^@public expect operator fun LongArray.plus(element: Long): LongArray\n\n/**\n * Returns an array containing all elements of the original array

and then the given [element].\n *\npublic expect operator fun FloatArray.plus(element: Float): FloatArray\n\n**\n * Returns an array containing all elements of the original array and then the given [element].\n *\npublic expect operator fun DoubleArray.plus(element: Double): DoubleArray\n\n**\n * Returns an array containing all elements of the original array and then the given [element].\n *\npublic expect operator fun BooleanArray.plus(element: Boolean): BooleanArray\n\n**\n * Returns an array containing all elements of the original array and then the given [element].\n *\npublic expect operator fun CharArray.plus(element: Char): CharArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\n@Suppress("NO_ACTUAL_FOR_EXPECT")\n\npublic expect operator fun <T> Array<T>.plus(elements: Collection<T>): Array<T>\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun ShortArray.plus(elements: Collection<Short>): ShortArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun IntArray.plus(elements: Collection<Int>): IntArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun LongArray.plus(elements: Collection<Long>): LongArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun FloatArray.plus(elements: Collection<Float>): FloatArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n *\npublic expect operator fun CharArray.plus(elements: Collection<Char>): CharArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\n@Suppress("NO_ACTUAL_FOR_EXPECT")\n\npublic expect operator fun <T> Array<T>.plus(elements: Array<out T>): Array<T>\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun ByteArray.plus(elements: ByteArray): ByteArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun ShortArray.plus(elements: ShortArray): ShortArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun IntArray.plus(elements: IntArray): IntArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun LongArray.plus(elements: LongArray): LongArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun FloatArray.plus(elements: FloatArray): FloatArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n *\npublic expect operator fun CharArray.plus(elements: CharArray): CharArray\n\n**\n * Returns an array containing all elements of the original array and then the given [element].\n *\n@Suppress("NO_ACTUAL_FOR_EXPECT")\n\npublic expect fun <T> Array<T>.plusElement(element: T): Array<T>\n\n**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n\n**\n\npublic expect fun IntArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n\n**\n\npublic expect fun LongArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n\n**\n\npublic

expect fun ByteArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\npublic expect fun ShortArray.sort(): Unit\n\n/**\n * Sorts the
array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n *\npublic expect fun
DoubleArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\npublic expect fun FloatArray.sort(): Unit\n\n/**\n * Sorts the
array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n
*\npublic expect fun CharArray.sort(): Unit\n\n/**\n * Sorts the array in-place according to the natural order of its
elements.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after
sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n *\npublic expect fun <T :
Comparable<T>> Array<out T>.sort(): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * The sort is
`_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param
fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n
*\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0,
toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n *\n@SinceKotlin("1.4")\npublic expect fun
ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n *
@param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of
this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *
*\n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n *\n@SinceKotlin("1.4")\npublic expect
fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n *
*\n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the
range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex]
is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\npublic expect fun IntArray.sort(fromIndex: Int = 0, toIndex:
Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range
(inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n *\n@SinceKotlin("1.4")\npublic expect fun
LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n *
@param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException
if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\npublic expect fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n *
Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by
default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *

@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
 samples.collections.Arrays.Sorting.sortRangeOfArray\n * \n * @SinceKotlin("1.4")\n public expect fun
 DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n * \n * \n * Sorts a range in the array in-place.\n * \n *
 * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex
 the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException
 if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
 samples.collections.Arrays.Sorting.sortRangeOfArray\n * \n * @SinceKotlin("1.4")\n public expect fun
 CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n * \n * \n * Sorts elements of the array in the specified
 range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * The sort is
 stable. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param
 fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n *
 \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
 this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @SinceKotlin("1.4")\n public fun <T :
 Comparable<T>> Array<out T>.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sortWith(reverseOrder(),
 fromIndex, toIndex)\n }\n * \n * \n * Sorts elements of the array in the specified range in-place.\n * The elements are
 sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive)
 to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException
 if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @SinceKotlin("1.4")\n public fun
 ByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n reverse(fromIndex,
 toIndex)\n }\n * \n * \n * Sorts elements of the array in the specified range in-place.\n * The elements are
 sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive)
 to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException
 if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @SinceKotlin("1.4")\n public fun
 ShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n
 reverse(fromIndex, toIndex)\n }\n * \n * \n * Sorts elements of the array in the specified range in-place.\n * The
 elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the
 range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws
 IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
 @throws IllegalArgumentException
 if [fromIndex] is greater than [toIndex].\n * \n * @SinceKotlin("1.4")\n public fun
 IntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n reverse(fromIndex,
 toIndex)\n }\n * \n * \n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted
 descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to
 sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if
 [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @SinceKotlin("1.4")\n public fun
 LongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n
 reverse(fromIndex, toIndex)\n }\n * \n * \n * Sorts elements of the array in the specified range in-place.\n * The
 elements are sorted descending according
 to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex
 the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than
 zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
 greater than [toIndex].\n * \n * @SinceKotlin("1.4")\n public fun FloatArray.sortDescending(fromIndex: Int, toIndex:
 Int): Unit {\n sort(fromIndex, toIndex)\n reverse(fromIndex, toIndex)\n }\n * \n * \n * Sorts elements of the array

in the specified range in-place. The elements are sorted descending according to their natural sort order.

@param fromIndex the start of the range (inclusive) to sort.

@param toIndex the end of the range (exclusive) to sort.

throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.

throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

@SinceKotlin("1.4")
public fun DoubleArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {
    sort(fromIndex, toIndex)
    reverse(fromIndex, toIndex)
}

```

Sorts elements of the array in the specified range in-place. The elements are sorted descending according to their natural sort order.

@param fromIndex the start of the range (inclusive) to sort.

@param toIndex the end of the range (exclusive) to sort.

throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.

throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

@SinceKotlin("1.4")
public fun CharArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {
    sort(fromIndex, toIndex)
    reverse(fromIndex, toIndex)
}

```

Sorts the array in-place according to the order specified by the given [comparator].

The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

```

public expect fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit

```

Sorts a range in the array in-place with the given [comparator].

The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

@param fromIndex the start of the range (inclusive) to sort, 0 by default.

@param toIndex the end of the range (exclusive) to sort, size of this array by default.

throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.

throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

public expect fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Unit

```

Returns an array of Boolean containing all of the elements of this generic array.

```

public fun Array<out Boolean>.toBooleanArray(): BooleanArray

```

Returns an array of Byte containing all of the elements of this generic array.

```

public fun Array<out Byte>.toByteArray(): ByteArray

```

Returns an array of Char containing all of the elements of this generic array.

```

public fun Array<out Char>.toCharArray(): CharArray

```

Returns an array of Double containing all of the elements of this generic array.

```

public fun Array<out Double>.toDoubleArray(): DoubleArray

```

Returns an array of Float containing all of the elements of this generic array.

```

public fun Array<out Float>.toFloatArray(): FloatArray

```

Returns an array of Int containing all of the elements of this generic array.

```

public fun Array<out Int>.toIntArray(): IntArray

```

Returns an array of Long containing all of the elements of this generic array.

```

public fun Array<out Long>.toLongArray(): LongArray

```

Returns an array of Short containing all of the elements of this generic array.

```

public fun Array<out Short>.toShortArray(): ShortArray

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun ByteArray.toTypedArray(): Array<Byte>

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun ShortArray.toTypedArray(): Array<Short>

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun IntArray.toTypedArray(): Array<Int>

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun LongArray.toTypedArray(): Array<Long>

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun FloatArray.toTypedArray(): Array<Float>

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun DoubleArray.toTypedArray(): Array<Double>

```

Returns a `*typed*` object array containing all of the elements of this primitive array.

```

public expect fun BooleanArray.toTypedArray(): Array<Boolean>

```

```

Array<Boolean>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic expect fun CharArray.toTypedArray(): Array<Char>\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <T, K, V> Array<out T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <K, V> ByteArray.associate(transform: (Byte) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <K, V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <K, V> IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <K, V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <K, V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n\npublic inline fun <K, V> DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n * \n

```

```

*public inline fun <K, V> BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.
* If any of two pairs would have the same key the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives

*public inline fun <K, V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <T, K> Array<out T>.associateBy(keySelector: (T) -> K): Map<K, T> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <K> ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Byte>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <K> ShortArray.associateBy(keySelector: (Short) -> K): Map<K, Short> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Short>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <K> IntArray.associateBy(keySelector: (Int) -> K): Map<K, Int> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Int>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.
* The returned map preserves the entry iteration order of the original array.
@sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy

*public inline fun <K> LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, Long>(capacity), keySelector)
}

* Returns a [Map] containing the elements from the given array indexed by the key returned from [keySelector] function applied to each element.
* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

```

\n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
FloatArray.associateBy(keySelector: (Float) -> K): Map<K, Float> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Float>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
DoubleArray.associateBy(keySelector: (Double) -> K): Map<K, Double> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n
return associateByTo(LinkedHashMap<K, Double>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map]
containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to
each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Boolean>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last
one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n
* @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
CharArray.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <T, K, V> Array<out T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V):
Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map]
containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of
the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n
*/\npublic inline fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V):
Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map]
containing the values provided by [valueTransform] and indexed by [keySelector] functions
applied to elements of the given array.\n * \n * If any two elements would have the same key returned by
[keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the
original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V> {\n
val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]

```

and indexed by [keySelector] functions applied to elements of the given array.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

The returned map preserves the entry iteration order of the original array.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform
```

```

*^public inline fun <K, V> IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
}

```

Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

The returned map preserves the entry iteration order of the original array.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform
```

```

*^public inline fun <K, V> LongArray.associateBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
}

```

Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

The returned map preserves the entry iteration order of the original array.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform
```

```

*^public inline fun <K, V> FloatArray.associateBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
}

```

Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

The returned map preserves the entry iteration order of the original array.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform
```

```

*^public inline fun <K, V> DoubleArray.associateBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
}

```

Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

The returned map preserves the entry iteration order of the original array.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform
```

```

*^public inline fun <K, V> BooleanArray.associateBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
}

```

Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

The returned map preserves the entry iteration order of the original array.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform
```

```

*^public inline fun <K, V> CharArray.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each element of the given array and value is the element itself.

If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

@sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo
```

```

*^public inline fun <T, K, M : MutableMap<in K, in T>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K): M {
    for

```

(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Byte>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Short>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Int>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Long>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Boolean>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
```

* Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * \npublic inline fun <K, M : MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n * \npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n * \npublic inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n * \npublic inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K, valueTransform: (Short) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n * \npublic inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n * \npublic inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K, valueTransform: (Long) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample

```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) ->
K, valueTransform: (Float) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by
[keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector:
(Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector]
function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n *
\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *
\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n
*/\npublic inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateByTo(destination:
M, keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {\n for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector]
function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n *
\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *
\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n
*/\npublic inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateByTo(destination: M, keySelector:
(Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function
applied to each element of the given array.\n * \n * If any of two pairs would have the same key the last one gets
added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n
*/\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateTo(destination: M, transform:
(T) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key
the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M :
MutableMap<in K, in V>> ByteArray.associateTo(destination:
M, transform: (Byte) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n
}\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n *
provided by [transform] function applied to each element of the given array.\n * \n * If any of two pairs would have
the same key the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M :
MutableMap<in K, in V>> ShortArray.associateTo(destination: M, transform: (Short) -> Pair<K, V>): M {\n for
(element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K,
V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n

```


produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *

```
@sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
```

IntArray.associateWith(valueSelector: (Int) -> V): Map<Int, V> {\n val result = LinkedHashMap<Int, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>

LongArray.associateWith(valueSelector: (Long) -> V): Map<Long, V> {\n val result = LinkedHashMap<Long, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>

FloatArray.associateWith(valueSelector: (Float) -> V): Map<Float, V> {\n val result = LinkedHashMap<Float, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>

DoubleArray.associateWith(valueSelector: (Double) -> V): Map<Double, V> {\n val result = LinkedHashMap<Double, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>

BooleanArray.associateWith(valueSelector: (Boolean) -> V): Map<Boolean, V> {\n val result = LinkedHashMap<Boolean, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>

CharArray.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n val result = LinkedHashMap<Char, V>(mapCapacity(size).coerceAtMost(128)).coerceAtLeast(16)\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\npublic inline fun <K, V, M : MutableMap<in K, in V>> Array<out K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }

} \n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Byte, in V>>\nByteArray.associateWithTo(destination: M, valueSelector: (Byte) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
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itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Short, in V>>\nShortArray.associateWithTo(destination: M, valueSelector: (Short) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
```

itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample

samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Int, in V>>\nIntArray.associateWithTo(destination:
```

```
M, valueSelector: (Int) -> V): M {\n for (element in this) {\n destination.put(element,\n valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample
```

samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Long, in V>>\nLongArray.associateWithTo(destination: M, valueSelector: (Long) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
```

of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample

samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Float, in V>>\nFloatArray.associateWithTo(destination: M, valueSelector: (Float) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
```

itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample

samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Double, in V>>\nDoubleArray.associateWithTo(destination: M, valueSelector: (Double) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
```

itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample

samples.collections.Collections.Transformations.associateWithTo\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Boolean, in
```

```

V>> BooleanArray.associateWithTo(destination: M, valueSelector: (Boolean) -> V): M {
  for (element in this)
  {
    destination.put(element,
    valueSelector(element))
  }
  return destination
}
Populates and returns the [destination] mutable
map with key-value pairs for each element of the given array,
where key is the element itself and value is
provided by the [valueSelector] function applied to that key.
If any two elements are equal, the last one
overwrites the former value in the map.
@sample
samples.collections.Collections.Transformations.associateWithTo
*/
@SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun <V, M : MutableMap<in Char, in V>>
CharArray.associateWithTo(destination: M, valueSelector: (Char) -> V): M {
  for (element in this) {
    destination.put(element, valueSelector(element))
  }
  return destination
}
Appends all elements to
the given [destination] collection.
public fun <T, C : MutableCollection<in T>> Array<out
T>.toCollection(destination: C): C {
  for (item in this) {
    destination.add(item)
  }
  return destination
}
Appends all elements to the given [destination] collection.
public fun
<C : MutableCollection<in Byte>> ByteArray.toCollection(destination: C): C {
  for (item in this) {
    destination.add(item)
  }
  return destination
}
Appends all elements to the given [destination]
collection.
public fun <C : MutableCollection<in Short>> ShortArray.toCollection(destination: C): C {
  for
(item in this) {
    destination.add(item)
  }
  return destination
}
Appends all elements to the
given [destination] collection.
public fun <C : MutableCollection<in Int>> IntArray.toCollection(destination:
C): C {
  for (item in this) {
    destination.add(item)
  }
  return destination
}
Appends all
elements to the given [destination] collection.
public fun <C : MutableCollection<in Long>>
LongArray.toCollection(destination: C): C {
  for (item in this) {
    destination.add(item)
  }
  return destination
}
Appends all elements to the given [destination]
collection.
public fun <C : MutableCollection<in Float>> FloatArray.toCollection(destination: C): C {
  for
(item in this) {
    destination.add(item)
  }
  return destination
}
Appends all elements to the
given [destination] collection.
public fun <C : MutableCollection<in Double>>
DoubleArray.toCollection(destination: C): C {
  for (item in this) {
    destination.add(item)
  }
  return
destination
}
Appends all elements to the given [destination] collection.
public fun <C :
MutableCollection<in Boolean>> BooleanArray.toCollection(destination: C): C {
  for (item in this) {
    destination.add(item)
  }
  return destination
}
Appends all elements to the given [destination]
collection.
public fun <C : MutableCollection<in Char>> CharArray.toCollection(destination: C): C
{
  for (item in this) {
    destination.add(item)
  }
  return destination
}
Returns a new
[HashSet] of all elements.
public fun <T> Array<out T>.toHashSet(): HashSet<T> {
  return
toCollection(HashSet<T>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun ByteArray.toHashSet(): HashSet<Byte> {
  return
toCollection(HashSet<Byte>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun ShortArray.toHashSet(): HashSet<Short> {
  return
toCollection(HashSet<Short>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun IntArray.toHashSet(): HashSet<Int> {
  return
toCollection(HashSet<Int>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun LongArray.toHashSet(): HashSet<Long> {
  return
toCollection(HashSet<Long>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun FloatArray.toHashSet(): HashSet<Float> {
  return
toCollection(HashSet<Float>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun DoubleArray.toHashSet(): HashSet<Double> {
  return
toCollection(HashSet<Double>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.
public
fun BooleanArray.toHashSet(): HashSet<Boolean> {
  return
toCollection(HashSet<Boolean>(mapCapacity(size)))
}
Returns a new [HashSet] of all elements.

```

```
*\npublic fun CharArray.toHashSet(): HashSet<Char> {\n    return
toCollection(HashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n}\n\n/**\n * Returns a [List] containing all
elements.\n */\n\npublic fun <T> Array<out T>.toList(): List<T> {\n    return when (size) {\n        0 -> emptyList()\n
        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all
elements.\n */\n\npublic fun ByteArray.toList(): List<Byte> {\n
    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n
    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n\npublic fun ShortArray.toList(): List<Short> {\n
return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n
    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n\npublic fun IntArray.toList(): List<Int> {\n    return
when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n *
Returns a [List] containing all elements.\n */\n\npublic fun LongArray.toList(): List<Long> {\n    return when (size)
{\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a
[List] containing all elements.\n */\n\npublic fun FloatArray.toList(): List<Float> {\n    return when (size) {\n        0 ->
emptyList()\n        1 ->
listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n\npublic fun DoubleArray.toList(): List<Double> {\n    return when (size) {\n        0 -> emptyList()\n        1 ->
listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n\npublic fun BooleanArray.toList(): List<Boolean> {\n    return when (size) {\n        0 -> emptyList()\n        1 ->
listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n\npublic fun CharArray.toList(): List<Char> {\n    return when (size) {\n        0 -> emptyList()\n        1 ->
listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a new [MutableList] filled with all
elements of this array.\n */\n\npublic fun <T> Array<out T>.toMutableList(): MutableList<T> {\n    return
ArrayList(this.asCollection())\n}\n\n/**\n * Returns a new [MutableList]
filled with all elements of this array.\n */\n\npublic fun ByteArray.toMutableList(): MutableList<Byte> {\n    val list
= ArrayList<Byte>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new
[MutableList] filled with all elements of this array.\n */\n\npublic fun ShortArray.toMutableList():
MutableList<Short> {\n    val list = ArrayList<Short>(size)\n    for (item in this) list.add(item)\n    return
list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n\npublic fun
IntArray.toMutableList(): MutableList<Int> {\n    val list = ArrayList<Int>(size)\n    for (item in this)
list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n\npublic fun LongArray.toMutableList(): MutableList<Long> {\n    val list = ArrayList<Long>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this
array.\n */\n\npublic fun FloatArray.toMutableList(): MutableList<Float> {\n    val list = ArrayList<Float>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this
array.\n */\n\npublic fun DoubleArray.toMutableList(): MutableList<Double> {\n    val list =
ArrayList<Double>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new
[MutableList] filled with all elements of this array.\n */\n\npublic fun BooleanArray.toMutableList():
MutableList<Boolean> {\n    val list = ArrayList<Boolean>(size)\n    for (item in this) list.add(item)\n    return
list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n\npublic fun
CharArray.toMutableList(): MutableList<Char> {\n    val list = ArrayList<Char>(size)\n    for (item in this)
list.add(item)\n    return list\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the
element iteration
order of the original array.\n */\n\npublic fun <T> Array<out T>.toSet(): Set<T> {\n    return when (size) {\n        0 ->
emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the
original array.\n */\n\npublic fun ByteArray.toSet(): Set<Byte> {\n    return when (size) {\n        0 -> emptySet()\n
        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n    }\n}\n\n/**\n *
```

```

Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n
*\npublic fun ShortArray.toSet(): Set<Short> {\n    return when (size) {\n        0 -> emptySet()\n        1 ->
setOf(this[0])\n        else -> toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n    }\n}\n\n/>\n * Returns a
[Set] of all elements.\n * \n * The returned set preserves
the element iteration order of the original array.\n *\npublic fun IntArray.toSet(): Set<Int> {\n    return when (size)
{\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n    }\n}\n\n/>\n * Returns a [Set] of all elements.\n * \n *
The returned set preserves the element iteration order of the original array.\n *\npublic fun LongArray.toSet():
Set<Long> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n    }\n}\n\n/>\n * Returns a [Set] of all elements.\n * \n
*\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun FloatArray.toSet():
Set<Float> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n    }\n}\n\n/>\n * Returns a [Set] of all elements.\n * \n
*\n * The returned
set preserves the element iteration order of the original array.\n *\npublic fun DoubleArray.toSet(): Set<Double>
{\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n    }\n}\n\n/>\n * Returns a [Set] of all elements.\n *
*\n * The returned set preserves the element iteration order of the original array.\n *\npublic fun
BooleanArray.toSet(): Set<Boolean> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n
    else -> toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n    }\n}\n\n/>\n * Returns a [Set] of all
elements.\n * \n * The returned set preserves the element iteration order of the original array.\n *\npublic fun
CharArray.toSet(): Set<Char> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -
-> toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n    }\n}\n\n/>\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun
<T, R> Array<out T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/>\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R> ByteArray.flatMap(transform:
(Byte) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/>\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *
*\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R>
ShortArray.flatMap(transform: (Short) -> Iterable<R>):
List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/>\n * Returns a single list of all elements
yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R> IntArray.flatMap(transform:
(Int) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/>\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n *
*\n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R>
LongArray.flatMap(transform: (Long) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/>\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\npublic inline fun <R> FloatArray.flatMap(transform: (Float) -> Iterable<R>): List<R> {\n    return
flatMapTo(ArrayList<R>(), transform)\n}\n\n/>\n * Returns a single list of all elements yielded from results of
[transform] function being invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R>
DoubleArray.flatMap(transform: (Double) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),

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transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <R>
BooleanArray.flatMap(transform: (Boolean) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element
of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun
<R> CharArray.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <T, R> Array<out
T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element\n * and its index in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.flatMapIndexed(transform: (index: Int, Byte) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n
* Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n
* and its index in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ShortArray.flatMapIndexed(transform: (index: Int, Short) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> IntArray.flatMapIndexed(transform: (index: Int, Int) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.flatMapIndexed(transform: (index: Int, Long) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original

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array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> FloatArray.flatMapIndexed(transform: (index: Int, Float) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.flatMapIndexed(transform: (index: Int, Double)
-> Iterable<R>): List<R> {\n return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Returns a
single list of all elements yielded from results of [transform] function being invoked on each element\n * and its
index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> BooleanArray.flatMapIndexed(transform: (index: Int, Boolean) -> Iterable<R>): List<R> {\n
return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Returns a single list of all elements yielded
from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++,
element)\n destination.addAll(list)\n }\n return destination\n}\n\n**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c
inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Byte) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++,
element)\n destination.addAll(list)\n }\n return destination\n}\n\n**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli

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c inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Short) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++,
element)
        destination.addAll(list)
    }
    return destination
}
// Appends all elements yielded from results of [transform] function being
invoked on each element * and its index in the original array, to the given [destination].
*
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
npublic
c inline fun <R, C : MutableCollection<in R>> IntArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Int) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++, element)
        destination.addAll(list)
    }
    return destination
}
// Appends all elements yielded from results of
[transform] function being invoked on each element * and its index in the original array, to the given
[destination].
*
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
npublic
c
inline fun <R, C : MutableCollection<in R>> LongArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Long) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++,
element)
        destination.addAll(list)
    }
    return destination
}
// Appends all elements yielded from
results of [transform] function being invoked on each element * and its index in the original array, to the given
[destination].
*
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
npublic
c inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Float) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++, element)
        destination.addAll(list)
    }
    return destination
}
// Appends all elements yielded from results of [transform] function being invoked on each element * and its index
in the original array, to the given [destination].
*
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
npublic
c inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapIndexedTo(destination: C, transform: (index:
Int, Double) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++,
element)
        destination.addAll(list)
    }
    return destination
}
// Appends all elements yielded from
results of [transform] function being invoked on each element * and its index in the original array, to the given
[destination].
*
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
npublic
c
inline fun <R, C : MutableCollection<in R>> BooleanArray.flatMapIndexedTo(destination: C, transform: (index:
Int, Boolean) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++,
element)
        destination.addAll(list)
    }
    return destination
}
// Appends all elements yielded from
results of [transform] function being invoked on each element * and its index in the original array, to the given
[destination].
*
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
npublic
c inline fun <R, C : MutableCollection<in R>> CharArray.flatMapIndexedTo(destination: C, transform:
(index: Int, Char) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list =
transform(index++, element)
        destination.addAll(list)
    }
    return destination
}
// Appends all
elements yielded from results of [transform] function being invoked on each element * and its index in the original

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array, to the given [destination].\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform:\n(index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =\n        transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all\n * elements yielded from results of [transform] function being invoked
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on each element of original array, to the given [destination].\n *\npublic inline fun <T, R, C :

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MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for\n    (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
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```
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each\n * element of original array, to the given [destination].\n *\npublic inline fun <R, C : MutableCollection<in R>>\nByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C {\n    for (element in this) {\n        val list
```

```
= transform(element)\n    destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements
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yielded from results of [transform] function being invoked on each element of original array, to the given\n [destination].\n *\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapTo(destination:\n C, transform: (Short) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n    destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
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```
[transform] function being invoked on each element of original array, to the given [destination].\n *\npublic inline\n fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C, transform: (Int) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
```

```
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
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element of original array, to the given [destination].\n *\npublic inline fun <R, C : MutableCollection<in R>>\nLongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C {\n    for (element in this) {\n        val
```

```
list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked
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on each element of original array, to the given [destination].\n *\npublic inline fun <R, C : MutableCollection<in\n R>> FloatArray.flatMapTo(destination: C, transform: (Float) -> Iterable<R>): C {\n    for (element in this) {\n    val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
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elements yielded from results of [transform] function being invoked on each element of original array, to the given\n [destination].\n *\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C,\n transform: (Double) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n    destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
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[transform] function being invoked on each element of original array,
```

to the given [destination].\n *\npublic inline fun <R, C : MutableCollection<in R>>

```
BooleanArray.flatMapTo(destination: C, transform: (Boolean) -> Iterable<R>): C {\n    for (element in this) {\n    val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
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elements yielded from results of [transform] function being invoked on each element of original array, to the given\n [destination].\n *\npublic inline fun <R, C : MutableCollection<in R>> CharArray.flatMapTo(destination: C,\n transform: (Char) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n    destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
```

```
[transform] function being invoked on each element of original array, to the given [destination].\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic
```

```
inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) ->
```

```
Sequence<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given
```

```
[keySelector] function\n * applied to each element and returns a map where each group key is associated with a list
```

of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <T, K> Array<out T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Byte>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Int>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Float>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * \n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> DoubleArray.groupBy(keySelector: (Double) -> K): Map<K, List<Double>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Double>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n * public inline fun <K> BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {\n * \n * \n * return groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)\n * \n * \n * \n * Groups elements of the original array by the key returned by the given [keySelector] function\n * \n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration

order of the keys produced from the original array.\n * \n * @sample

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samples.collections.Collections.Transformations.groupBy\n * \n public inline fun <K>
CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied
to each element of the original array\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*/\n public inline fun <T, K, V> Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K,
List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector,
valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of
the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns
a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves
the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n public inline fun <K, V>
ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied
to each element of the original array\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n public inline fun <K, V>
ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from
the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*/\n public inline fun <K, V> IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K,
List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector,
valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of
the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns
a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves
the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n public inline fun <K, V>
LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the
key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key
is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of
the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n public inline fun <K, V>
FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n

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 * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n *
 @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n public inline fun <K, V>
 DoubleArray.groupBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n
 return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
 values returned by the [valueTransform] function applied to each element of the original array\n * by the key
 returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
 associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
 keys produced from the original array.\n * \n * @sample
 samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n public inline fun <K, V>
 BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform:
 (Boolean) -> V): Map<K, List<V>> {\n
 return groupByTo(LinkedHashMap<K, MutableList<V>>(),
 keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to
 each element of the original array\n * by the key returned by the given [keySelector] function applied to the
 element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
 returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
 samples.collections.Collections.Transformations.groupByKeysAndValues\n * \n public inline fun <K, V>
 CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n
 return
 groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
 of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
 the [destination] map each group
 key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
 samples.collections.Collections.Transformations.groupBy\n * \n public inline fun <T, K, M : MutableMap<in K,
 MutableList<T>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n
 for (element in this)
 {\n
 val key = keySelector(element)\n
 val list = destination.getOrPut(key) { ArrayList<T>() }\n
 list.add(element)\n
 }\n
 return destination\n}\n\n/**\n * Groups elements of the original array by the key returned
 by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key
 associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
 samples.collections.Collections.Transformations.groupBy\n * \n public inline fun <K, M : MutableMap<in K,
 MutableList<Byte>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K): M {\n
 for (element in
 this) {\n
 val key = keySelector(element)\n
 val list = destination.getOrPut(key) { ArrayList<Byte>() }\n
 list.add(element)\n
 }\n
 return destination\n}\n\n/**\n * Groups elements of the original array by the key returned
 by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key
 associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
 samples.collections.Collections.Transformations.groupBy\n * \n public inline fun <K, M : MutableMap<in K,
 MutableList<Short>>> ShortArray.groupByTo(destination: M, keySelector: (Short) -> K): M {\n
 for (element in
 this) {\n
 val key = keySelector(element)\n
 val list = destination.getOrPut(key) { ArrayList<Short>() }\n
 list.add(element)\n
 }\n
 return destination\n}\n\n/**\n * Groups elements of the original array by the key returned
 by the given [keySelector] function\n * applied to each element and puts
 to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
 [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n public inline
 fun <K, M : MutableMap<in K, MutableList<Int>>> IntArray.groupByTo(destination: M, keySelector: (Int) -> K):
 M {\n
 for (element in this) {\n
 val key = keySelector(element)\n
 val list = destination.getOrPut(key) {
 ArrayList<Int>() }\n
 list.add(element)\n
 }\n
 return destination\n}\n\n/**\n * Groups elements of the original
 array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
 [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
 [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n * \n public inline
 fun <K, M : MutableMap<in K, MutableList<Long>>> LongArray.groupByTo(destination: M, keySelector: (Long)

```

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-> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Long>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n *
applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n *
\n *
@return The [destination] map.\n *
\n *
@sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Float>>> FloatArray.groupByTo(destination: M,
keySelector: (Float) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Float>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n
*
applied to each element and puts to the [destination] map each group key associated with a list of corresponding
elements.\n *
\n *
@return The [destination] map.\n *
\n *
@sample
samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K,
MutableList<Double>>> DoubleArray.groupByTo(destination: M, keySelector: (Double) -> K): M {\n  for
(element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<Double>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the
original array by the key returned by the given [keySelector] function\n *
applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n *
\n *
@return The
[destination] map.\n *
\n *
@sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline
fun <K, M : MutableMap<in K, MutableList<Boolean>>>
BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K): M {\n  for (element in this) {\n    val
key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<Boolean>() }\n
list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned
by the given [keySelector] function\n *
applied to each element and puts to the [destination] map each group key
associated with a list of corresponding elements.\n *
\n *
@return The [destination] map.\n *
\n *
@sample
samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K,
MutableList<Char>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K): M {\n  for (element in
this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<Char>() }\n
list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups values returned by the [valueTransform]
function applied to each element of the original array\n *
by the key returned by the given [keySelector] function
applied to the element\n *
and puts to the [destination] map each group key associated with a list of corresponding
values.\n *
\n *
@return The [destination] map.\n *
\n *
@sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*/\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
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original array\n *
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[destination] map each group key
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@sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*/\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K,
valueTransform: (Byte) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination\n}\n\n/**\n *
Groups values returned by the [valueTransform] function applied to each element of the
original array\n *
by the key returned by the given [keySelector] function applied to the element\n *
and puts to the
[destination] map each group key associated with a list of corresponding values.\n *
\n *
@return The [destination]
map.\n *
\n *
@sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*/\npublic
inline fun

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<K, V, M : MutableMap<in K, MutableList<V>>> ShortArray.groupByTo(destination: M, keySelector: (Short) ->
K, valueTransform: (Short) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val
list = destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> IntArray.groupByTo(destination: M, keySelector:
(Int) -> K, valueTransform: (Int) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n
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the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to
the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> LongArray.groupByTo(destination: M,
keySelector: (Long) -> K, valueTransform: (Long) -> V): M {\n  for (element in this) {\n    val key =
keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return destination}\n}\n/**\n * Groups values returned by the
[valueTransform]
function applied to each element of the original array\n * by the key returned by the given [keySelector] function
applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding
values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> FloatArray.groupByTo(destination: M, keySelector: (Float) -> K,
valueTransform: (Float) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key
associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
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MutableMap<in K, MutableList<V>>> DoubleArray.groupByTo(destination: M, keySelector: (Double) -> K,
valueTransform: (Double) -> V): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list
= destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return
destination}\n}\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic
inline
fun <K, V, M : MutableMap<in K, MutableList<V>>> BooleanArray.groupByTo(destination: M, keySelector:
(Boolean) -> K, valueTransform: (Boolean) -> V): M {\n  for (element in this) {\n    val key =
keySelector(element)\n    val list = destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n  }\n  return destination}\n}\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K,

```

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valueTransform: (Char) -> V): M {
    for (element in this) {
        val key =
            keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<V>() }
        list.add(valueTransform(element))
    }
    return destination
}

Creates a [Grouping] source from an array to be used later with one of group-and-fold operations using the specified [keySelector] function to extract a key from each element.

@sample samples.collections.Grouping.groupingByEachCount

Since Kotlin("1.1")
public inline fun <T, K> Array<out T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {
    return object : Grouping<T, K> {
        override fun sourceIterator(): Iterator<T> =
            this@groupingBy.iterator()
        override fun keyOf(element: T): K = keySelector(element)
    }
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <T, R> Array<out T>.map(transform: (T) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> ByteArray.map(transform: (Byte) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> ShortArray.map(transform: (Short) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> IntArray.map(transform: (Int) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> LongArray.map(transform: (Long) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> FloatArray.map(transform: (Float) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> DoubleArray.map(transform: (Double) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> BooleanArray.map(transform: (Boolean) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.map

public inline fun <R> CharArray.map(transform: (Char) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself
* and returns the result of the transform applied to the element.

public inline fun <T, R> Array<out T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself
* and returns the result of the transform applied to the element.

public inline fun <R> ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}

Returns a list containing the results of applying the given [transform] function to each element and its index in the original array.

@param [transform] function that takes the index of an element and the element itself
* and returns the result of the transform applied to the element.

public

```



```

inline fun <R> ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list containing the results of applying the
 * given [transform] function
 * to each element and its index in the original array.
 * @param [transform] function
 * that takes the index of an element and the element itself
 * and returns the result of the transform applied to the
 * element.
 */
public inline fun <R> IntArray.mapIndexed(transform: (index: Int, Int) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list containing the results of applying the
 * given [transform] function
 * to each element and its index in the original array.
 * @param [transform] function
 * that takes the index of an element and the element itself
 * and returns the result of the transform applied to the
 * element.
 */
public inline fun <R> LongArray.mapIndexed(transform: (index: Int, Long) -> R):
List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list containing the
 * results of applying the given [transform] function
 * to each element and its index in the original array.
 * @param [transform] function that takes the index of an element and the element itself
 * and returns the result of
 * the transform applied to the element.
 */
public inline fun <R> FloatArray.mapIndexed(transform: (index: Int,
Float) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list
 * containing the results of applying the given [transform] function
 * to each element and its index in the original
 * array.
 * @param [transform] function that takes the index of an element and the element itself
 * and returns the
 * result of the transform applied to the element.
 */
public inline fun <R> DoubleArray.mapIndexed(transform:
(index: Int, Double) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list containing the results of applying the given [transform] function
 * to each element and its index in
 * the original array.
 * @param [transform] function that takes the index of an element and the element itself
 * and
 * returns the result of the transform applied to the element.
 */
public inline fun <R>
BooleanArray.mapIndexed(transform: (index: Int, Boolean) -> R): List<R> {
    return
mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list containing the results of applying the
 * given [transform] function
 * to each element and its index in the original array.
 * @param [transform] function
 * that takes the index of an element and the element itself
 * and returns the result of the transform applied to the
 * element.
 */
public inline fun <R> CharArray.mapIndexed(transform: (index: Int, Char) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(size), transform)
}
/**
 * Returns a list containing only the non-null
 * results of applying
 * the given [transform] function
 * to each element and its index in the original array.
 * @param [transform]
 * function that takes the index of an element and the element itself
 * and returns the result of the transform applied
 * to the element.
 */
public inline fun <T, R : Any> Array<out T>.mapIndexedNotNull(transform: (index: Int, T) ->
R?): List<R> {
    return mapIndexedNotNullTo(ArrayList<R>(0), transform)
}
/**
 * Applies the given
 * [transform] function to each element and its index in the original array
 * and appends only the non-null results to
 * the given [destination].
 * @param [transform] function that takes the index of an element and the element itself
 * and returns the result of the transform applied to the element.
 */
public inline fun <T, R : Any, C :
MutableCollection<in R>> Array<out T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?):
C {
    for<in> indexed { index, element -> transform(index, element)?.let { destination.add(it)
    } }
    return destination
}
/**
 * Applies the given [transform] function to each element and its index in the
 * original array
 * and appends the results to the given [destination].
 * @param [transform] function that takes the
 * index of an element and the element itself
 * and returns the result of the transform applied to the element.
 */
public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapIndexedTo(destination: C, transform:
(index: Int, T) -> R): C {
    var index = 0
    for<in> (item in this)
        destination.add(transform(index++, item))
    return destination
}
/**
 * Applies the given [transform] function to each element and its index in the original
 * array
 * and appends the results to the given [destination].
 * @param [transform] function that takes the index of
 * an element and the element itself
 * and returns the result of the transform applied to the element.
 */
public inline fun <R, C : MutableCollection<in R>> ByteArray.mapIndexedTo(destination:
C, transform: (index: Int, Byte) -> R): C {
    var index = 0
    for<in> (item in this)
        destination.add(transform(index++, item))
    return destination
}
/**
 * Applies the given [transform]

```

function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C : MutableCollection<in R>>
ShortArray.mapIndexedTo(destination: C, transform: (index: Int, Short) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}
```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C :
MutableCollection<in R>> IntArray.mapIndexedTo(destination: C, transform: (index: Int, Int) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}
```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C :
MutableCollection<in R>> LongArray.mapIndexedTo(destination: C, transform: (index: Int, Long) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}
```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C : MutableCollection<in R>> FloatArray.mapIndexedTo(destination: C, transform: (index: Int,
Float) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}
```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C : MutableCollection<in R>> DoubleArray.mapIndexedTo(destination: C, transform: (index: Int, Double)
-> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++,
item))
    return destination
}
```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C : MutableCollection<in R>> BooleanArray.mapIndexedTo(destination: C, transform:
(index: Int, Boolean) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++,
item))
    return destination
}
```

Applies the given [transform] function to each element and its index in the original array and appends the results to the given [destination].

@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```
public inline fun <R, C : MutableCollection<in
R>> CharArray.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}
```

Returns a list containing only the non-null results of applying the given [transform] function to each element in the original array.

@sample samples.collections.Collections.Transformations.mapNotNull

```
public inline fun <T, R : Any> Array<out T>.mapNotNull(transform: (T) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(),
transform)
}
```

Applies the given [transform] function to each element in the original array and appends only the non-null results to the given [destination].

```
public inline fun <T, R : Any, C :
MutableCollection<in R>> Array<out T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
    forEach {
        element -> transform(element)?.let { destination.add(it) }
    }
    return destination
}
```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```
public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapTo(destination: C,
transform: (T) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}
```

Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

```
public inline fun <R, C : MutableCollection<in R>>
```

```

ByteArray.mapTo(destination: C, transform: (Byte) -> R): C { \n  for (item in this)\n
destination.add(transform(item))\n  return destination\n}\n\n/**\n * Applies the given [transform] function to each
element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> ShortArray.mapTo(destination: C, transform: (Short) -> R): C { \n  for (item in this)\n
destination.add(transform(item))\n
return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n *
and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
IntArray.mapTo(destination: C, transform: (Int) -> R): C { \n  for (item in this)\n
destination.add(transform(item))\n  return destination\n}\n\n/**\n * Applies the given [transform] function to each
element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> LongArray.mapTo(destination: C, transform: (Long) -> R): C { \n  for (item in this)\n
destination.add(transform(item))\n  return destination\n}\n\n/**\n * Applies the given [transform] function to
each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R,
C : MutableCollection<in R>> FloatArray.mapTo(destination: C, transform:
(Float) -> R): C { \n  for (item in this)\n  destination.add(transform(item))\n  return destination\n}\n\n/**\n *
Applies the given [transform] function to each element of the original array\n * and appends the results to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.mapTo(destination: C,
transform: (Double) -> R): C { \n  for (item in this)\n  destination.add(transform(item))\n  return
destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and
appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
BooleanArray.mapTo(destination: C, transform: (Boolean) -> R): C { \n  for (item in this)\n
destination.add(transform(item))\n  return destination\n}\n\n/**\n * Applies the given [transform] function to each
element of the original array\n * and appends the results to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> CharArray.mapTo(destination: C, transform: (Char) -> R): C { \n  for (item
in this)\n  destination.add(transform(item))\n  return destination\n}\n\n/**\n * Returns a lazy [Iterable] that
wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n */\npublic fun <T> Array<out T>.withIndex(): Iterable<IndexedValue<T>> { \n  return
IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n
* into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun
ByteArray.withIndex(): Iterable<IndexedValue<Byte>> { \n  return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the
index of that element and the element itself.\n */\npublic fun ShortArray.withIndex():
Iterable<IndexedValue<Short>>
{ \n  return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the
original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic
fun IntArray.withIndex(): Iterable<IndexedValue<Int>> { \n  return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the
index of that element and the element itself.\n */\npublic fun LongArray.withIndex():
Iterable<IndexedValue<Long>> { \n  return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]
that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n */\npublic fun FloatArray.withIndex(): Iterable<IndexedValue<Float>> { \n  return
IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of
the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\n
public fun DoubleArray.withIndex(): Iterable<IndexedValue<Double>> { \n  return IndexingIterable {
iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an
[IndexedValue] containing the index of that element and the element itself.\n */\npublic fun
BooleanArray.withIndex(): Iterable<IndexedValue<Boolean>> { \n  return IndexingIterable { iterator()
}\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue]

```

containing the index of that element and the element itself.\n *^npublic fun CharArray.withIndex():
Iterable<IndexedValue<Char>> {\n return IndexingIterable { iterator() }\n}\n/n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * Among equal elements of the given array, only the first one will
be present in the resulting list.\n

* The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun <T> Array<out
T>.distinct(): List<T> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list containing only distinct
elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the
source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic
fun ByteArray.distinct(): List<Byte> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun ShortArray.distinct():
List<Short> {\n return this.toMutableSet().toList()\n}\n/n/**\n

* Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are
in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun IntArray.distinct():
List<Int> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list containing only distinct elements from
the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n *
\n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun
LongArray.distinct(): List<Long> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n

*^npublic fun FloatArray.distinct(): List<Float> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a
list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun DoubleArray.distinct():
List<Double> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list containing only distinct elements
from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun
BooleanArray.distinct(): List<Boolean> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list
containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order
as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic fun CharArray.distinct():
List<Char> {\n return this.toMutableSet().toList()\n}\n/n/**\n * Returns a list containing only elements from the
given array\n * having distinct keys returned by the given [selector] function.\n * \n * Among elements of the given
array with equal keys, only the first one will be present in the resulting list.\n * \n * The elements in the resulting list are
in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic inline fun <T, K> Array<out
T>.distinctBy(selector: (T) -> K): List<T> {\n val set = HashSet<K>()\n val list = ArrayList<T>()\n for (e in
this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n/n/**\n *
Returns a list containing only elements from the given
array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list
are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n *^npublic inline fun <K>
ByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n val set = HashSet<K>()\n val list =

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ArrayList<Byte>()\n for (e in this) {\n     val key = selector(e)\n     if (set.add(key))\n         list.add(e)\n }\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> ShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n     val set = HashSet<K>()\n     val list = ArrayList<Short>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> IntArray.distinctBy(selector: (Int) -> K): List<Int> {\n     val set = HashSet<K>()\n     val list = ArrayList<Int>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n     val set = HashSet<K>()\n     val list = ArrayList<Long>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> FloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n     val set = HashSet<K>()\n     val list = ArrayList<Float>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> DoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n     val set = HashSet<K>()\n     val list = ArrayList<Double>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> BooleanArray.distinctBy(selector: (Boolean) -> K): List<Boolean> {\n     val set = HashSet<K>()\n     val list = ArrayList<Boolean>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> CharArray.distinctBy(selector: (Char) -> K): List<Char> {\n     val set = HashSet<K>()\n     val list = ArrayList<Char>()\n     for (e in this) {\n         val key = selector(e)\n         if (set.add(key))\n             list.add(e)\n     }\n     return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T> Array<out T>.intersect(other: Iterable<T>): Set<T> {\n     val set = this.toMutableSet()\n     set.retainAll(other)\n     return set\n}\n\n/**\n * Returns a set containing all elements that

```

are contained by both this array and the specified collection.

```

    * The returned set preserves the element iteration
    order of the original array.
    * To get a set containing all elements that are contained
    at least in one of these collections use [union].
    * public infix fun ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all elements that are
    contained by both this array and the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * To get
    a set containing all elements that are contained
    at least in one of these collections use [union].
    * public infix fun ShortArray.intersect(other: Iterable<Short>): Set<Short> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all elements that are
    contained by both this array and the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * To get a set containing all elements that are
    contained at least in one of these collections use
    [union].
    * public infix fun IntArray.intersect(other: Iterable<Int>): Set<Int> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all elements that are
    contained by both this array and the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * To get a set containing all elements that are
    contained
    at least in one of these collections use [union].
    * public infix fun LongArray.intersect(other: Iterable<Long>):
    Set<Long> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set
    containing all elements that are contained by both this array and the specified collection.
    * The returned set
    preserves the element iteration order of the original array.
    * To get a set containing all elements that are
    contained at least in one of these collections use [union].
    * public infix fun FloatArray.intersect(other:
    Iterable<Float>): Set<Float> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all elements that are
    contained by both this array and the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * To get a set containing all elements
    that are contained at least in one of these collections
    use [union].
    * public infix fun DoubleArray.intersect(other: Iterable<Double>): Set<Double> {
    val set =
    this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all elements that are
    contained by both this array and the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * To get a set containing all elements that are contained
    at least in one of these
    collections use [union].
    * public infix fun BooleanArray.intersect(other: Iterable<Boolean>): Set<Boolean> {
    val
    set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all
    elements that are contained by both this array and the specified collection.
    * The returned set preserves the
    element iteration order of the original array.
    * To get a set containing all elements that are contained
    at least in
    one of these collections use [union].
    * public infix
    fun CharArray.intersect(other: Iterable<Char>): Set<Char> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
    }
    * Returns a set containing all elements that are contained by this array
    and not contained by the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * public infix fun <T> Array<out T>.subtract(other: Iterable<T>): Set<T> {
    val set =
    this.toMutableSet()
    set.removeAll(other)
    return set
    }
    * Returns a set containing all elements that
    are contained by this array and not contained by the specified collection.
    * The returned set preserves the
    element iteration order of the original array.
    * public infix fun ByteArray.subtract(other: Iterable<Byte>):
    Set<Byte> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
    }
    * Returns a set
    containing all elements that are contained by this array and not contained by the
    specified collection.
    * The returned set preserves the element iteration order of the original array.
    * public
    infix fun ShortArray.subtract(other: Iterable<Short>): Set<Short> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
    }
    * Returns a set containing all elements that are contained by this
    array and not contained by the specified collection.
    * The returned set preserves the element iteration
    order of the original array.
    * public infix fun IntArray.subtract(other: Iterable<Int>): Set<Int> {
    val set =
    this.toMutableSet()
    set.removeAll(other)
    return set
    }
    * Returns a set containing all elements that
  
```

are contained by this array and not contained by the specified collection.

```

 * \n * The returned set preserves the
element iteration order of the original array.
 */
public infix fun LongArray.subtract(other: Iterable<Long>):
Set<Long> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

```

 * \n * The returned set preserves the element iteration order of the original array.
 */
public infix fun FloatArray.subtract(other: Iterable<Float>): Set<Float> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

```

 * \n * The returned set preserves the element iteration order of
the original array.
 */
public infix fun DoubleArray.subtract(other: Iterable<Double>): Set<Double> {
    val set =
this.toMutableSet()
    set.removeAll(other)
    return set
}

```

* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

```

 * \n * The returned set preserves the
element iteration order of the original array.
 */
public
infix fun BooleanArray.subtract(other: Iterable<Boolean>): Set<Boolean> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

```

 * \n * The returned set preserves the element iteration order of
the original array.
 */
public infix fun CharArray.subtract(other: Iterable<Char>): Set<Char> {
    val set =
this.toMutableSet()
    set.removeAll(other)
    return set
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of the original
array.
 */
public fun <T> Array<out T>.toMutableSet(): MutableSet<T> {
    return
toCollection(LinkedHashSet<T>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of
the original array.
 */
public fun ByteArray.toMutableSet(): MutableSet<Byte> {
    return
toCollection(LinkedHashSet<Byte>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of the original
array.
 */
public fun ShortArray.toMutableSet(): MutableSet<Short> {
    return
toCollection(LinkedHashSet<Short>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of the original
array.
 */
public fun IntArray.toMutableSet(): MutableSet<Int> {
    return
toCollection(LinkedHashSet<Int>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of the original
array.
 */
public fun LongArray.toMutableSet(): MutableSet<Long>
{
    return toCollection(LinkedHashSet<Long>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order
of the original array.
 */
public fun FloatArray.toMutableSet(): MutableSet<Float> {
    return
toCollection(LinkedHashSet<Float>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of the original
array.
 */
public fun DoubleArray.toMutableSet(): MutableSet<Double> {
    return
toCollection(LinkedHashSet<Double>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set preserves the element iteration order of the
original array.
 */
public fun BooleanArray.toMutableSet(): MutableSet<Boolean> {
    return
toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))
}

```

* Returns a new [MutableSet] containing all distinct elements from the given array.

```

 * \n * The returned set
preserves the element iteration order of the original array.
 */
public fun CharArray.toMutableSet():
MutableSet<Char> {
    return
toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))
}

```

* Returns a set containing all distinct elements from both collections.

```

 * \n * The returned set preserves the element iteration order of the
original array.
 * Those elements of the [other] collection that are unique are iterated in the end
 * in the order of the [other] collection.
 * \n * To get a set containing all elements that are contained in both collections use

```

```

[intersect].\n *\npublic infix fun <T> Array<out T>.union(other: Iterable<T>): Set<T> {\n    val set =
this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The
returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection
that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all
elements that are contained in both collections use [intersect].\n *\npublic infix fun ByteArray.union(other:
Iterable<Byte>): Set<Byte> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n *
Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element
iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the
end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both
collections use [intersect].\n *\npublic infix fun ShortArray.union(other: Iterable<Short>): Set<Short> {\n    val set
= this.toMutableSet()\n    set.addAll(other)\n
return set}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned
set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are
unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements
that are contained in both collections use [intersect].\n *\npublic infix fun IntArray.union(other: Iterable<Int>):
Set<Int> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n * Returns a set
containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order
of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the
order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use
[intersect].\n *\npublic infix fun LongArray.union(other:
Iterable<Long>): Set<Long> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n *
Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element
iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the
end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both
collections use [intersect].\n *\npublic infix fun FloatArray.union(other: Iterable<Float>): Set<Float> {\n    val set
= this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n *
\n * To get a set containing all
elements that are contained in both collections use [intersect].\n *\npublic infix fun DoubleArray.union(other:
Iterable<Double>): Set<Double> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n *
Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element
iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the
end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both
collections use [intersect].\n *\npublic infix fun BooleanArray.union(other: Iterable<Boolean>): Set<Boolean> {\n
val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n * Returns a set containing all distinct
elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n
\n * Those elements of the [other] collection that
are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all
elements that are contained in both collections use [intersect].\n *\npublic infix fun CharArray.union(other:
Iterable<Char>): Set<Char> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun <T> Array<out T>.all(predicate: (T) ->
Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun ByteArray.all(predicate: (Byte) -> Boolean):
Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true}\n\n/**\n * Returns `true` if

```


all elements match the given [predicate].\n

```
* \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun ShortArray.all(predicate:  
(Short) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun IntArray.all(predicate: (Int) -> Boolean):  
Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if  
all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun LongArray.all(predicate: (Long) -> Boolean): Boolean {\n  for (element in this) if  
(!predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if all elements match the given  
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun  
FloatArray.all(predicate:  
(Float) -> Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return  
true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun DoubleArray.all(predicate: (Double) ->  
Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n *  
Returns `true` if all elements match the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun BooleanArray.all(predicate: (Boolean) ->  
Boolean): Boolean {\n  for (element in this) if (!predicate(element)) return false\n  return true\n}\n\n/**\n *  
Returns `true` if all elements match the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun CharArray.all(predicate: (Char) -> Boolean):  
Boolean {\n  for (element in this) if (!predicate(element))  
return false\n  return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun <T> Array<out T>.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun ByteArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun ShortArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun IntArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun LongArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun FloatArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun DoubleArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun BooleanArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample  
samples.collections.Collections.Aggregates.any\n *^\npublic fun CharArray.any(): Boolean {\n  return  
!isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun <T> Array<out  
T>.any(predicate: (T) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return  
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ByteArray.any(predicate:  
(Byte) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return  
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample  
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ShortArray.any(predicate:  
(Short) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return
```

```

false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun IntArray.any(predicate: (Int) -
> Boolean):
Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if
at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun LongArray.any(predicate:
(Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun FloatArray.any(predicate:
(Float) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun DoubleArray.any(predicate:
(Double) -> Boolean): Boolean {\n for (element
in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element
matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*/\npublic inline fun BooleanArray.any(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if
(predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the
given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic
inline fun CharArray.any(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element))
return true\n return false\n}\n\n/**\n * Returns the number of elements in this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.count(): Int {\n return size\n}\n\n/**\n *
Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.count():
Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.count(): Int {\n return size\n}\n\n/**\n * Returns the
number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic
inline fun LongArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.count(): Int {\n return size\n}\n\n/**\n * Returns the
number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic
inline fun BooleanArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of
elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.count(): Int {\n return
size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T>
Array<out T>.count(predicate: (T) -> Boolean): Int {\n var count = 0\n for (element in this) if
(predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n */\npublic inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int {\n var count = 0\n for
(element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n */\npublic inline fun ShortArray.count(predicate: (Short) -> Boolean): Int {\n var
count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n */\npublic inline fun IntArray.count(predicate:
(Int) -> Boolean): Int {\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun
LongArray.count(predicate: (Long) -> Boolean): Int {\n var count = 0\n for (element in this) if
(predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n */\npublic inline fun FloatArray.count(predicate: (Float) -> Boolean): Int {\n var count = 0\n for
(element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n */\npublic inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int {\n

```

```

var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n */\npublic inline fun BooleanArray.count(predicate:
(Boolean) -> Boolean): Int {\n  var count = 0\n  for (element in this) if (predicate(element)) ++count\n  return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun
CharArray.count(predicate: (Char) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator
value and an element, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out
T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun
<R> ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun
<R> ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R
{\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes current accumulator
value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
IntArray.fold(initial: R, operation: (acc: R, Int) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes current accumulator
value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n */\npublic inline fun <R> DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R): R {\n  var
accumulator = initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the
next accumulator value.\n */\npublic inline fun <R> BooleanArray.fold(initial: R, operation: (acc: R, Boolean) ->
R): R {\n  var accumulator = initial\n  for (element in this) accumulator = operation(accumulator,

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element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and
an element, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.fold(initial: R,
operation: (acc: R, Char) -> R): R {\n  var accumulator = initial\n  for (element in this) accumulator =
operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from left to right\n * to current accumulator value and each element with its index in
the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldIndexed(initial:
R, operation: (index: Int, acc: R, T) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in
this) accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and
each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n
* \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldIndexed(initial:
R, operation: (index: Int, acc: R, Byte) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in
this) accumulator = operation(index++, accumulator, element)\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from
left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns
the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*/\npublic inline fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R {\n  var
index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator,
element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n
* \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldIndexed(initial: R,
operation: (index: Int, acc: R, Int) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in this)
accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldIndexed(initial: R,
operation: (index: Int, acc: R, Long) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*/\npublic inline fun <R> FloatArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): R {\n  var
index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator,
element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldIndexed(initial: R, operation: (index: Int, acc:

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R, Double) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator =
operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and
calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldIndexed(initial:
R, operation: (index: Int, acc: R, Boolean) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for
(element in this) accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and
the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element
and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out
T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRight(initial: R,
operation: (Byte, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0)
{\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left\n * to each element and current
accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\n
public inline fun <R> ShortArray.foldRight(initial: R, operation: (Short, acc: R) -> R): R {\n  var index =
lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--),
accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function that takes an
element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
IntArray.foldRight(initial: R, operation: (Int, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator =
initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> LongArray.foldRight(initial: R, operation: (Long, acc: R) -> R):
R {\n  var index = lastIndex\n  var accumulator = initial\n  while
(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <R> FloatArray.foldRight(initial: R, operation: (Float, acc: R) -> R): R {\n  var index
= lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--),
}

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accumulator)\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function
that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline
fun <R> DoubleArray.foldRight(initial: R, operation: (Double, acc: R) -> R): R {\n    var index = lastIndex\n    var
accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldRight(initial: R, operation: (Boolean, acc: R)
-> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator =
operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> CharArray.foldRight(initial: R, operation: (Char, acc: R) -> R):
R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator =
operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, the element itself\n
* and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R>
Array<out T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {\n    var index = lastIndex\n
var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n
        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
* \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <R> ByteArray.foldRightIndexed(initial: R, operation: (index: Int, Byte, acc: R) -> R):
R {\n    var index = lastIndex\n    var accumulator = initial\n
    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\n
public inline fun <R> ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {\n
    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index,
get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n
* to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified
[initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the
element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
<R> IntArray.foldRightIndexed(initial: R, operation: (index: Int, Int, acc: R) -> R): R {\n    var index = lastIndex\n
var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n
        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
* \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, the element itself\n * and

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current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.foldRightIndexed(initial: R, operation: (index: Int, Long, acc: R) -> R): R {\n  var index = lastIndex\n
var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n
--index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
*\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) ->
R): R {\n  var index = lastIndex\n  var accumulator = initial\n
while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n *\n * Returns the
specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\npublic inline fun <R> DoubleArray.foldRightIndexed(initial: R, operation: (index: Int, Double, acc: R) -> R): R
{\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator =
operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left\n * to each
element with its index in the original array and current accumulator value.\n *\n * Returns the specified [initial]
value if the array is empty.\n *\n * @param [operation] function that takes the index of an element, the element
itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {\n  var index =
lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index),
accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]
value and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation]
function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharArray.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n  var index = lastIndex\n
var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n
--index\n  }\n  return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic
inline fun <T> Array<out T>.forEach(action: (T) -> Unit): Unit {\n  for (element in this)
action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun
ByteArray.forEach(action: (Byte) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun ShortArray.forEach(action: (Short) -> Unit): Unit {\n
for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline
fun
IntArray.forEach(action: (Int) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs the
given [action] on each element.\n */\npublic inline fun LongArray.forEach(action: (Long) -> Unit): Unit {\n  for
(element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun
FloatArray.forEach(action: (Float) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs
the given [action] on each element.\n */\npublic inline fun DoubleArray.forEach(action: (Double) -> Unit): Unit {\n
for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline
fun BooleanArray.forEach(action: (Boolean) -> Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element.\n */\npublic inline fun CharArray.forEach(action: (Char) -> Unit):
Unit {\n  for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each element, providing sequential index with the element.\n * @param [action]
function that takes the index of an element and the element itself\n * and performs the action on the element.\n

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*public inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun ByteArray.forEachIndexed(action: (index: Int, Byte) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun IntArray.forEachIndexed(action: (index: Int, Int) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun FloatArray.forEachIndexed(action: (index: Int, Float) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun BooleanArray.forEachIndexed(action: (index: Int, Boolean) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
*public inline fun CharArray.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
* Returns the largest element.
* If any of elements is `NaN` returns `NaN`.
* @throws NoSuchElementException if the array is empty.
*SinceKotlin("1.7")@kotlin.jvm.JvmName("maxOrNull")@Suppress("CONFLICTING_OVERLOADS")
public fun Array<out Double>.max(): Double {
    if (isEmpty()) throw NoSuchElementException()
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        max = maxOf(max, e)
    }
    return max
}
* Returns the largest element.
* If any of elements is `NaN` returns `NaN`.
* @throws NoSuchElementException if the array is empty.
*SinceKotlin("1.7")@kotlin.jvm.JvmName("maxOrNull")@Suppress("CONFLICTING_OVERLOADS")
public fun Array<out Float>.max(): Float {
    if (isEmpty()) throw NoSuchElementException()
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        max = maxOf(max, e)
    }
    return max
}
* Returns the largest element.
* @throws NoSuchElementException if the array is empty.
*SinceKotlin("1.7")@kotlin.jvm.JvmName("maxOrNull")@Suppress("CONFLICTING_OVERLOADS")
public fun <T : Comparable<T>> Array<out T>.max(): T {
    if (isEmpty()) throw NoSuchElementException()
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (max < e)
            max = e
    }
    return max
}
* Returns the largest element.
* @throws NoSuchElementException if the array is empty.
*SinceKotlin("1.7")@kotlin.jvm.JvmName("maxOrNull")@Suppress("CONFLICTING_OVERLOADS")
public fun ByteArray.max(): Byte {
    if (isEmpty()) throw NoSuchElementException()
    var max =

```



```

this[0]\n for (i in 1..lastIndex) {\n     val e = this[i]\n     if (max < e) max = e\n } \n return max\n}\n\n**\n * Returns the largest element.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun ShortArray.max(): Short {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n**\n * Returns the largest element.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun IntArray.max(): Int {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n**\n * Returns the largest element.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun LongArray.max(): Long {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n**\n * Returns the largest element.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun FloatArray.max(): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n**\n * Returns the largest element.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun DoubleArray.max(): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n**\n * Returns the largest element.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharArray.max(): Char {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <T, R : Comparable<R>> Array<out T>.maxBy(selector: (T) -> R): T {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <R : Comparable<R>> ByteArray.maxBy(selector: (Byte) -> R): Byte {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")

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OADS\")\npublic
inline fun <R : Comparable<R>> ShortArray.maxBy(selector: (Short) -> R): Short {\n if (isEmpty()) throw
NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0)
return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v
= selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws
NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS\")\npublic inline fun <R : Comparable<R>> IntArray.maxBy(selector: (Int) -> R): Int {\n if (isEmpty())
throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n
if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e
= this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n
}\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS\")\npublic inline fun <R : Comparable<R>> LongArray.maxBy(selector: (Long) -> R): Long {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v)
{\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function.\n * \n * @throws NoSuchElementException if the array is
empty.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS\")\npublic inline fun <R : Comparable<R>> FloatArray.maxBy(selector: (Float) -> R): Float {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v) {\n
maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n *
@throws
NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS\")\npublic inline fun <R : Comparable<R>> DoubleArray.maxBy(selector: (Double) -> R): Double {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v) {\n
maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS\")\npublic
inline fun <R : Comparable<R>> BooleanArray.maxBy(selector: (Boolean) -> R): Boolean {\n if (isEmpty())
throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex ==
0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val
v = selector(e)\n if (maxValue < v) {\n maxElem = e\n
maxValue = v\n }\n }\n return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws

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NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS")\npublic inline fun <R : Comparable<R>> CharArray.maxBy(selector: (Char) -> R): Char {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem
= this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v)
{\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Array<out T>.maxByOrNull(selector: (T) -> R): T? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v)
{\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> ByteArray.maxByOrNull(selector: (Byte) ->
R): Byte? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> ShortArray.maxByOrNull(selector:
(Short) -> R): Short? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n
if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> IntArray.maxByOrNull(selector: (Int) -> R):
Int? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex ==
0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val
v = selector(e)\n if
(maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> LongArray.maxByOrNull(selector: (Long) -> R): Long? {\n if (isEmpty()) return null\n
var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v)
{\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic
inline fun <R : Comparable<R>> FloatArray.maxByOrNull(selector: (Float) -> R): Float? {\n if (isEmpty())
return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n
var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if
(maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun
<R : Comparable<R>> DoubleArray.maxByOrNull(selector: (Double) -> R): Double? {\n if (isEmpty()) return

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null\n  var maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var
maxValue = selector(maxElem)\n  for
(i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first element yielding the largest
value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <R :
Comparable<R>> BooleanArray.maxByOrNull(selector: (Boolean) -> R): Boolean? {\n  if (isEmpty()) return
null\n  var maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return maxElem\n  var
maxValue = selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if
(maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n *
Returns the first element yielding the largest value of the given function or `null` if
there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> CharArray.maxByOrNull(selector: (Char) ->
R): Char? {\n  if (isEmpty()) return null\n  var maxElem = this[0]\n  val lastIndex = this.lastIndex\n  if
(lastIndex == 0) return maxElem\n  var maxValue = selector(maxElem)\n  for (i in 1..lastIndex) {\n    val e =
this[i]\n    val v = selector(e)\n    if (maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Array<out T>.maxOf(selector: (T) -> Double): Double {\n  if (isEmpty()) throw
NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) ->
Double): Double {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for
(i in 1..lastIndex) {\n    val v
= selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) ->
Double): Double {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for
(i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced
by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Double):
Double {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in
1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to

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each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun LongArray.maxOf(selector: (Long) -> Double): Double {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n
        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced
by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array
is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n
        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced
by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array
is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n
        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced
by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array
is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.maxOf(selector: (Char) -> Double): Double {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector: (T) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n
        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced
by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array
is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`,
the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.maxOf(selector: (Int) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue,
v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`,
the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector:
(Boolean) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n
    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned

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result is `NaN`.n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) -> Float):
Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n
return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxOf(selector: (T) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> ByteArray.maxOf(selector: (Byte) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n *
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.maxOf(selector: (Short) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue
< v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.maxOf(selector: (Int) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue <
v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
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inline fun <R : Comparable<R>> LongArray.maxOf(selector: (Long) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
FloatArray.maxOf(selector: (Float) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to

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each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.maxOf(selector: (Double) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue}\n\n/**\n * Returns the largest value among all values
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOf(selector: (Boolean) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOf(selector: (Char) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOfOrNull(selector:
(T) -> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOfOrNull(selector: (Byte) ->
Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n * Returns
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun ShortArray.maxOfOrNull(selector: (Short) -> Double): Double? {\n if (isEmpty()) return null\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n * Returns the largest value among all values produced
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOfOrNull(selector: (Int) ->
Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return

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maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOrNull(selector: (Long) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOrNull(selector: (Float) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOrNull(selector: (Double) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOrNull(selector: (Boolean) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOrNull(selector: (Char) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOrNull(selector: (T) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOrNull(selector: (Byte) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
```

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val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n } \n return maxValue\n}\n\n/**\n * Returns
the largest value
among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOfOrNull(selector: (Short) -
> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n } \n return maxValue\n}\n\n/**\n * Returns
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.maxOfOrNull(selector: (Int) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue
= selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue,
v)\n    } \n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector]
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOfOrNull(selector: (Long) -
> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n
        maxValue = maxOf(maxValue, v)\n    } \n return maxValue\n}\n\n/**\n * Returns the largest value among all
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOfOrNull(selector: (Float) -
> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n } \n return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
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`NaN`, the returned result is `NaN`.\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOfOrNull(selector:
(Double) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    } \n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOfOrNull(selector:
(Boolean) -> Float): Float? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n
maxValue = maxOf(maxValue, v)\n    } \n return maxValue\n}\n\n/**\n * Returns the largest value among all
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\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOfOrNull(selector: (Char) ->

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Float): Float? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nShortArray.maxOfOrNull(selector: (Short) -> R): R? {\n if (isEmpty()) return null\n var maxValue =\n selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue}\n\n/**\n * Returns the largest value among all values produced\n by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\ninline fun <R : Comparable<R>> IntArray.maxOfOrNull(selector: (Int) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v)\n {\n maxValue = v\n }\n }\n return maxValue}\n\n/**\n * Returns the largest value among all values\n produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOfOrNull(selector: (Boolean) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
        maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOfOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Array<out T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    if (comparator.compare(maxValue, v) < 0) {\n        maxValue = v\n        }\n    }\n
return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.maxOfWith(comparator:
Comparator<in R>, selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n
    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.maxOfWith(comparator:
Comparator<in R>, selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.maxOfWith(comparator:
Comparator<in R>, selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.maxOfWith(comparator: Comparator<in R>, selector: (Long) -> R): R {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    if (comparator.compare(maxValue, v) < 0) {\n        maxValue = v\n        }\n    }\n
return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all

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values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.maxOfWith(comparator:
Comparator<in R>, selector:
(Float) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxV = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n
maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.maxOfWith(comparator:
Comparator<in R>, selector: (Double) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.maxOfWith(comparator:
Comparator<in R>, selector: (Boolean) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.maxOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.maxOfWithOrNull(comparator:
Comparator<in R>, selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var maxV = selector(this[0])\n
for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n    if (isEmpty()) return
null\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided
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```

```
ShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n    if (isEmpty())\n        return null\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the array or `null` if there are no elements.\n */
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
```

```
inline fun <R> IntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n    if (isEmpty())\n        return null\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =\n            selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return\n        maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values\n * produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */
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```
LongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n    if (isEmpty())\n        return null\n\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the array or `null` if there are no elements.\n */
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
```

```
FloatArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n    if (isEmpty())\n        return null\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the\n * provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or\n * `null` if there are no elements.\n */
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
```

```
DoubleArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n    if (isEmpty())\n        return null\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each element in the array or `null` if there are no elements.\n */
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
```

```
inline fun <R> BooleanArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n    if (isEmpty())\n        return null\n    var maxV = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =\n            selector(this[i])\n        if (comparator.compare(maxV, v) < 0) {\n            maxV = v\n        }\n    }\n    return\n        maxV\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values\n * produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */
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```

```
CharArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n    if (isEmpty())\n        return
```

```

null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n      val v = selector(this[i])\n      if (comparator.compare(maxValue, v) < 0) {\n          maxValue = v\n      }\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic fun Array<out Double>.maxOrNull(): Double? {\n  if
(isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      max =
maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n *
\n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic fun Array<out
Float>.maxOrNull(): Float? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n      max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null`
if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>>
Array<out T>.maxOrNull(): T? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n      if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null`
if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.maxOrNull(): Byte? {\n  if (isEmpty())
return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if (max < e) max = e\n
}\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun ShortArray.maxOrNull(): Short? {\n  if (isEmpty()) return null\n  var max
= this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun
IntArray.maxOrNull(): Int? {\n  if (isEmpty())\n  return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun LongArray.maxOrNull(): Long? {\n  if (isEmpty()) return null\n  var max
= this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic fun FloatArray.maxOrNull(): Float? {\n  if (isEmpty()) return null\n  var max
= this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      max = maxOf(max, e)\n  }\n  return
max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN`
returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic fun DoubleArray.maxOrNull():
Double? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n
max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element or `null` if there are no
elements.\n */\n@SinceKotlin("1.4")\npublic fun CharArray.maxOrNull(): Char? {\n  if (isEmpty()) return null\n
var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if (max < e) max = e\n  }\n  return
max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator].\n * \n *
@throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVER
LOADS")\npublic fun <T> Array<out T>.maxWith(comparator: Comparator<in T>): T {\n  if (isEmpty()) throw
NoSuchElementException()\n  var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if
(comparator.compare(max,\n  e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the largest value according to
the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVER
LOADS")\npublic fun ByteArray.maxWith(comparator: Comparator<in Byte>): Byte {\n  if (isEmpty()) throw
NoSuchElementException()\n  var max = this[0]\n  for (i in 1..lastIndex) {\n      val e = this[i]\n      if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is
empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVER
LOADS")\npublic fun ShortArray.maxWith(comparator: Comparator<in Short>): Short {\n  if (isEmpty()) throw

```

```

NoSuchElementException()\n
    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided\n * [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun IntArray.maxWith(comparator: Comparator<in Int>): Int {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if\n        (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the\n * largest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is\n * empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun\n    LongArray.maxWith(comparator: Comparator<in Long>): Long {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if\n        (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the\n * largest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is\n * empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun FloatArray.maxWith(comparator: Comparator<in Float>): Float {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if\n        (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the\n * largest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is\n * empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic\n    fun DoubleArray.maxWith(comparator: Comparator<in Double>): Double {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if\n        (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the\n * largest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is\n * empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun BooleanArray.maxWith(comparator: Comparator<in Boolean>): Boolean {\n    if\n    (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e =\n        this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first\n * element having the largest value\n * according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharArray.maxWith(comparator: Comparator<in Char>): Char {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if\n        (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the\n * largest value according to the provided [comparator] or `null` if there are no elements.\n */\n\n@SinceKotlin("1.4")\npublic fun <T> Array<out T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if\n        (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the\n * largest value according\n * to the provided [comparator] or `null` if there are no elements.\n */\n\n@SinceKotlin("1.4")\npublic fun\n    ByteArray.maxWithOrNull(comparator: Comparator<in Byte>): Byte? {\n    if (isEmpty()) return null\n    var max =\n    this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n}

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return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun ShortArray.maxWithOrNull(comparator: Comparator<in Short>): Short? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun IntArray.maxWithOrNull(comparator: Comparator<in Int>): Int? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun LongArray.maxWithOrNull(comparator: Comparator<in Long>): Long? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun FloatArray.maxWithOrNull(comparator: Comparator<in Float>): Float? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun DoubleArray.maxWithOrNull(comparator: Comparator<in Double>): Double? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun BooleanArray.maxWithOrNull(comparator: Comparator<in Boolean>): Boolean? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun CharArray.maxWithOrNull(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the smallest element.\n * \n\n * If any of elements is `NaN` returns `NaN`.\n * \n\n * @throws NoSuchElementException if the array is empty.\n * \n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun Array<out Double>.min(): Double {\n if (isEmpty()) throw NoSuchElementException()\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min, e)\n }\n return min\n}\n\n/**\n * Returns the smallest element.\n * \n\n * If any of elements is `NaN` returns `NaN`.\n * \n\n * @throws NoSuchElementException if the array is empty.\n * \n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun Array<out Float>.min(): Float {\n if (isEmpty()) throw NoSuchElementException()\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min, e)\n }\n return min\n}\n\n/**\n * Returns the smallest element.\n * \n\n * @throws NoSuchElementException if the array is empty.\n * \n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun <T : Comparable<T>> Array<out T>.min(): T {\n if (isEmpty()) throw NoSuchElementException()\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element.\n * \n\n * @throws NoSuchElementException if the array is empty.\n * \n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun ByteArray.min(): Byte {\n if (isEmpty()) throw NoSuchElementException()\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element.\n * \n\n * @throws NoSuchElementException if the array is empty.\n * \n\n

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*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun ShortArray.min(): Short {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun IntArray.min(): Int {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun LongArray.min(): Long {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun FloatArray.min(): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun DoubleArray.min(): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharArray.min(): Char {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <T, R : Comparable<R>> Array<out T>.minBy(selector: (T) -> R): T {\n    if (isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <R : Comparable<R>> ByteArray.minBy(selector: (Byte) -> R): Byte {\n    if (isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <R : Comparable<R>> ShortArray.minBy(selector: (Short) -> R): Short {\n    if (isEmpty()) throw NoSuchElementException()\n}

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    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue
= selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue >
v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the array is
empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLO
ADS")\npublic inline fun <R : Comparable<R>> IntArray.minBy(selector: (Int) -> R): Int {\n    if (isEmpty())
throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex ==
0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n
        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given
function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
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*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLO
ADS")\npublic inline fun <R : Comparable<R>> LongArray.minBy(selector: (Long) -> R): Long {\n    if
(isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n
        }\n    }\n    return minElem\n}\n\n/**\n * Returns the
first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the
array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLO
ADS")\npublic inline fun <R : Comparable<R>> FloatArray.minBy(selector: (Float) -> R): Float {\n    if
(isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n
        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given
function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n
*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLO
ADS")\npublic inline fun <R : Comparable<R>> DoubleArray.minBy(selector: (Double) -> R): Double {\n    if
(isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n
        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given
function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
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*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLO
ADS")\npublic inline fun <R : Comparable<R>> BooleanArray.minBy(selector: (Boolean) ->
R): Boolean {\n    if (isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex =
this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n           
minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
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*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLO
ADS")\npublic inline fun <R : Comparable<R>> CharArray.minBy(selector: (Char) -> R): Char {\n    if
(isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if

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(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n
    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem
= e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the
smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Array<out T>.minByOrNull(selector: (T) -> R): T? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function
or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> ByteArray.minByOrNull(selector: (Byte) ->
R): Byte? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> ShortArray.minByOrNull(selector: (Short) ->
R): Short? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex
= this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n
minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value
of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> IntArray.minByOrNull(selector: (Int) -> R): Int? {\n    if (isEmpty()) return null\n    var minElem
= this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> LongArray.minByOrNull(selector: (Long) -> R): Long? {\n    if (isEmpty()) return
null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var
minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if
(minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> FloatArray.minByOrNull(selector: (Float) ->
R): Float? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> DoubleArray.minByOrNull(selector: (Double)
-> R): Double? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample

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samples.collections.Collections.Aggregates.minByOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> BooleanArray.minByOrNull(selector: (Boolean) -> R): Boolean? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n*\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n *\n *\n@sample samples.collections.Collections.Aggregates.minByOrNull\n *\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> CharArray.minByOrNull(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n*\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOf(selector: (T) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n*\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOf(selector: (Byte) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n*\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n*\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n*\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOf(selector: (Long) -> Double): Double

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    { \n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) { \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return
minValue\} \n\n/** \n * Returns the smallest value among all values produced by [selector] function \n * applied to
each element in the array. \n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`. \n * \n * @throws NoSuchElementException if the array is empty. \n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) ->
Double): Double { \n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for
(i in 1..lastIndex) { \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return
minValue\} \n\n/** \n * Returns the smallest
value among all values produced by [selector] function \n * applied to each element in the array. \n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`. \n * \n * @throws
NoSuchElementException if the array is empty. \n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOf(selector: (Double) ->
Double): Double { \n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for
(i in 1..lastIndex) { \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return
minValue\} \n\n/** \n * Returns the smallest value among all values produced by [selector] function \n * applied to
each element in the array. \n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`. \n * \n * @throws NoSuchElementException if the array
is empty. \n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOf(selector: (Boolean) ->
Double): Double { \n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for
(i in 1..lastIndex) { \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return
minValue\} \n\n/** \n * Returns the smallest value among all values produced by [selector] function \n * applied to
each element in the array. \n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`. \n * \n * @throws NoSuchElementException if the array is empty. \n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOf(selector: (Char) ->
Double): Double { \n
if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex)
{ \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return minValue\} \n\n/** \n * Returns the smallest
value among all values produced by [selector] function \n * applied to each element in the array. \n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`. \n * \n * @throws
NoSuchElementException if the array is empty. \n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOf(selector: (T) ->
Float): Float { \n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) { \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return
minValue\} \n\n/** \n * Returns the smallest
value among all values produced by [selector] function \n * applied to each element in the array. \n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`. \n * \n * @throws
NoSuchElementException if the array is empty. \n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOf(selector: (Byte) -> Float):
Float { \n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in
1..lastIndex) { \n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return

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minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Float): Float {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =\n    selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws\n    NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOf(selector: (Long) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws\n    NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws\n    NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic\n    inline fun DoubleArray.minOf(selector: (Double) -> Float): Float {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =\n    selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws\n    NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOf(selector: (Boolean) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =\n    minOf(minValue, v)\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws\n    NoSuchElementException if the array is empty.\n */

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOf(selector: (Char) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by
[selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array
is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.minOf(selector: (T) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ByteArray.minOf(selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.minOf(selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.minOf(selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> LongArray.minOf(selector: (Long) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
FloatArray.minOf(selector: (Float) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue

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= v\n    }\n    }\n    return minValue\n}\n\n**\n * Returns the smallest value among all values produced by
[selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array
is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.minOf(selector: (Double) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> BooleanArray.minOf(selector: (Boolean) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.minOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue
= selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOfOrNull(selector:
(T) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOfOrNull(selector: (Byte) ->
Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n**\n * Returns
the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOfOrNull(selector:
(Short) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOfOrNull(selector: (Int) ->

```

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Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOfOrNull(selector: (Long) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOfOrNull(selector: (Float) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOfOrNull(selector: (Double) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOfOrNull(selector: (Boolean) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOfOrNull(selector: (T) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOrNull(selector: (Byte) ->
Float): Float? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n     minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each
element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is
`NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOrNull(selector: (Short) -
> Float): Float? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n     minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.minOrNull(selector: (Int) -> Float): Float? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     minValue = minOf(minValue, v)\n
} \n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n *
applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOrNull(selector: (Long) -
> Float): Float? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n     minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the
array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOrNull(selector: (Float) ->
Float): Float? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n     minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.minOrNull(selector: (Double) -> Float): Float? {\n if (isEmpty()) return null\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     minValue =
minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOrNull(selector:
(Boolean) -> Float): Float? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n
for (i in 1..lastIndex) {\n     val v = selector(this[i])\n     minValue = minOf(minValue, v)\n } \n return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n

```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out T>.minOfOrNull(selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ByteArray.minOfOrNull(selector: (Byte) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ShortArray.minOfOrNull(selector: (Short) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> IntArray.minOfOrNull(selector: (Int) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> LongArray.minOfOrNull(selector: (Long) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> FloatArray.minOfOrNull(selector: (Float) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> DoubleArray.minOfOrNull(selector: (Double) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */
```

among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
BooleanArray.minOrNull(selector: (Boolean) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
```

minValue\n}\n}\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
```

```
CharArray.minOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n}\n * Returns the smallest value according to the provided
```

[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
```

```
inline fun <T, R> Array<out T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n}\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws
```

NoSuchElementException if the array is empty.\n

```
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```

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWith(comparator:
```

```
Comparator<in R>, selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n}\n * Returns the smallest value according to the provided
```

[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWith(comparator:
```

```
Comparator<in R>, selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n}\n * Returns the smallest value according
```

to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.minOfWith(comparator:
```

```
Comparator<in R>, selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue\n    = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue,\n        v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n}\n * Returns the smallest value\n    according to the provided [comparator]\n * among all values produced by [selector] function applied to each
```

element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n

```
*\n@SinceKotlin(\\"1.4\\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.minOfWith(comparator: Comparator<in R>, selector: (Long) -> R): R {\n  if
(isEmpty()) throw NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.minOfWith(comparator:
Comparator<in R>, selector: (Float) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.minOfWith(comparator:
Comparator<in R>, selector: (Double) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.minOfWith(comparator:
Comparator<in R>, selector: (Boolean) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException
if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.minOfWithOrNull(comparator: Comparator<in R>,
selector: (T) -> R): R? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex)
{\n    val v = selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n
}\n
return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among
all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n  if (isEmpty()) return

```

```

null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> IntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n  if
(isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if
there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> BooleanArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n  if
(isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue,
v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest element or
`null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*\n*\n@SinceKotlin("1.4")\npublic fun Array<out Double>.minOrNull(): Double? {\n  if (isEmpty()) return null\n
var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min, e)\n  }\n  return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n *\n*\n@SinceKotlin("1.4")\npublic fun Array<out Float>.minOrNull(): Float? {\n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min = minOf(min,
e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n*\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Array<out T>.minOrNull():
T? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n *\n*\n@SinceKotlin("1.4")\npublic fun ByteArray.minOrNull(): Byte? {\n  if (isEmpty()) return null\n
var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n*\n@SinceKotlin("1.4")\npublic fun ShortArray.minOrNull(): Short? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n *\n*\n@SinceKotlin("1.4")\npublic fun
IntArray.minOrNull(): Int? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n *\n*\n@SinceKotlin("1.4")\npublic fun
LongArray.minOrNull(): Long? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if
there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n*\n@SinceKotlin("1.4")\npublic fun
FloatArray.minOrNull(): Float? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    min = minOf(min, e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null`
if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n*\n@SinceKotlin("1.4")\npublic fun
DoubleArray.minOrNull(): Double?
{\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    min =
minOf(min, e)\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n*\n@SinceKotlin("1.4")\npublic fun CharArray.minOrNull(): Char? {\n  if (isEmpty()) return null\n  var min =
this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n *
Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVER
LOADS")\npublic fun <T> Array<out T>.minWith(comparator: Comparator<in T>): T {\n  if (isEmpty()) throw
NoSuchElementException()\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(min, e)
> 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the smallest value according to the
provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVER
LOADS")\npublic fun ByteArray.minWith(comparator: Comparator<in Byte>): Byte {\n  if (isEmpty()) throw
NoSuchElementException()\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is

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empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun ShortArray.minWith(comparator: Comparator<in Short>): Short {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun IntArray.minWith(comparator: Comparator<in Int>): Int {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun LongArray.minWith(comparator: Comparator<in Long>): Long {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun FloatArray.minWith(comparator: Comparator<in Float>): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun DoubleArray.minWith(comparator: Comparator<in Double>): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun BooleanArray.minWith(comparator: Comparator<in Boolean>): Boolean {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n */\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharArray.minWith(comparator: Comparator<in Char>): Char {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n*\n@SinceKotlin("1.4")\npublic fun <T> Array<out T>.minOrNull(comparator: Comparator<in T>): T? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided

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[comparator] or `null` if there are no elements.\n *\n@SinceKotlin("1.4")\npublic fun
ByteArray.minWithOrNull(comparator: Comparator<in Byte>): Byte? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n *\n@SinceKotlin("1.4")\npublic fun ShortArray.minWithOrNull(comparator:
Comparator<in Short>): Short? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun IntArray.minWithOrNull(comparator:
Comparator<in Int>): Int? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val
e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun LongArray.minWithOrNull(comparator: Comparator<in Long>): Long? {\n
if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun FloatArray.minWithOrNull(comparator: Comparator<in Float>): Float? {\n
if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e
= this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun DoubleArray.minWithOrNull(comparator: Comparator<in Double>):
Double? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n
if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun BooleanArray.minWithOrNull(comparator: Comparator<in Boolean>):
Boolean? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n
if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.minWithOrNull(comparator: Comparator<in Char>): Char? {\n
if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns `true` if the array has no
elements.\n *\n * @sample samples.collections.Collections.Aggregates.none\n *\npublic fun <T> Array<out
T>.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n *\n *
@sample samples.collections.Collections.Aggregates.none\n *\npublic fun ByteArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n *\n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun ShortArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns
`true` if the array has no elements.\n *\n * @sample samples.collections.Collections.Aggregates.none\n *\npublic
fun IntArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n *\n
* @sample samples.collections.Collections.Aggregates.none\n *\npublic fun LongArray.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n *\n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun FloatArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n *\n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun DoubleArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n *\n * @sample
samples.collections.Collections.Aggregates.none\n *\npublic fun BooleanArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n

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 * \n * @sample samples.collections.Collections.Aggregates.none\n * \npublic fun CharArray.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun <T> Array<out
T>.none(predicate: (T) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun ByteArray.none(predicate:
(Byte) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun ShortArray.none(predicate:
(Short) -> Boolean): Boolean {\n
  for (element in this) if (predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if no elements
match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\npublic inline fun IntArray.none(predicate: (Int) -> Boolean): Boolean {\n  for (element in this) if
(predicate(element)) return false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n *\npublic inline fun
LongArray.none(predicate: (Long) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun FloatArray.none(predicate:
(Float) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n
  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun DoubleArray.none(predicate:
(Double) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun
BooleanArray.none(predicate: (Boolean) -> Boolean): Boolean {\n  for (element in this) if (predicate(element))
return false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \npublic inline fun CharArray.none(predicate:
(Char) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return
true\n}\n\n/**\n * Performs the given [action]
on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.onEach(action: (T) ->
Unit): Array<out T> {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.onEach(action: (Byte) ->
Unit): ByteArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEach(action: (Short) ->
Unit): ShortArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.onEach(action: (Int) -> Unit): IntArray {\n  return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEach(action: (Long) ->
Unit): LongArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.onEach(action: (Float) ->
Unit): FloatArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.onEach(action: (Double) ->
Unit): DoubleArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.onEach(action: (Boolean)
-> Unit): BooleanArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.onEach(action: (Char) ->
Unit): CharArray {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on
the element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out
T>.onEachIndexed(action: (index: Int, T) -> Unit):
Array<out T> {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each
element, providing sequential index with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on the
element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.onEachIndexed(action: (index: Int, Byte) -> Unit): ByteArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on the
element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEachIndexed(action:
(index: Int, Short) -> Unit): ShortArray {\n    return apply { forEachIndexed(action)
}\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n *
and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element
itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.onEachIndexed(action: (index: Int, Int) -> Unit): IntArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on the
element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEachIndexed(action:
(index: Int, Long) -> Unit): LongArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the
given [action]
on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on
the element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.onEachIndexed(action: (index: Int, Float) -> Unit): FloatArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on the
element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.onEachIndexed(action:
(index: Int, Double) -> Unit): DoubleArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs
the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on the
element.\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.onEachIndexed(action:
(index: Int, Boolean) -> Unit): BooleanArray {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs
the given [action] on each element, providing sequential index with the element,\n * and returns the array itself
afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs

```

the action on the element.\n *\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline fun
CharArray.onEachIndexed(action: (index: Int, Char) -> Unit): CharArray {\n return apply {\n
forEachIndexed(action) }\n }\n }\n\n**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator
value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\n public inline fun <S, T : S>
Array<out T>.reduce(operation: (acc: S, T) -> S): S {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = this[0]\n for (index
in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n }\n }\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can
be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\n public inline fun
ByteArray.reduce(operation: (acc: Byte, Byte) -> Byte): Byte {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n }\n }\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\n public inline fun
ShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n }\n }\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element,\n * and calculates
the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\n public
inline fun IntArray.reduce(operation: (acc: Int, Int) -> Int): Int {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n }\n }\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\n public
inline fun LongArray.reduce(operation: (acc: Long, Long) -> Long): Long {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n }\n }\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n *\n public inline fun

```

FloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {
    if (isEmpty())
        throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.

@sample samples.collections.Collections.Aggregates.reduce

```

public inline fun
DoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {
    if (isEmpty())
        throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return
    accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.

@sample samples.collections.Collections.Aggregates.reduce

```

public inline fun
BooleanArray.reduce(operation: (acc: Boolean, Boolean) -> Boolean): Boolean {
    if (isEmpty())
        throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.

@sample samples.collections.Collections.Aggregates.reduce

```

public inline fun
CharArray.reduce(operation: (acc: Char, Char) -> Char): Char {
    if (isEmpty())
        throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of an element, current accumulator value and the element itself and calculates the next accumulator value.

@sample samples.collections.Collections.Aggregates.reduce

```

public inline fun <S,
T : S> Array<out T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {
    if (isEmpty())
        throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator: S = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of an element, current accumulator value and the element itself and calculates the next accumulator value.

@sample samples.collections.Collections.Aggregates.reduce

```

public inline fun
ByteArray.reduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte {
    if (isEmpty())
        throw
        UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Throws an exception if this array is empty. If the array can be empty in an expected way, please use

[reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.

```

    @param [operation] function
    that takes the index of an element, current accumulator value and the element itself,
    and calculates the next accumulator value.
    @sample samples.collections.Collections.Aggregates.reduce
    \n\npublic inline fun
    ShortArray.reduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): Short {
    if (isEmpty())
    throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in
    1..lastIndex) {
    accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
    }
    \n\n/**
    * Accumulates value starting with the first element and applying [operation] from
    left to right
    * to current accumulator value and each element with its index in the original array.
    * Throws
    an exception if this array is empty. If the array can be empty in an expected way,
    please use
    [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.
    @param [operation] function
    that takes the index of an element, current accumulator value and the element itself,
    and calculates the next accumulator value.
    @sample samples.collections.Collections.Aggregates.reduce
    \n\npublic inline fun
    IntArray.reduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): Int {
    if (isEmpty())
    throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in
    1..lastIndex) {
    accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
    }
    \n\n/**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * Throws an
    exception if this array is empty. If the array can be empty in an expected way,
    please use
    [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.
    @param [operation] function
    that takes the index of an
    element, current accumulator value and the element itself,
    and calculates the next accumulator value.
    @sample samples.collections.Collections.Aggregates.reduce
    \n\npublic inline fun
    LongArray.reduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): Long {
    if (isEmpty())
    throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in
    1..lastIndex) {
    accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
    }
    \n\n/**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    *
    * to current accumulator value and each element with its index in the original array.
    * Throws an exception if
    this array is empty. If the array can be empty in an expected way,
    please use
    [reduceIndexedOrNull] instead. It
    returns `null` when its receiver is empty.
    @param [operation] function
    that takes the index of an element,
    current accumulator value and the element itself,
    and calculates the next accumulator value.
    @sample
    samples.collections.Collections.Aggregates.reduce
    \n\npublic inline fun
    FloatArray.reduceIndexed(operation:
    (index: Int, acc: Float, Float) -> Float): Float {
    if (isEmpty())
    throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in
    1..lastIndex) {
    accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
    }
    \n\n/**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    *
    * to current accumulator value and each element with its index in the original array.
    * Throws an exception if
    this array is empty. If the array can be empty in an expected way,
    please use
    [reduceIndexedOrNull] instead. It
    returns `null` when its receiver is empty.
    @param [operation] function
    that takes the index of an element,
    current accumulator value and the element itself,
    and calculates the next accumulator value.
    @sample
    samples.collections.Collections.Aggregates.reduce
    \n\npublic inline fun
    DoubleArray.reduceIndexed(operation:
    (index: Int, acc: Double, Double) -> Double): Double {
    if (isEmpty())
    throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in
    1..lastIndex) {
    accumulator = operation(index, accumulator, this[index])
    }
    return
    accumulator
    }
    \n\n/**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    *
    * to current accumulator value and each element with its index in the original array.
    * Throws an exception if
    this array is empty. If the array can be empty in an expected way,
    please use
    [reduceIndexedOrNull] instead. It
  
```

returns `null` when its receiver is empty.

```

    * @param [operation] function that takes the index of an element,
    current accumulator value and the element itself,
    * and calculates the next accumulator value.
    * @sample
    samples.collections.Collections.Aggregates.reduce
    */
    public inline fun BooleanArray.reduceIndexed(operation:
    (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean {
        if (isEmpty())
            throw
            UnsupportedOperationException("Empty array can't be reduced.")
        var accumulator = this[0]
        for (index in
            1..lastIndex) {
            accumulator = operation(index, accumulator, this[index])
        }
        return
        accumulator
    }
    /**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * @throws an
    exception if this array is empty. If the array can be empty in an expected way,
    * please use [reduceIndexedOrNull]
    instead. It returns `null` when its receiver is empty.
    * @param [operation] function that takes the index of an
    element, current accumulator value and the element itself,
    * and calculates the next accumulator value.
    * @sample
    samples.collections.Collections.Aggregates.reduce
    */
    public inline fun
    CharArray.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {
        if (isEmpty())
            throw
            UnsupportedOperationException("Empty array can't be reduced.")
        var accumulator = this[0]
        for (index in
            1..lastIndex) {
            accumulator = operation(index, accumulator, this[index])
        }
        return
        accumulator
    }
    /**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * Returns `null` if the
    array is empty.
    * @param [operation] function that takes the index of an element, current accumulator value
    and the element itself,
    * and calculates the next accumulator value.
    * @sample
    samples.collections.Collections.Aggregates.reduceOrNull
    */
    @SinceKotlin("1.4")
    public inline fun <S, T : S>
    Array<out T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {
        if (isEmpty())
            return
            null
        var accumulator: S = this[0]
        for (index in 1..lastIndex) {
            accumulator = operation(index,
                accumulator, this[index])
        }
        return accumulator
    }
    /**
    * Accumulates value starting with the first
    element and applying [operation] from left to right
    * to current accumulator value and each element with its index
    in the original array.
    * Returns `null` if the array is empty.
    * @param [operation] function
    that takes the index of an element, current accumulator value and the element itself,
    * and calculates the next
    accumulator value.
    * @sample
    samples.collections.Collections.Aggregates.reduceOrNull
    */
    @SinceKotlin("1.4")
    public inline fun ByteArray.reduceIndexedOrNull(operation: (index: Int, acc: Byte,
    Byte) -> Byte): Byte? {
        if (isEmpty())
            return null
        var accumulator = this[0]
        for (index in
            1..lastIndex) {
            accumulator = operation(index, accumulator, this[index])
        }
        return
        accumulator
    }
    /**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * Returns `null`
    if the
    array is empty.
    * @param [operation] function that takes the index of an element, current accumulator
    value and the element itself,
    * and calculates the next accumulator value.
    * @sample
    samples.collections.Collections.Aggregates.reduceOrNull
    */
    @SinceKotlin("1.4")
    public inline fun ShortArray.reduceIndexedOrNull(operation: (index: Int, acc: Short,
    Short) -> Short): Short? {
        if (isEmpty())
            return null
        var accumulator = this[0]
        for (index in
            1..lastIndex) {
            accumulator = operation(index, accumulator, this[index])
        }
        return
        accumulator
    }
    /**
    * Accumulates value starting with the first element and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * Returns `null`
    if the
    array is empty.
    * @param [operation] function that takes the index of an element, current accumulator
    value and the element itself,
    * and calculates the next accumulator value.
    * @sample
    samples.collections.Collections.Aggregates.reduceOrNull
    */
    @SinceKotlin("1.4")
    public inline fun
    IntArray.reduceIndexedOrNull(operation: (index: Int, acc: Int, Int) -> Int): Int? {
        if (isEmpty())
            return null
        var accumulator = this[0]
        for (index in 1..lastIndex) {
            accumulator =
                operation(index, accumulator, this[index])
        }
        return accumulator
    }
    /**
    * Accumulates value starting
    with the first element and applying [operation] from left to right
    * to current accumulator value and each element

```


with its index in the original array.

`\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]`
function that takes the index of an element, current accumulator value and the element itself,
and calculates the next accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`
`*\n@SinceKotlin("1.4")\npublic inline fun LongArray.reduceIndexedOrNull(operation: (index: Int, acc: Long,`
`Long) -> Long): Long? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in`
`1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n`
`}\n return accumulator\n}\n\n**\n * Accumulates value starting with the first element and applying [operation]`
from left to right
to current accumulator value and each element with its index in the original array.

`\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]`
function that takes the index of an element, current
accumulator value and the element itself,
and calculates the next accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`
`*\n@SinceKotlin("1.4")\npublic inline fun`
`FloatArray.reduceIndexedOrNull(operation: (index: Int, acc: Float, Float) -> Float): Float? {\n if (isEmpty())\n`
`return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index,`
`accumulator, this[index])\n }\n return accumulator\n}\n\n**\n * Accumulates value starting with the first`
element and applying [operation] from left to right
to current accumulator value
and each element with its index in the original array.

`\n * \n * Returns `null` if the array is empty.\n * \n * @param`
[operation] function that takes the index of an element, current accumulator value and the element itself,
and calculates the next accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`
`*\n@SinceKotlin("1.4")\npublic inline fun DoubleArray.reduceIndexedOrNull(operation: (index: Int, acc:`
`Double, Double) -> Double): Double? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for`
`(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return`
`accumulator\n}\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to`
right
to current accumulator value and each element with its index in the original array.

`\n * \n * Returns `null` if`
the array is empty.
`\n * \n * @param [operation]`
function that takes the index of an
element, current accumulator value and the element itself,
and calculates the next accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`
`*\n@SinceKotlin("1.4")\npublic inline fun`
`BooleanArray.reduceIndexedOrNull(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean? {\n if`
`(isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator =`
`operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n**\n * Accumulates value starting`
with the first element and applying [operation] from left to right
to current accumulator value and each element
with its index in the original array.

`\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]`
function that takes the index of an element, current accumulator value and the element itself,
and calculates the
next accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`
`*\n@SinceKotlin("1.4")\npublic inline fun CharArray.reduceIndexedOrNull(operation: (index: Int, acc: Char,`
`Char) -> Char): Char? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in`
`1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return`
`accumulator\n}\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to`
right
to current accumulator value and each element.

`\n * \n * Returns `null` if the array is empty.\n * \n *`
`@param [operation]`
function that takes current accumulator value and an element,
and calculates the next
accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`
`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>`
`Array<out T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n if (isEmpty())\n return null\n var`
`accumulator:`
`S = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return`
`accumulator\n}\n\n**\n * Accumulates value starting with the first element and applying [operation] from left to`
right
to current accumulator value and each element.

`\n * \n * Returns `null` if the array is empty.\n * \n *`
`@param [operation]`
function that takes current accumulator value and an element,
and calculates the next
accumulator value.

`\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n`

```

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
ByteArray.reduceOrNull(operation: (acc: Byte, Byte) -> Byte): Byte? {
    if (isEmpty()) return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
// Accumulates value starting with the first element and applying
// [operation] from left to right to current accumulator value and each element.
// Returns `null` if the array is empty.
// @param [operation] function that takes current accumulator value and an element,
// and calculates the next accumulator value.
// @sample samples.collections.Collections.Aggregates.reduceOrNull

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
ShortArray.reduceOrNull(operation: (acc: Short, Short) -> Short): Short? {
    if (isEmpty()) return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
// Accumulates value starting with the first element and applying [operation]
// from left to right to current accumulator value and each element.
// Returns `null` if the array is empty.
// @param [operation] function that takes current accumulator value and an element,
// and calculates the next accumulator value.
// @sample samples.collections.Collections.Aggregates.reduceOrNull

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
IntArray.reduceOrNull(operation: (acc: Int, Int) -> Int): Int? {
    if (isEmpty()) return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
// Accumulates value starting with the first element and applying [operation]
// from left to right to current accumulator value and each element.
// Returns `null` if the array is empty.
// @param [operation] function that takes current accumulator value and an element,
// and calculates the next accumulator value.
// @sample samples.collections.Collections.Aggregates.reduceOrNull

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
LongArray.reduceOrNull(operation:
    (acc: Long, Long) -> Long): Long? {
    if (isEmpty()) return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
// Accumulates value starting with the first element and applying [operation] from left to
// right to current accumulator value and each element.
// Returns `null` if the array is empty.
// @param [operation] function that takes current accumulator value and an element,
// and calculates the next accumulator value.
// @sample samples.collections.Collections.Aggregates.reduceOrNull

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
FloatArray.reduceOrNull(operation: (acc: Float, Float) -> Float): Float? {
    if (isEmpty()) return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
// Accumulates value starting with the first element and applying [operation]
// from left to right to current accumulator value and each element.
// Returns `null` if the array is empty.
// @param [operation] function that takes current accumulator value and an element,
// and calculates the next accumulator value.
// @sample samples.collections.Collections.Aggregates.reduceOrNull

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
DoubleArray.reduceOrNull(operation: (acc: Double, Double) -> Double): Double? {
    if (isEmpty()) return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator,
            this[index])
    }
    return accumulator
}
// Accumulates value starting with the first element and
// applying [operation] from left to right to current accumulator value and each element.
// Returns
// `null` if the array is empty.
// @param [operation] function that takes current accumulator value and an
// element,
// and calculates the next accumulator value.
// @sample
samples.collections.Collections.Aggregates.reduceOrNull

*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
BooleanArray.reduceOrNull(operation: (acc: Boolean, Boolean) -> Boolean): Boolean? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator =

```

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operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the
first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and
an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun
CharArray.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {\n    if (isEmpty())\n        return null\n    var
accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*/\n\npublic inline fun <S, T : S> Array<out
T>.reduceRight(operation: (T, acc: S) -> S): S {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator: S = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*/\n\npublic inline
fun ByteArray.reduceRight(operation: (Byte, acc: Byte) -> Byte): Byte {\n    var index = lastIndex\n
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*/\n\npublic inline fun ShortArray.reduceRight(operation:
(Short, acc: Short) -> Short): Short {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be
reduced.")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--),
accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and
applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceRightOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes an element and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*/\n\npublic inline fun IntArray.reduceRight(operation:
(Int, acc: Int) -> Int): Int {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator
= operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample

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samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun LongArray.reduceRight(operation:
(Long, acc: Long) -> Long): Long {\n  var index = lastIndex\n  if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n  while
(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element
and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes an element and current accumulator value,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline
fun FloatArray.reduceRight(operation: (Float, acc: Float) -> Float): Float {\n  var index = lastIndex\n  if (index <
0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun DoubleArray.reduceRight(operation:
(Double, acc: Double) -> Double): Double {\n  var index = lastIndex\n  if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n  while
(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator
value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please
use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function
that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun
BooleanArray.reduceRight(operation: (Boolean, acc: Boolean) -> Boolean): Boolean {\n  var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If
the array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *\npublic inline fun CharArray.reduceRight(operation:
(Char, acc: Char) -> Char): Char {\n  var index = lastIndex\n  if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n  while
(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Throws an exception if this array is empty. If
the array can be empty in an expected way,\n *
please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes the index of an element, the element itself and current accumulator value,\n * and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\npublic inline fun <S, T : S> Array<out T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n
var index = lastIndex\n  if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n
var accumulator: S = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index),

```

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accumulator)\n    --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when
its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
ByteArray.reduceRightIndexed(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n *
Throws an exception
if this array is empty. If the array can be empty in an expected way,\n * please use [reduceRightIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
ShortArray.reduceRightIndexed(operation: (index: Int, Short, acc: Short) -> Short): Short {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current
accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected
way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
IntArray.reduceRightIndexed(operation: (index: Int, Int, acc: Int) -> Int): Int {\n    var index = lastIndex\n    if (index
< 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index
in the original array and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array
can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun
LongArray.reduceRightIndexed(operation: (index: Int, Long, acc: Long) -> Long): Long {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n
* to each element with its index in the original array and current accumulator value.\n * \n * Throws an exception if
this array is empty. If the array can be empty in an expected way,\n * please use [reduceRightIndexedOrNull]
instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun

```

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FloatArray.reduceRightIndexed(operation: (index: Int, Float, acc: Float) -> Float): Float {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun DoubleArray.reduceRightIndexed(operation: (index: Int, Double, acc: Double) -> Double): Double {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun BooleanArray.reduceRightIndexed(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

public inline fun CharArray.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.

Returns `null` if the array is empty.

@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull

```

```

@SinceKotlin("1.4")
public inline fun <S, T : S> Array<out T>.reduceRightIndexedOrNull(operation: (index: Int, T, acc: S) -> S): S? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator: S = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.

Returns `null` if the array is empty.

@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull

```

```

@SinceKotlin("1.4")
public inline fun ByteArray.reduceRightIndexedOrNull(operation: (index: Int, Byte,

```

```

acc: Byte) -> Byte): Byte? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index-)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from\n * right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element,\n * the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun\nShortArray.reduceRightIndexedOrNull(operation: (index: Int, Short, acc: Short) -> Short): Short? {\n  var index =\n  lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with\n * its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element\n * itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun\nIntArray.reduceRightIndexedOrNull(operation: (index: Int, Int, acc: Int) -> Int): Int? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =\n    operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with its index in\n * the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param\n [operation] function that takes the index of an element, the element itself and current accumulator value,\n * and\n * calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun\nLongArray.reduceRightIndexedOrNull(operation: (index: Int, Long,\n acc: Long) -> Long): Long? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator =\n  get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]\n * from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the\n * element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun\nFloatArray.reduceRightIndexedOrNull(operation: (index: Int,\n Float, acc: Float) -> Float): Float? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator =\n  get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]\n * from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the\n * element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun\nDoubleArray.reduceRightIndexedOrNull(operation: (index: Int, Double, acc: Double) -> Double): Double? {\n  var\n  index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from\n * right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns\n `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element\n * itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun\nBooleanArray.reduceRightIndexedOrNull(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean? {\n  var

```

```

var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n
  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the
element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n *\n@SinceKotlin("1.4")\n\npublic inline fun
CharArray.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n *
to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic inline fun <S, T : S>
Array<out T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n  var index = lastIndex\n  if (index < 0)
return null\n  var accumulator: S = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--
), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and
applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null`
if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and
calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic inline fun
ByteArray.reduceRightOrNull(operation: (Byte, acc: Byte) -> Byte): Byte? {\n  var index = lastIndex\n  if (index
< 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator =
operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the
last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic
inline fun ShortArray.reduceRightOrNull(operation: (Short, acc: Short) -> Short): Short? {\n  var index =
lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element
and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic inline fun
IntArray.reduceRightOrNull(operation: (Int, acc: Int) -> Int): Int? {\n  var index = lastIndex\n  if (index < 0)
return null\n  var accumulator = get(index--)\n  while
(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element
and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function
that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic inline fun

```



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LongArray.reduceRightOrNull(operation: (Long, acc: Long) -> Long): Long? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun FloatArray.reduceRightOrNull(operation: (Float, acc: Float) -> Float): Float? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun DoubleArray.reduceRightOrNull(operation: (Double, acc: Double) -> Double): Double? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun BooleanArray.reduceRightOrNull(operation: (Boolean, acc: Boolean) -> Boolean): Boolean? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun CharArray.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {\n  var index = lastIndex\n  if (index < 0) return null\n  var accumulator = get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin("1.4")\npublic inline fun <T, R> Array<out T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n  if (isEmpty()) return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc`

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value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFold(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}
```

\n*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.runningFold(initial: R, operation: (acc: R, Short) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}
```

\n*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.runningFold(initial: R, operation: (acc: R, Int) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}
```

\n*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.runningFold(initial: R, operation: (acc: R, Long) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}
```

\n*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current @accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.runningFold(initial: R, operation: (acc: R, Float) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}
```

\n*\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.

* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.runningFold(initial: R, operation: (acc: R, Double) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n    }\n    result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.runningFold(initial: R, operation: (acc: R, Boolean) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n    }\n    result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.runningFold(initial: R, operation: (acc: R, Char) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n    }\n    result.add(accumulator)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\npublic inline fun <T, R> Array<out T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (index in indices) {\n
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accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n } \n return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from
left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element,
current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n
if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator
= initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
IntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n    if (isEmpty()) return
listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for
(index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n
}\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes
the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n    if (isEmpty())
return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n
for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise
it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.runningFold\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n    if (isEmpty())
return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n
for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element,

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current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n  if
(isEmpty()) return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator =
initial\n  for (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n  }\n  result.add(accumulator)\n}\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to
right\n * to each element, its index in the original array and current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element,
current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
BooleanArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n  if
(isEmpty()) return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator =
initial\n  for (index in indices) {\n    accumulator = operation(index, accumulator, this[index])\n  }\n  result.add(accumulator)\n}\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n *
to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n *
Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n  if (isEmpty())
return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n
for (index in indices) {\n    accumulator = operation(index,
accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and the element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Array<out T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n  if (isEmpty()) return emptyList()\n  var
accumulator: S = this[0]\n  val result = ArrayList<S>(size).apply { add(accumulator) }\n  for
(index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n  }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates
the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.runningReduce(operation:
(acc: Byte, Byte) -> Byte): List<Byte> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val
result = ArrayList<Byte>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator =
operation(accumulator, this[index])\n    result.add(accumulator)\n  }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of

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this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates
the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.runningReduce(operation:
(acc: Short, Short) -> Short): List<Short> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n
val result = ArrayList<Short>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation]
from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n
*\n * @param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.runningReduce(operation: (acc:
Int, Int) -> Int): List<Int> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result =
ArrayList<Int>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param
[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.runningReduce(operation:
(acc: Long, Long) -> Long): List<Long> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n
val result = ArrayList<Long>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates the next accumulator value.\n *
\n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.runningReduce(operation:
(acc: Float, Float) -> Float): List<Float> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val
result = ArrayList<Float>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.runningReduce(operation: (acc: Double, Double) -> Double): List<Double> {\n if
(isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Double>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.runningReduce(operation:
(acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n
if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Boolean>(size).apply {
add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation

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values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.runningReduce(operation:
(acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val
result = ArrayList<Char>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\npublic inline fun <S, T :
S> Array<out T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n if (isEmpty()) return
emptyList()\n
var accumulator: S = this[0]\n val result = ArrayList<S>(size).apply { add(accumulator) }\n for (index in 1
until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element,
current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.runningReduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): List<Byte> {\n if (isEmpty())
return emptyList()\n var accumulator = this[0]\n
val result = ArrayList<Byte>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator
= operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element, its index in the original array and current accumulator value that starts with the first element of this
array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and
the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.runningReduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): List<Short> {\n if
(isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Short>(size).apply
{ add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator,
this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original
array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.runningReduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): List<Int> {\n if (isEmpty()) return
emptyList()\n var accumulator = this[0]\n val result = ArrayList<Int>(size).apply { add(accumulator)
}\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation

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values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

`LongArray.runningReduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): List<Long>` { if (isEmpty()) return emptyList() var accumulator = this[0] val result = ArrayList<Long>(size).apply { add(accumulator) } for (index in 1 until size) { accumulator = operation(index, accumulator, this[index]) result.add(accumulator) } return result }

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

`FloatArray.runningReduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): List<Float>` { if (isEmpty()) return emptyList() var accumulator = this[0] val result = ArrayList<Float>(size).apply { add(accumulator) } for (index in 1 until size) { accumulator = operation(index, accumulator, this[index]) result.add(accumulator) } return result }

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

`DoubleArray.runningReduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): List<Double>` { if (isEmpty()) return emptyList() var accumulator = this[0] val result = ArrayList<Double>(size).apply { add(accumulator) } for (index in 1 until size) { accumulator = operation(index, accumulator, this[index]) result.add(accumulator) } return result }

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

`BooleanArray.runningReduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): List<Boolean>` { if (isEmpty()) return emptyList() var accumulator = this[0] val result = ArrayList<Boolean>(size).apply { add(accumulator) } for (index in 1 until size) { accumulator = operation(index, accumulator, this[index]) result.add(accumulator) } return result }

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with the first element of this array.

`CharArray.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char>` { if (isEmpty()) return emptyList() var accumulator = this[0] val result = ArrayList<Char>(size).apply { add(accumulator) } for (index in 1 until size) { accumulator = operation(index, accumulator, this[index]) }

result.add(accumulator)\n } \n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R> Array<out T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.scan(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.scan(initial: R, operation: (acc: R, Short) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.scan(initial: R, operation: (acc: R, Int) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.scan(initial: R, operation: (acc: R, Long) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.scan(initial: R, operation: (acc: R, Float) -> R): List<R> {\n return
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runningFold(initial, operation)}\n\n/**\n * Returns a list containing successive accumulation values generated by
applying [operation] from left to right\n * to each element and current accumulator
value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.scan(initial: R, operation: (acc: R, Double) -> R): List<R> {\n return
runningFold(initial, operation)}\n\n/**\n * Returns a list containing successive accumulation values generated by
applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n
* \n * @param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> BooleanArray.scan(initial: R, operation: (acc: R, Boolean) -> R): List<R> {\n return
runningFold(initial, operation)}\n\n/**\n * Returns a list containing successive accumulation values generated by
applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n return runningFold(initial,
operation)}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original array and current accumulator value that starts with
[initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it
would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Array<out T>.scanIndexed(initial:
R, operation: (index: Int, acc: R, T) -> R): List<R> {\n return runningFoldIndexed(initial, operation)}\n\n/**\n
* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n *
Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n return
runningFoldIndexed(initial,
operation)}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original array and current accumulator value that starts with
[initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it
would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.scan\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying
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[operation] from left to right\n * to each element, its index in the original array and current accumulator value that\n * starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the\n * index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator\n * value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator
```

```
value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be\n * mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that\n * takes the index of an element, current accumulator value\n * and the element itself, and calculates the next\n * accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
```

```
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param\n * [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and\n * calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should\n * not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
```

```
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element\n * itself, and calculates the next accumulator value.\n * \n * @sample\n * samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current\n * accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should\n * not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
```

```
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample\n * samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values\n * generated by applying [operation] from left to right\n * to each element, its index in the original array and current
```

accumulator value that starts with [initial] value. \n * \n * Note that `acc` value passed to [operation] function should not be mutated; \n * otherwise it would affect the previous value in resulting list. \n * \n * @param [operation] function that takes the index of an element, current accumulator value \n * and the element itself, and calculates the next accumulator value. \n * \n * @sample samples.collections.Collections.Aggregates.scan \n

```

*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n    return\n    runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>\n    Array<out T>.sumBy(selector: (T) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\n    ByteArray.sumBy(selector:\n    (Byte) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return\n    sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the\n    array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\n    ShortArray.sumBy(selector: (Short) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\n    IntArray.sumBy(selector: (Int) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns\n    the sum of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use\n    sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince =\n    "1.5")\npublic inline fun\n    LongArray.sumBy(selector: (Long) -> Int): Int {\n    var sum: Int = 0\n    for (element in\n    this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by\n    [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\n    FloatArray.sumBy(selector: (Float) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince\n    = "1.5")\npublic inline fun\n    DoubleArray.sumBy(selector: (Double) -> Int): Int {\n    var sum: Int = 0\n    for\n    (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values\n    produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\n    BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=\n        selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n    applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun\n    CharArray.sumBy(selector: (Char) -> Int): Int {\n    var sum: Int = 0\n\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all\n    values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf\n    instead.",\n    ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline\n    fun <T> Array<out T>.sumByDouble(selector: (T) -> Double): Double {\n    var sum: Double = 0.0\n    for (element\n    in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced

```

```

by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ByteArray.sumByDouble(selector: (Byte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ShortArray.sumByDouble(selector: (Short) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
IntArray.sumByDouble(selector: (Int) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n
        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince
= "1.5")\npublic inline fun LongArray.sumByDouble(selector: (Long) -> Double): Double {\n    var sum: Double
= 0.0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum
of all values produced by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf
instead.\", ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline
fun FloatArray.sumByDouble(selector: (Float) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
DoubleArray.sumByDouble(selector: (Double)
-> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
BooleanArray.sumByDouble(selector: (Boolean) -> Double): Double {\n    var sum: Double = 0.0\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharArray.sumByDouble(selector: (Char) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.sumOf(selector: (T) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ShortArray.sumOf(selector: (Short) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for
(element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Array<out T>.sumOf(selector: (T) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ShortArray.sumOf(selector: (Short) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector]
function applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfInt")@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum +=
selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function
applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfInt")@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum +=
selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each
element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfInt")@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum +=
selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function
applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfInt")@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in
the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfInt")@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector]
function applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfInt")@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum +=
selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfLong")@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.sumOf(selector: (T) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by
[selector] function applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfLong")@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.
*/
@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfLong")@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector: (Short) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {

```

```

    sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the
sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this)
{\n    sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this)
{\n    sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the
sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n    for (element in this) {\n    sum += selector(element)\n
}\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> UInt): UInt {\n    var
sum: UInt = 0.toUInt()\n    for (element in this) {\n    sum += selector(element)\n    }\n    return sum\n}\n\n/**
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n    for (element in this) {\n    sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the

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array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> UInt): UInt {\n var
sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic
inline fun LongArray.sumOf(selector: (Long) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in
this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> UInt): UInt {\n var
sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.sumOf(selector: (Double) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element
in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> UInt): UInt
{\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.sumOf(selector: (Char) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in
this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> ULong):
ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n
return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> ULong): ULong
{\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> ULong): ULong {\n
var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.sumOf(selector: (Double) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic
inline fun CharArray.sumOf(selector: (Char) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns an original collection
containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n
*\npublic fun <T : Any> Array<T?>.requireNonNulls(): Array<T> {\n    for (element in this) {\n        if (element ==
null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n    }\n
*\n@Suppress("\UNCHECKED_CAST")\n    return this as Array<T>\n}\n\n/**\n * Splits the original array into pair
of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n *\npublic inline fun <T> Array<out
T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n    val first = ArrayList<T>()\n    val second =

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ArrayList<T>()\n for (element in this) {\n     if (predicate(element)) {\n         first.add(element)\n     } else {\n         second.add(element)\n     }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nByteArray.partition(predicate: (Byte) -> Boolean): Pair<List<Byte>, List<Byte>> {\n    val first =\n    ArrayList<Byte>()\n    val second = ArrayList<Byte>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nShortArray.partition(predicate: (Short) -> Boolean): Pair<List<Short>, List<Short>> {\n    val first =\n    ArrayList<Short>()\n    val second = ArrayList<Short>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,\n    second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate]\n * yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nIntArray.partition(predicate: (Int) -> Boolean): Pair<List<Int>, List<Int>> {\n    val first = ArrayList<Int>()\n    val\n    second = ArrayList<Int>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original\n * array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while\n * *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nLongArray.partition(predicate: (Long) -> Boolean): Pair<List<Long>, List<Long>> {\n    val first =\n    ArrayList<Long>()\n    val\n    second = ArrayList<Long>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,\n    second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which\n * [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nFloatArray.partition(predicate: (Float) -> Boolean): Pair<List<Float>, List<Float>> {\n    val first =\n    ArrayList<Float>()\n    val second = ArrayList<Float>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,\n    second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first*\n * list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which\n * [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nDoubleArray.partition(predicate: (Double) -> Boolean): Pair<List<Double>, List<Double>> {\n    val first =\n    ArrayList<Double>()\n    val second = ArrayList<Double>()\n    for (element in this) {\n        if (predicate(element))\n        {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,\n    second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which\n * [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample\n * samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun\nBooleanArray.partition(predicate: (Boolean) -> Boolean):\n    Pair<List<Boolean>, List<Boolean>> {\n    val first = ArrayList<Boolean>()\n    val second =\n    ArrayList<Boolean>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        }

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else {\n
    second.add(element)\n
} \n } \n return Pair(first, second)\n}\n\n/**\n * Splits the original array
into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {\n    val first =
ArrayList<Char>()\n    val second = ArrayList<Char>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Array<out T>.zip(other:
Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
<R> ByteArray.zip(other: Array<out R>): List<Pair<Byte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ShortArray.zip(other: Array<out R>): List<Pair<Short, R>> {\n    return zip(other) { t1, t2
-> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the
same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> IntArray.zip(other: Array<out R>):
List<Pair<Int, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
LongArray.zip(other: Array<out R>): List<Pair<Long, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the
[other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> FloatArray.zip(other: Array<out
R>): List<Pair<Float, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
DoubleArray.zip(other: Array<out R>): List<Pair<Double, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> BooleanArray.zip(other: Array<out
R>):
List<Pair<Boolean, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
CharArray.zip(other: Array<out R>): List<Pair<Char, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic inline
fun <T, R, V> Array<out T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n    val size =
minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i
in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values
built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform]

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function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n *
@sample samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\npublic inline fun <R, V>
ByteArray.zip(other: Array<out R>, transform: (a: Byte, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\npublic inline fun <R, V>
ShortArray.zip(other: Array<out R>, transform: (a: Short, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\npublic inline fun <R, V>
IntArray.zip(other: Array<out R>, transform: (a: Int, b: R) -> V): List<V> {\n  val size = minOf(size, other.size)\n
val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return
list\n}\n\n/**\n * Returns
a list of values built from the elements of `this` array and the [other] array with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\npublic inline
fun <R, V> LongArray.zip(other: Array<out R>, transform: (a: Long, b: R) -> V): List<V> {\n  val size =
minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i],
other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the
[other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n *
The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\npublic inline fun <R, V>
FloatArray.zip(other:
Array<out R>, transform: (a: Float, b: R) -> V): List<V> {\n  val size = minOf(size, other.size)\n  val list =
ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^\npublic inline fun <R, V> DoubleArray.zip(other: Array<out R>, transform: (a: Double, b: R) -> V): List<V> {\n
val size = minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n
* using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^\npublic inline fun <R, V> BooleanArray.zip(other: Array<out R>, transform: (a: Boolean, b: R) -> V): List<V>
{\n  val size = minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each
pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\npublic inline fun <R, V>
CharArray.zip(other: Array<out R>, transform: (a: Char, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with
the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample

```

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samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <T, R> Array<out T>.zip(other:
Iterable<R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R>
ByteArray.zip(other: Iterable<R>): List<Pair<Byte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection
and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R> ShortArray.zip(other: Iterable<R>):
List<Pair<Short, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R>
IntArray.zip(other: Iterable<R>): List<Pair<Int, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R> LongArray.zip(other: Iterable<R>):
List<Pair<Long, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R>
FloatArray.zip(other: Iterable<R>): List<Pair<Float, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R> DoubleArray.zip(other:
Iterable<R>): List<Pair<Double, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun
<R> BooleanArray.zip(other: Iterable<R>): List<Pair<Boolean, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R> CharArray.zip(other: Iterable<R>):
List<Pair<Char, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <T, R, V> Array<out
T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline
fun <R, V> ByteArray.zip(other: Iterable<R>, transform: (a: Byte, b: R) -> V): List<V> {\n    val arraySize = size\n
val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in
other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++],
element))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the
[other] collection with the same index\n * using the provided [transform] function applied to each pair of
elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <R, V>
ShortArray.zip(other: Iterable<R>, transform: (a: Short, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n

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if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has
length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <R, V>
IntArray.zip(other: Iterable<R>, transform: (a: Int, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline
fun <R, V> LongArray.zip(other: Iterable<R>, transform: (a: Long, b: R) -> V): List<V> {\n    val arraySize =
size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10),
arraySize))\n    var i = 0\n    for (element in other) {\n        if (i >= arraySize) break\n
list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <R, V>
FloatArray.zip(other: Iterable<R>, transform: (a: Float, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this`
array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair
of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <R, V>
DoubleArray.zip(other: Iterable<R>, transform: (a: Double, b: R) -> V): List<V> {\n    val arraySize = size\n    val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other)
{\n        if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\npublic
*\npublic inline fun <R, V> BooleanArray.zip(other: Iterable<R>, transform: (a: Boolean, b: R) -> V): List<V> {\n    val
arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n
for (element in other) {\n        if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n    }\n    return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the
same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has
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samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <R, V>
CharArray.zip(other: Iterable<R>, transform: (a: Char, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >=
arraySize) break\n    list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic
infix fun ByteArray.zip(other: ByteArray): List<Pair<Byte, Byte>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample

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samples.collections.Iterables.Operations.zipIterable\n *^\\npublic infix fun ShortArray.zip(other: ShortArray):
List<Pair<Short, Short>> {\\n  return zip(other) { t1, t2 -> t1 to t2 }\\n}\\n\\n/**\\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\\n * The returned list has
length of the shortest collection.\\n * \\n * @sample samples.collections.Iterables.Operations.zipIterable\n *^\\npublic
infix fun IntArray.zip(other: IntArray): List<Pair<Int, Int>> {\\n  return zip(other) { t1, t2 -> t1 to t2 }\\n}\\n\\n/**\\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\\n * The
returned list has length of the shortest collection.\\n * \\n * @sample
samples.collections.Iterables.Operations.zipIterable\n *^\\npublic infix fun LongArray.zip(other: LongArray):
List<Pair<Long, Long>> {\\n  return zip(other) { t1, t2 -> t1 to t2 }\\n}\\n\\n/**\\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\\n * The returned list has length of the shortest
collection.\\n * \\n * @sample samples.collections.Iterables.Operations.zipIterable\n *^\\npublic infix fun
FloatArray.zip(other: FloatArray): List<Pair<Float, Float>> {\\n  return zip(other) { t1, t2 -> t1 to t2 }\\n}\\n\\n/**\\n
* Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\\n * The
returned list has length of the shortest collection.\\n * \\n * @sample
samples.collections.Iterables.Operations.zipIterable\n *^\\npublic infix fun DoubleArray.zip(other: DoubleArray):
List<Pair<Double, Double>> {\\n  return zip(other) { t1, t2 -> t1 to t2 }\\n}\\n\\n/**\\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\\n * The returned list has length of the
shortest collection.\\n * \\n * @sample samples.collections.Iterables.Operations.zipIterable\n *^\\npublic infix fun
BooleanArray.zip(other: BooleanArray): List<Pair<Boolean, Boolean>> {\\n  return zip(other) { t1, t2 -> t1 to t2
}\\n}\\n\\n/**\\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\\n * The returned list has length of the shortest collection.\\n * \\n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*^\\npublic infix fun CharArray.zip(other: CharArray): List<Pair<Char, Char>> {\\n  return zip(other) { t1, t2 -> t1
to t2 }\\n}\\n\\n/**\\n * Returns a list of values built from the elements of `this` array and the [other] array with the
same index\\n * using the provided [transform] function applied to each pair of elements.\\n * The returned list has
length of the shortest array.\\n * \\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^\\npublic inline fun <V> ByteArray.zip(other: ByteArray, transform: (a: Byte, b: Byte) -> V): List<V> {\\n  val
size = minOf(size, other.size)\\n  val list = ArrayList<V>(size)\\n  for (i in 0 until size) {\\n
list.add(transform(this[i], other[i]))\\n  }\\n  return list\\n}\\n\\n/**\\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\\n * using the provided [transform] function applied to each
pair of elements.\\n * The returned list has length
of the shortest array.\\n * \\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*^\\npublic inline fun <V> ShortArray.zip(other: ShortArray, transform: (a: Short, b: Short) -> V): List<V> {\\n  val
size = minOf(size, other.size)\\n  val list = ArrayList<V>(size)\\n  for (i in 0 until size) {\\n
list.add(transform(this[i], other[i]))\\n  }\\n  return list\\n}\\n\\n/**\\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\\n * using the provided [transform] function applied to each
pair of elements.\\n * The returned list has length of the shortest array.\\n * \\n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\\npublic inline fun <V> IntArray.zip(other:
IntArray, transform: (a: Int, b: Int) -> V): List<V> {\\n  val size = minOf(size, other.size)\\n  val list =
ArrayList<V>(size)\\n  for (i in 0 until size) {\\n    list.add(transform(this[i], other[i]))\\n  }\\n
return list\\n}\\n\\n/**\\n * Returns a list of values built from the elements of `this` array and the [other] array with
the same index\\n * using the provided [transform] function applied to each pair of elements.\\n * The returned list
has length of the shortest array.\\n * \\n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *^\\npublic inline fun <V>
LongArray.zip(other: LongArray, transform: (a: Long, b: Long) -> V): List<V> {\\n  val size = minOf(size,
other.size)\\n  val list = ArrayList<V>(size)\\n  for (i in 0 until size) {\\n    list.add(transform(this[i], other[i]))\\n
}\\n  return list\\n}\\n\\n/**\\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\\n * using the provided [transform] function applied to each pair of elements.\\n * The returned

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list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline fun
<V> FloatArray.zip(other: FloatArray, transform: (a: Float, b: Float) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline fun <V>
DoubleArray.zip(other: DoubleArray, transform: (a: Double, b: Double) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with
the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list
has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline fun <V>
BooleanArray.zip(other: BooleanArray, transform: (a: Boolean, b: Boolean) -> V): List<V> {\n    val size =
minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i],
other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the
[other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n *
The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline fun <V>
CharArray.zip(other: CharArray, transform: (a: Char, b: Char) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the
given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value
of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string
(which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \n public fun
<T, A : Appendable> Array<out T>.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"",
postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 ||
count <= limit) {\n            buffer.appendElement(element, transform)\n        } else break\n    }\n    if (limit >= 0 &&
count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return buffer\n}\n\n/**\n * Appends the
string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first
[limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n * \n public fun <A : Appendable>
ByteArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"", postfix: CharSequence =
\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? = null): A {\n
buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count >
1) buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n                buffer.append(transform(element))\n            else\n                buffer.append(element.toString())\n        } else break\n    }\n    if (limit >= 0 &&
count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \n public fun <A :
Appendable> ShortArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"", postfix:

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CharSequence = "\", limit: Int = -1, truncated: CharSequence =
"...\", transform: ((Short) -> CharSequence)? = null): A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1) buffer.append(separator)
        if (limit < 0 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element.toString())
        } else break
    }
    if (limit >= 0 && count > limit)
        buffer.append(truncated)
    buffer.append(postfix)
    return buffer
}

Appendable * Appendable * Appends the string from all the
elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]
elements will be appended, followed by the [truncated] string (which defaults to "...").
@sample
samples.collections.Collections.Transformations.joinTo

public fun <A : Appendable> IntArray.joinTo(buffer:
A, separator: CharSequence = "\", \"\", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1,
truncated: CharSequence = "...\", transform: ((Int) -> CharSequence)? = null): A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1) buffer.append(separator)
        if (limit < 0 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element.toString())
        } else break
    }
    if (limit >= 0 && count > limit)
        buffer.append(truncated)
    buffer.append(postfix)
    return buffer
}

Appendable * Appendable * Appends the string from all the
elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]
elements will be appended, followed by the [truncated]
string (which defaults to "...").
@sample
samples.collections.Collections.Transformations.joinTo

public fun <A : Appendable> LongArray.joinTo(buffer: A, separator: CharSequence = "\", \"\", prefix:
CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform:
((Long) -> CharSequence)? = null): A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1) buffer.append(separator)
        if (limit < 0 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element.toString())
        } else
            break
    }
    if (limit >= 0 && count > limit) buffer.append(truncated)
    buffer.append(postfix)
    return
buffer
}

Appendable * Appendable * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]
elements will be appended, followed by the [truncated] string (which defaults to "...").
@sample
samples.collections.Collections.Transformations.joinTo

public fun <A : Appendable>
FloatArray.joinTo(buffer: A, separator: CharSequence = "\", \"\", prefix: CharSequence = "\", postfix: CharSequence =
\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Float) -> CharSequence)? = null): A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1) buffer.append(separator)
        if (limit < 0 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element.toString())
        } else break
    }
    if (limit >= 0 && count > limit)
        buffer.append(truncated)
    buffer.append(postfix)
    return buffer
}

Appendable * Appendable * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.
If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]
elements will be appended, followed by the [truncated] string (which defaults to "...").
@sample
samples.collections.Collections.Transformations.joinTo

public fun <A : Appendable>
DoubleArray.joinTo(buffer: A, separator: CharSequence = "\", \"\", prefix: CharSequence = "\", postfix:
CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Double) -> CharSequence)? =
null): A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1)
            buffer.append(separator)
        if (limit < 0 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element.toString())
        } else break
    }
    if (limit >= 0 && count > limit) buffer.append(truncated)
    buffer.append(postfix)
    return buffer
}

Appendable * Appendable * Appends the string from all the elements separated using [separator] and using the given

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[prefix] and [postfix] if supplied.
 * If the collection could be huge, you can specify a non-negative value of
 [limit], in which case only the first [limit]
 * elements will be appended, followed by the [truncated] string (which
 defaults to "...").
 * @sample samples.collections.Collections.Transformations.joinTo
 *^/public fun <A :
 Appendable> BooleanArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"",
 postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Boolean) ->
 CharSequence)? = null): A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count
 > 1) buffer.append(separator)
        if (limit < 0
 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element.toString())
        } else break
    }
    if (limit >= 0 && count > limit)
        buffer.append(truncated)
    buffer.append(postfix)
    return buffer
}
 * Appends the string from all the
 elements separated using [separator] and using the given [prefix] and [postfix] if supplied.
 * If the collection
 could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]
 * elements will
 be appended, followed by the [truncated] string (which defaults to "...").
 * @sample
 samples.collections.Collections.Transformations.joinTo
 *^/public fun <A : Appendable>
 CharArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix: CharSequence =
 "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Char) -> CharSequence)? = null):
 A {
    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1)
            buffer.append(separator)
        if (limit < 0 || count <= limit) {
            if (transform != null)
                buffer.append(transform(element))
            else
                buffer.append(element)
        } else break
    }
    if
 (limit >= 0 && count > limit) buffer.append(truncated)
    buffer.append(postfix)
    return buffer
}
 * Appends the string from all the
 elements separated using [separator] and using the given [prefix] and [postfix] if
 supplied.
 * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
 the first [limit]
 * elements will be appended, followed by the [truncated] string (which defaults to "...").
 * @sample
 samples.collections.Collections.Transformations.joinToString
 *^/public fun <T> Array<out
 T>.joinToString(separator: CharSequence = "\", \", prefix: CharSequence
 = "\"", postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) ->
 CharSequence)? = null): String {
    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated,
 transform).toString()
}
 * Creates a string from all the elements separated using [separator] and using the
 given [prefix] and [postfix] if supplied.
 * If the collection could be huge, you can specify a non-negative value
 of [limit], in which case only the first [limit]
 * elements will be appended, followed by the [truncated] string
 (which defaults to "...").
 * @sample samples.collections.Collections.Transformations.joinToString
 *^/public fun ByteArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
 CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? =
 null): String {
    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated,
 transform).toString()
}
 * Creates a string from all the elements separated using [separator] and using the
 given [prefix] and [postfix] if supplied.
 * If the collection could be huge, you can specify a non-negative value
 of [limit], in which case only the first [limit]
 * elements will be appended, followed by the [truncated] string
 (which defaults to "...").
 * @sample samples.collections.Collections.Transformations.joinToString
 *^/public fun ShortArray.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
 CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Short) -> CharSequence)? =
 null): String {
    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated,
 transform).toString()
}
 * Creates a string from all the elements separated using [separator] and using the
 given [prefix] and [postfix] if supplied.
 * If the collection could be huge, you can
 specify a non-negative value of [limit], in which case only the first [limit]
 * elements will be appended, followed
 by the [truncated] string (which defaults to "...").
 * @sample
 samples.collections.Collections.Transformations.joinToString
 *^/public fun IntArray.joinToString(separator:
 CharSequence = "\", \", prefix: CharSequence = "\"", postfix: CharSequence = "\"", limit: Int = -1, truncated:
 CharSequence = "...", transform: ((Int) -> CharSequence)? = null): String {
    return joinTo(StringBuilder(),
```

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separator, prefix, postfix, limit, truncated, transform).toString()\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n
*/\npublic fun LongArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix:
CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Long) -> CharSequence)? =
null): String {\n    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated,
transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the
given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value
of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string
(which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n
*/\npublic fun FloatArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix:
CharSequence = "\", limit: Int = -1, truncated: CharSequence = "...\", transform:
((Float) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(), separator, prefix, postfix, limit,
truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and
using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-
negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the
[truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n
*/\npublic fun DoubleArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated:
CharSequence = "...\", transform: ((Double) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated
using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you
can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended,
followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n
*/\npublic fun
BooleanArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence =
\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Boolean) -> CharSequence)? = null): String {\n
return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates
a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first
[limit]\n
* elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n
*/\npublic fun CharArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = "\", postfix: CharSequence = "\", limit: Int = -1, truncated:
CharSequence = "...\", transform: ((Char) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements when being iterated.\n */\npublic fun <T> Array<out T>.asIterable():
Iterable<T> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun
ByteArray.asIterable(): Iterable<Byte> {\n    if (isEmpty()) return emptyList()\n    return
Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its
elements when being iterated.\n */\npublic fun ShortArray.asIterable(): Iterable<Short> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n */\npublic fun IntArray.asIterable(): Iterable<Int> {\n    if
(isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that

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wraps the original array returning its elements when being iterated.\n *\npublic fun LongArray.asIterable():
Iterable<Long> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun
FloatArray.asIterable(): Iterable<Float> {\n if (isEmpty())
return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the
original array returning its elements when being iterated.\n *\npublic fun DoubleArray.asIterable():
Iterable<Double> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates
an [Iterable] instance that wraps the original array returning its elements when being iterated.\n *\npublic fun
BooleanArray.asIterable(): Iterable<Boolean> {\n if (isEmpty()) return emptyList()\n return Iterable {
this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when
being iterated.\n *\npublic fun CharArray.asIterable(): Iterable<Char> {\n if (isEmpty()) return emptyList()\n
return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning
its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun <T> Array<out T>.asSequence(): Sequence<T> {\n if (isEmpty()) return emptySequence()\n
return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning
its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun ByteArray.asSequence(): Sequence<Byte> {\n if (isEmpty()) return emptySequence()\n return
Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its
elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun ShortArray.asSequence(): Sequence<Short> {\n if (isEmpty()) return emptySequence()\n return
Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its
elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun IntArray.asSequence(): Sequence<Int> {\n if (isEmpty()) return emptySequence()\n return
Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its
elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun LongArray.asSequence(): Sequence<Long> {\n if (isEmpty()) return emptySequence()\n return
Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its
elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun FloatArray.asSequence(): Sequence<Float> {\n if (isEmpty()) return emptySequence()\n return
Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its
elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun DoubleArray.asSequence(): Sequence<Double> {\n if (isEmpty()) return emptySequence()\n
return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning
its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun BooleanArray.asSequence(): Sequence<Boolean> {\n if (isEmpty()) return emptySequence()\n
return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning
its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n
*\npublic fun CharArray.asSequence(): Sequence<Char> {\n if (isEmpty()) return emptySequence()\n return
Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Array<out Byte>.average():
Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
++count\n } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n *\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Array<out Short>.average():
Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
++count\n } \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n *\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Array<out Int>.average(): Double
{\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n
} \n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the

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array.\n *\n@kotlin.jvm.JvmName("averageOfLong")\npublic
fun Array<out Long>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this)
{\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n *\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun
Array<out Float>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n *\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun
Array<out Double>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this)
{\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n *\npublic fun ByteArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the array.\n *\npublic fun ShortArray.average(): Double {\n  var sum: Double =
0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count
== 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n *\npublic
fun IntArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the array.\n *\npublic fun LongArray.average(): Double {\n  var sum: Double =
0.0\n  var count: Int = 0\n  for (element in this)
{\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n *
Returns an average value of elements in the array.\n *\npublic fun FloatArray.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\npublic fun DoubleArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in
this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Array<out Byte>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the
array.\n
*\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Array<out Short>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the
array.\n *\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Array<out Int>.sum(): Int {\n  var sum: Int = 0\n
for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in
the array.\n *\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Array<out Long>.sum(): Long {\n  var sum:
Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of
all elements in the array.\n *\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun Array<out Float>.sum(): Float
{\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all elements in the array.\n *\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun
Array<out Double>.sum(): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum +=
element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n *\npublic fun
ByteArray.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n *\npublic fun ShortArray.sum(): Int {\n  var
sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of
all elements in the array.\n *\npublic fun IntArray.sum(): Int {\n  var sum: Int = 0\n  for (element in this)
{\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n *\npublic
fun LongArray.sum(): Long {\n  var sum: Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all elements

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in the array.\n */\npublic fun FloatArray.sum(): Float {\n    var sum: Float = 0.0f\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun\nDoubleArray.sum(): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n", "*/\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage\nkotlin.ranges\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:\nhttps://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the\nfirst element.\n */\n * @throws NoSuchElementException if the progression is empty.\n */\n\n@SinceKotlin("1.7")\npublic\nfun IntProgression.first(): Int {\n    if (isEmpty())\n        throw NoSuchElementException("Progression $this is\nempty.")\n    return this.first\n}\n\n/**\n * Returns the first element.\n */\n * @throws NoSuchElementException if the\nprogression is empty.\n */\n\n@SinceKotlin("1.7")\npublic fun LongProgression.first(): Long {\n    if\n(isEmpty())\n        throw NoSuchElementException("Progression $this is empty.")\n    return this.first\n}\n\n/**\n * Returns the first element.\n */\n * @throws NoSuchElementException if the progression is empty.\n */\n\n@SinceKotlin("1.7")\npublic fun CharProgression.first(): Char {\n    if (isEmpty())\n        throw\nNoSuchElementException("Progression $this is empty.")\n    return this.first\n}\n\n/**\n * Returns the first\nelement, or `null` if the progression is empty.\n */\n\n@SinceKotlin("1.7")\npublic fun IntProgression.firstOrNull():\nInt? {\n    return if (isEmpty()) null else this.first\n}\n\n/**\n * Returns the first element,\nor `null`\nif the progression is empty.\n */\n\n@SinceKotlin("1.7")\npublic fun LongProgression.firstOrNull(): Long?\n{\n    return if (isEmpty()) null else this.first\n}\n\n/**\n * Returns the first element, or `null`\nif the progression is\nempty.\n */\n\n@SinceKotlin("1.7")\npublic fun CharProgression.firstOrNull(): Char? {\n    return if (isEmpty())\nnull else this.first\n}\n\n/**\n * Returns the last element.\n */\n * @throws NoSuchElementException if the\nprogression is empty.\n */\n * @sample samples.collections.Collections.Elements.last\n */\n\n@SinceKotlin("1.7")\npublic fun IntProgression.last(): Int {\n    if (isEmpty())\n        throw\nNoSuchElementException("Progression $this is empty.")\n    return this.last\n}\n\n/**\n * Returns the last\nelement.\n */\n * @throws NoSuchElementException if the progression is empty.\n */\n * @sample\nsamples.collections.Collections.Elements.last\n */\n\n@SinceKotlin("1.7")\npublic fun LongProgression.last(): Long\n{\n    if (isEmpty())\n        throw\nNoSuchElementException("Progression $this is empty.")\n    return this.last\n}\n\n/**\n * Returns the\nlast element.\n */\n * @throws NoSuchElementException if the progression is empty.\n */\n * @sample\nsamples.collections.Collections.Elements.last\n */\n\n@SinceKotlin("1.7")\npublic fun CharProgression.last(): Char\n{\n    if (isEmpty())\n        throw NoSuchElementException("Progression $this is empty.")\n    return\nthis.last\n}\n\n/**\n * Returns the last element, or `null` if the progression is empty.\n */\n * @sample\nsamples.collections.Collections.Elements.last\n */\n\n@SinceKotlin("1.7")\npublic fun IntProgression.lastOrNull():\nInt? {\n    return if (isEmpty()) null else this.last\n}\n\n/**\n * Returns the last element, or `null`\nif the progression is\nempty.\n */\n * @sample\nsamples.collections.Collections.Elements.last\n */\n\n@SinceKotlin("1.7")\npublic fun\nLongProgression.lastOrNull(): Long? {\n    return if (isEmpty()) null else this.last\n}\n\n/**\n * Returns\nthe last element, or `null`\nif the progression is empty.\n */\n * @sample\nsamples.collections.Collections.Elements.last\n */\n\n@SinceKotlin("1.7")\npublic fun\nCharProgression.lastOrNull(): Char? {\n    return if (isEmpty()) null else this.last\n}\n\n/**\n * Returns a random\nelement from this range.\n */\n * @throws IllegalArgumentException if this range is empty.\n */\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.random(): Int {\n    return\nrandom(Random)\n}\n\n/**\n * Returns a random element from this range.\n */\n * @throws\nIllegalArgumentException if this range is empty.\n */\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic\ninline fun LongRange.random(): Long {\n    return random(Random)\n}\n\n/**\n * Returns a random element from\nthis range.\n */\n * @throws IllegalArgumentException if this range is empty.\n */\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.random(): Char {\n    return

```

```

random(Random)\n}\n\n/**\n
 * Returns a random element from this range using the specified source of randomness.\n * \n * @throws
 IllegalArgumentException if this range is empty.\n *\n@SinceKotlin("1.3")\npublic fun
IntRange.random(random: Random): Int {\n try {\n     return random.nextInt(this)\n } catch(e:
 IllegalArgumentException) {\n     throw NoSuchElementException(e.message)\n } }\n\n/**\n * Returns a
 random element from this range using the specified source of randomness.\n * \n * @throws
 IllegalArgumentException if this range is empty.\n *\n@SinceKotlin("1.3")\npublic fun
LongRange.random(random: Random): Long {\n try {\n     return random.nextLong(this)\n } catch(e:
 IllegalArgumentException) {\n     throw NoSuchElementException(e.message)\n } }\n\n/**\n * Returns a
 random element from this range using the specified source of randomness.\n * \n * @throws
 IllegalArgumentException if this range is empty.\n *\n@SinceKotlin("1.3")\npublic fun
CharRange.random(random:
 Random): Char {\n try {\n     return random.nextInt(first.code, last.code + 1).toChar()\n } catch(e:
 IllegalArgumentException) {\n     throw NoSuchElementException(e.message)\n } }\n\n/**\n * Returns a
 random element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun IntRange.randomOrNull(): Int? {\n     return randomOrNull(Random)\n }\n\n/**\n * Returns a random
 element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun LongRange.randomOrNull(): Long? {\n     return randomOrNull(Random)\n }\n\n/**\n * Returns a
 random element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun CharRange.randomOrNull():
 Char? {\n     return randomOrNull(Random)\n }\n\n/**\n * Returns a random element from this range using the
 specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntRange.randomOrNull(random: Random): Int? {\n if (isEmpty())\n     return null\n     return
 random.nextInt(this)\n }\n\n/**\n * Returns a random element from this range using the specified source of
 randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongRange.randomOrNull(random: Random): Long? {\n if (isEmpty())\n     return null\n     return
 random.nextLong(this)\n }\n\n/**\n * Returns a random element from this range using the specified source of
 randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharRange.randomOrNull(random: Random): Char? {\n if
 (isEmpty())\n     return null\n     return random.nextInt(first.code, last.code + 1).toChar()\n }\n\n/**\n * Returns
 `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun IntRange.contains(element:
 Int?): Boolean {\n     return element != null && contains(element)\n }\n\n/**\n * Returns `true` if this range contains
 the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun LongRange.contains(element:
 Long?): Boolean {\n     return element != null && contains(element)\n }\n\n/**\n * Returns `true` if this range
 contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun CharRange.contains(element:
 Char?): Boolean {\n
     return element != null && contains(element)\n }\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun ClosedRange<Int>.contains(value: Byte):
 Boolean {\n     return contains(value.toInt())\n }\n\n/**\n * Checks if the specified [value] belongs to this range.\n

```



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*^@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value:
Byte): Boolean {\n    return contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n *^@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun
ClosedRange<Short>.contains(value: Byte): Boolean {\n    return contains(value.toShort())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n *^@Deprecated("This `contains` operation mixing integer and
floating point arguments has ambiguous semantics and is going to be
removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince
= "1.4", hiddenSince = "1.5")\n@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
ClosedRange<Double>.contains(value: Byte): Boolean {\n    return contains(value.toDouble())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *^@Deprecated("This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value:
Byte): Boolean {\n    return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n *^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous
semantics and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4",
hiddenSince = "1.5")\n@kotlin.jvm.JvmName("intRangeContains")\npublic
operator fun ClosedRange<Int>.contains(value: Double): Boolean {\n    return value.toIntExactOrNull().let { if (it
!= null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun
ClosedRange<Long>.contains(value: Double): Boolean {\n    return value.toLongExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")\n@kotlin.jvm.JvmName("byteRangeContains")\npublic
operator fun ClosedRange<Byte>.contains(value: Double): Boolean {\n    return value.toByteExactOrNull().let { if
(it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator fun
ClosedRange<Short>.contains(value: Double): Boolean {\n    return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*^@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value:
Double): Boolean {\n    return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n
*^@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince
= "1.5")\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun ClosedRange<Int>.contains(value:
Float): Boolean {\n    return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *^@Deprecated("This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun ClosedRange<Long>.contains(value:
Float): Boolean {\n    return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *
Checks if the specified [value] belongs

```

to this range.

```

@Deprecated("This `contains` operation mixing integer and floating point arguments has
ambiguous semantics and is going to be removed.")
@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")
@kotlin.jvm.JvmName("byteRangeContains")
public operator fun
ClosedRange<Byte>.contains(value: Float): Boolean {
    return value.toByteExactOrNull().let { if (it != null)
contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@Deprecated("This `contains` operation mixing integer and floating point arguments has
ambiguous semantics and is going to be removed.")
@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")
@kotlin.jvm.JvmName("shortRangeContains")
public operator fun
ClosedRange<Short>.contains(value: Float): Boolean {
    return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("doubleRangeContains")
public operator
fun ClosedRange<Double>.contains(value: Float): Boolean {
    return contains(value.toDouble())
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("longRangeContains")
public
operator fun ClosedRange<Long>.contains(value: Int): Boolean {
    return contains(value.toLong())
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("byteRangeContains")
public
operator fun ClosedRange<Byte>.contains(value: Int): Boolean {
    return value.toByteExactOrNull().let { if (it !=
null) contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("shortRangeContains")
public operator fun ClosedRange<Short>.contains(value: Int):
Boolean {
    return value.toShortExactOrNull().let { if (it != null) contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@Deprecated("This `contains` operation mixing integer and
floating point arguments has ambiguous semantics and is going to be
removed.")
@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")
@kotlin.jvm.JvmName("doubleRangeContains")
public operator fun
ClosedRange<Double>.contains(value: Int): Boolean {
    return contains(value.toDouble())
}

```

* Checks if the specified [value] belongs to this range.

```

@Deprecated("This `contains` operation mixing integer and
floating point arguments has ambiguous semantics and is going to be
removed.")
@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")
@kotlin.jvm.JvmName("floatRangeContains")
public operator fun ClosedRange<Float>.contains(value:
Int): Boolean {
    return contains(value.toFloat())
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("intRangeContains")
public
operator fun ClosedRange<Int>.contains(value: Long): Boolean {
    return value.toIntExactOrNull().let { if (it !=
null) contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("byteRangeContains")
public operator fun ClosedRange<Byte>.contains(value:
Long): Boolean {
    return value.toByteExactOrNull().let { if (it != null) contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("shortRangeContains")
public
operator fun ClosedRange<Short>.contains(value: Long): Boolean {
    return value.toShortExactOrNull().let { if
(it != null) contains(it) else false }
}

```

* Checks if the specified [value] belongs to this range.

```

@Deprecated("This `contains` operation mixing integer and floating point arguments has
ambiguous semantics and is going to be removed.")
@DeprecatedSinceKotlin(warningSince = "1.3",
errorSince = "1.4", hiddenSince = "1.5")
@kotlin.jvm.JvmName("doubleRangeContains")
public operator
fun ClosedRange<Double>.contains(value: Long): Boolean {
    return contains(value.toDouble())
}

```

* Checks if the specified [value] belongs to this range.

```

@Deprecated("This `contains` operation mixing integer and floating point arguments has
ambiguous semantics and is going to be removed.")
@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")
@kotlin.jvm.JvmName("floatRangeContains")
public operator fun ClosedRange<Float>.contains(value:
Long): Boolean {
    return contains(value.toFloat())
}

```

* Checks if the specified [value] belongs to this range.

```

@kotlin.jvm.JvmName("intRangeContains")
public operator fun ClosedRange<Int>.contains(value:
Short): Boolean {
    return contains(value.toInt())
}

```

* Checks if the specified [value] belongs to this

```

range.\n *\n@kotlin.jvm.JvmName("longRangeContains")\npublic
operator fun ClosedRange<Long>.contains(value: Short): Boolean {\n return
contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@kotlin.jvm.JvmName("byteRangeContains")\npublic operator fun ClosedRange<Byte>.contains(value:
Short): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *\n@Deprecated("This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")\n@kotlin.jvm.JvmName("doubleRangeContains")\npublic operator fun
ClosedRange<Double>.contains(value: Short): Boolean {\n return contains(value.toDouble())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *\n@Deprecated("This `contains` operation mixing integer
and
floating point arguments has ambiguous semantics and is going to be
removed.")\n@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince =
"1.5")\n@kotlin.jvm.JvmName("floatRangeContains")\npublic operator fun ClosedRange<Float>.contains(value:
Short): Boolean {\n return contains(value.toFloat())\n}\n\n/**\n * Returns a progression from this value down to
the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the
[to] value is greater than `this` value the returned progression is empty.\n *\npublic infix fun Int.downTo(to: Byte):
IntProgression {\n return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/**\n * Returns a progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal
to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *\npublic infix
fun Long.downTo(to:
Byte): LongProgression {\n return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/**\n *
Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should
be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is
empty.\n *\npublic infix fun Byte.downTo(to: Byte): IntProgression {\n return
IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value
down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n
*\n * If the [to] value is greater than `this` value the returned progression is empty.\n *\npublic infix fun
Short.downTo(to: Byte): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -
1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n
* \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value
the returned progression is empty.\n *\npublic infix fun Char.downTo(to: Char): CharProgression {\n return
CharProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from this value down to the
specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]
value is greater than `this` value the returned progression is empty.\n *\npublic infix fun Int.downTo(to: Int):
IntProgression {\n return IntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from
this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to
`this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *\npublic infix fun
Long.downTo(to: Int): LongProgression {\n return LongProgression.fromClosedRange(this,
to.toLong(), -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step
-1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this`
value the returned progression is empty.\n *\npublic infix fun Byte.downTo(to: Int): IntProgression {\n return
IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/**\n * Returns a progression from this value down to the
specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]
value is greater than `this` value the returned progression is empty.\n *\npublic infix fun Short.downTo(to: Int):
IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/**\n * Returns a progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal

```

to `this` value.\n * If the

[to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Int.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Long.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this, to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Short.downTo(to: Long): LongProgression {\n return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Int.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Long.downTo(to: Short): LongProgression {\n return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Short.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\npublic fun IntProgression.reversed(): IntProgression {\n return IntProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\npublic fun LongProgression.reversed(): LongProgression {\n return LongProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\npublic fun CharProgression.reversed(): CharProgression {\n return CharProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun IntProgression.step(step: Int): IntProgression {\n checkStepIsPositive(step > 0, step)\n return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun LongProgression.step(step: Long): LongProgression {\n checkStepIsPositive(step > 0, step)\n return LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun CharProgression.step(step: Int): CharProgression {\n checkStepIsPositive(step > 0, step)\n return CharProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\ninternal fun Int.toByteExactOrNull(): Byte? {\n return if (this in Byte.MIN_VALUE.toInt()..Byte.MAX_VALUE.toInt()) this.toByte() else null\n}\n\ninternal fun Long.toByteExactOrNull(): Byte? {\n return if (this in Byte.MIN_VALUE.toLong()..Byte.MAX_VALUE.toLong()) this.toByte() else null\n}\n\ninternal fun Short.toByteExactOrNull(): Byte? {\n return if (this in Byte.MIN_VALUE.toShort()..Byte.MAX_VALUE.toShort()) this.toByte() else null\n}\n\ninternal

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fun Double.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toDouble()..Byte.MAX_VALUE.toDouble()) this.toInt().toByte() else null\n}\n\ninternal fun
Float.toByteExactOrNull(): Byte? {\n    return if (this in
Byte.MIN_VALUE.toFloat()..Byte.MAX_VALUE.toFloat()) this.toInt().toByte() else null\n}\n\ninternal fun
Long.toIntExactOrNull(): Int? {\n    return if (this in Int.MIN_VALUE.toLong()..Int.MAX_VALUE.toLong())
this.toInt() else null\n}\n\ninternal fun Double.toIntExactOrNull(): Int? {\n    return if (this in
Int.MIN_VALUE.toDouble()..Int.MAX_VALUE.toDouble()) this.toInt() else null\n}\n\ninternal fun
Float.toIntExactOrNull(): Int? {\n    return if (this in Int.MIN_VALUE.toFloat()..Int.MAX_VALUE.toFloat())
this.toInt() else null\n}\n\ninternal fun Double.toLongExactOrNull(): Long? {\n    return if (this in
Long.MIN_VALUE.toDouble()..Long.MAX_VALUE.toDouble()) this.toLong() else null\n}\n\ninternal fun
Float.toLongExactOrNull(): Long? {\n    return if (this
in Long.MIN_VALUE.toFloat()..Long.MAX_VALUE.toFloat()) this.toLong() else null\n}\n\ninternal fun
Int.toShortExactOrNull(): Short? {\n    return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt())
this.toShort() else null\n}\n\ninternal fun Long.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.toShort() else null\n}\n\ninternal fun
Double.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toInt().toShort() else null\n}\n\ninternal fun
Float.toShortExactOrNull(): Short? {\n    return if (this in
Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toInt().toShort() else null\n}\n\n**\n * Returns
a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to
`this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Byte): IntRange {\n    return this ..
(to.toInt()
- 1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to:
Byte): LongRange {\n    return this .. (to.toLong() - 1).toLong()\n}\n\n**\n * Returns a range from this value up to
but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n */\npublic infix fun Byte.until(to: Byte): IntRange {\n    return this.toInt() .. (to.toInt() -
1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to:
Byte): IntRange {\n    return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n**\n * Returns a range from this value up to
but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic
infix fun Char.until(to: Char): CharRange {\n    if (to <= '\u0000') return CharRange.EMPTY\n    return this .. (to -
1).toChar()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to:
Int): IntRange {\n    if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n    return this .. (to - 1).toInt()\n}\n\n**\n *
Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or
equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Int): LongRange {\n
return this .. (to.toLong() - 1).toLong()\n}\n\n**\n * Returns a range from this value up to but excluding the
specified [to] value.\n * \n * If the [to] value
is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Int):
IntRange {\n    if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n    return this.toInt() .. (to -
1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to:
Int): IntRange {\n    if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n    return this.toInt() .. (to -
1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to:
Long): LongRange {\n    if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n    return this.toLong() .. (to -

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1).toLong()\n\n/**\n * Returns a range from this value up to but excluding the specified
[to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*/\npublic infix fun Long.until(to: Long): LongRange {\n    if (to <= Long.MIN_VALUE) return
LongRange.EMPTY\n    return this .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but
excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n */\npublic infix fun Byte.until(to: Long): LongRange {\n    if (to <= Long.MIN_VALUE) return
LongRange.EMPTY\n    return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to
but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n */\npublic infix fun Short.until(to: Long): LongRange {\n    if (to <= Long.MIN_VALUE) return
LongRange.EMPTY\n    return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this
value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then
the returned range is empty.\n */\npublic infix fun Int.until(to: Short): IntRange {\n    return this .. (to.toInt() -
1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to:
Short): LongRange {\n    return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to
but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n */\npublic infix fun Byte.until(to: Short): IntRange {\n    return this.toInt() .. (to.toInt() -
1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to
`this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Short): IntRange {\n    return
this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Ensures that this value is not less than the specified
[minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the
[minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastComparable\n
*/\npublic fun <T : Comparable<T>> T.coerceAtLeast(minimumValue: T): T {\n    return if (this < minimumValue)
minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n
* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n *
@sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun
Byte.coerceAtLeast(minimumValue: Byte): Byte {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less
than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n
*/\npublic fun Short.coerceAtLeast(minimumValue: Short): Short {\n    return if (this < minimumValue)
minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n
* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n *
@sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Int.coerceAtLeast(minimumValue:
Int): Int {\n    return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not
less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic
fun Long.coerceAtLeast(minimumValue: Long): Long {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Float.coerceAtLeast(minimumValue: Float):
Float {\n    return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less
than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n
*/\npublic fun Double.coerceAtLeast(minimumValue: Double): Double {\n    return if (this < minimumValue)
minimumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n
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\n * @return
    this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostComparable\n * \n\npublic fun <T : Comparable<T>>
T.coerceAtMost(maximumValue: T): T {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less
than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n\npublic fun Byte.coerceAtMost(maximumValue: Byte):
Byte {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n\npublic fun Short.coerceAtMost(maximumValue:
Short): Short {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value
is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n * \n\npublic fun Int.coerceAtMost(maximumValue: Int): Int
{\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater
than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or
the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n
* \n\npublic fun Long.coerceAtMost(maximumValue: Long): Long {\n    return if (this > maximumValue)
maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n *
\n * @return this value if it's less than or equal to the [maximumValue]
or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n
* \n\npublic fun Float.coerceAtMost(maximumValue: Float): Float {\n    return if (this > maximumValue)
maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n *
\n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n *
\n * @sample samples.comparisons.ComparableOps.coerceAtMost\n * \n\npublic fun
Double.coerceAtMost(maximumValue: Double): Double {\n    return if (this > maximumValue) maximumValue
else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n
\n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n * \n\npublic fun <T : Comparable<T>>
T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n    if (minimumValue !== null && maximumValue !==
null) {\n        if (minimumValue > maximumValue) throw IllegalArgumentException("\Cannot coerce value to an
empty range: maximum $maximumValue is less than minimum $minimumValue.")\n        if (this <
minimumValue) return minimumValue\n        if (this > maximumValue) return maximumValue\n    }\n    else {\n
if (minimumValue !== null && this < minimumValue) return minimumValue\n        if (maximumValue !== null
&& this > maximumValue) return maximumValue\n    }\n    return this\n}\n\n/**\n * Ensures that this value lies in
the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n * \n\npublic fun
Byte.coerceIn(minimumValue: Byte, maximumValue: Byte):
Byte {\n    if (minimumValue > maximumValue) throw IllegalArgumentException("\Cannot coerce value to an
empty range: maximum $maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue)
return minimumValue\n    if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures
that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in
the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater
than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n * \n\npublic fun
Short.coerceIn(minimumValue: Short, maximumValue: Short): Short {\n    if (minimumValue > maximumValue)

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throw IllegalArgumentException("\Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.\")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n
 * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value
if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value
is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Int.coerceIn(minimumValue: Int, maximumValue: Int): Int {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("\Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.\")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n
 * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n
 *\npublic fun Long.coerceIn(minimumValue: Long, maximumValue: Long): Long {\n if (minimumValue >
maximumValue) throw IllegalArgumentException("\Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.\")\n if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n return this\n}\n\n/**\n
 * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Float.coerceIn(minimumValue: Float, maximumValue: Float): Float {\n if (minimumValue > maximumValue)
throw IllegalArgumentException("\Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.\")\n if (this <
minimumValue) return minimumValue\n if (this > maximumValue) return maximumValue\n return
this\n}\n\n/**\n
 * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n *
@return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Double.coerceIn(minimumValue: Double,
maximumValue: Double): Double {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("\Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.\")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n
 * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInFloatingPointRange\n *\n@SinceKotlin("1.1")\npublic fun <T :
Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T {\n if (range.isEmpty()) throw
IllegalArgumentException("\Cannot coerce value to an empty range: $range.\")\n return when {\n // this <
start equiv to this <= start && !(this >= start)\n range.lessThanOrEqualTo(this, range.start) &&
!range.lessThanOrEqualTo(range.start, this) -> range.start\n // this > end equiv to this >= end && !(this <= end)\n
range.lessThanOrEqualTo(range.endInclusive, this) && !range.lessThanOrEqualTo(this, range.endInclusive) ->
range.endInclusive\n else -> this\n }\n}\n\n/**\n
 * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this
value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n *\npublic fun <T : Comparable<T>>
T.coerceIn(range: ClosedRange<T>): T {\n if (range is ClosedFloatingPointRange) {\n return
this.coerceIn<T>(range)\n }\n if (range.isEmpty()) throw IllegalArgumentException("\Cannot coerce value to an
empty range: $range.\")\n return when {\n this < range.start -> range.start\n this > range.endInclusive ->

```



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range.endInclusive\n    else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Int.coerceIn(range: ClosedRange<Int>): Int {\n    if (range is ClosedFloatingPointRange) {\n        return this.coerceIn<Int>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Long.coerceIn(range: ClosedRange<Long>): Long {\n    if (range is ClosedFloatingPointRange) {\n        return this.coerceIn<Long>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n}\n\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\nimport kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic value class UByte @PublishedApi internal constructor(@PublishedApi internal val data: Byte) : Comparable<UByte> {\n    companion object {\n        /**\n         * A constant holding the minimum value an instance of UByte can have.\n         */\n        public const val MIN_VALUE: UByte = UByte(0)\n\n        /**\n         * A constant holding the maximum value an instance of UByte can have.\n         */\n        public const val MAX_VALUE: UByte = UByte(-1)\n\n        /**\n         * The number of bytes used to represent an instance of UByte in a binary form.\n         */\n        public const val SIZE_BYTES: Int = 1\n\n        /**\n         * The number of bits used to represent an instance of UByte in a binary form.\n         */\n        public const val SIZE_BITS: Int = 8\n    }\n\n    /**\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    @Suppress("OVERRIDE_BY_INLINE")\n    public override inline operator fun compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n    /**\n     * Subtracts the other value from this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UByte): UInt =

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this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort): UInt =
this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator
fun minus(other: UInt): UInt = this.toUInt().minus(other)\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: ULong): ULong =
this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UByte): UInt = this.toUInt().times(other.toUInt())\n /** Multiplies this
value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt
= this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n
/** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UInt): UInt = this.toUInt().div(other)\n /** Divides this value by the other value, truncating the
result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other:
ULong): ULong = this.toULong().div(other)\n\n /**\n * Calculates the remainder of truncating division of this
value by the other value.\n * \n
* The result is always less than the divisor.\n * \n @kotlin.internal.InlineOnly\n public inline operator fun
rem(other: UByte): UInt = this.toUInt().rem(other.toUInt())\n /**\n * Calculates the remainder of truncating
division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt =
this.toUInt().rem(other.toUInt())\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n /**\n * Calculates the remainder of
truncating division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other:
ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by the other value, flooring the
result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division
and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other:
UByte): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this value by the other value, flooring
the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring
division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun
floorDiv(other: UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results
of flooring division and truncating
division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UInt): UInt =
this.toUInt().floorDiv(other)\n /**\n * Divides this value by the other value, flooring the result to an integer that
is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating division
are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: ULong): ULong =
this.toULong().floorDiv(other)\n\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UByte): UByte = this.toUInt().mod(other.toUInt()).toUByte()\n /**\n * Calculates the remainder

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of flooring division of this value by

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the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the\n remainders of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort = this.toUInt().mod(other.toUInt()).toUShort()\n /**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always less\n than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the\n same.\n * \n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt =\n this.toUInt().mod(other)\n /**\n * Calculates the remainder of flooring division of this value by the other\n value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders of\n flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n /**\n * Returns this value\n incremented by one.\n * \n * @sample samples.misc.Builtins.inc\n * \n @kotlin.internal.InlineOnly\n public inline operator fun inc(): UByte = UByte(data.inc())\n /**\n * Returns this value decremented by one.\n * \n * @sample samples.misc.Builtins.dec\n * \n @kotlin.internal.InlineOnly\n public inline operator fun\n dec(): UByte = UByte(data.dec())\n /** Creates a range from this value to the specified [other] value. *\n @kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UByte): UIntRange =\n UIntRange(this.toUInt(), other.toUInt())\n /** Performs a bitwise AND operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun and(other: UByte): UByte = UByte(this.data and other.data)\n /** Performs a bitwise OR operation between the two values.\n *\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UByte): UByte = UByte(this.data or\n other.data)\n /** Performs a bitwise XOR operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UByte): UByte = UByte(this.data xor other.data)\n /** Inverts the bits in this\n value. *\n @kotlin.internal.InlineOnly\n public inline fun inv(): UByte = UByte(data.inv())\n /**\n * Converts this [UByte] value to [Byte].\n * \n * If this value is less than or equals to [Byte.MAX_VALUE], the\n resulting `Byte` value represents\n * the same numerical value as this `UByte`. Otherwise the result is negative.\n * \n * The resulting `Byte` value has the same binary representation as this `UByte` value.\n * \n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data\n /**\n * Converts this [UByte] value to\n [Short].\n * \n * The resulting `Short` value represents\n the same numerical value as this `UByte`. \n * \n * The least significant 8 bits of the resulting `Short` value are\n the same as the bits of this `UByte` value, \n * whereas the most significant 8 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort() and 0xFF\n /**\n * Converts\n this [UByte] value to [Int].\n * \n * The resulting `Int` value represents the same numerical value as this\n `UByte`. \n * \n * The least significant 8 bits of the resulting `Int` value are the same as the bits of this `UByte`\n value, \n * whereas the most significant 24 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFF\n /**\n * Converts this [UByte] value to [Long].\n * \n *\n * The resulting `Long` value represents the same numerical value as this `UByte`. \n * \n * The least significant\n 8 bits of the resulting\n `Long` value are the same as the bits of this `UByte` value, \n * whereas the most significant 56 bits are filled\n with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and\n 0xFF\n /** Returns this value. *\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = this\n /**\n * Converts this [UByte] value to [UShort].\n * \n * The resulting `UShort` value represents the same\n numerical value as this `UByte`. \n * \n * The least significant 8 bits of the resulting `UShort` value are the same\n as the bits of this `UByte` value, \n * whereas the most significant 8 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = UShort(data.toShort() and 0xFF)\n /**\n *\n * Converts this [UByte] value to [UInt].\n * \n * The resulting `UInt` value represents the same numerical value\n as this `UByte`. \n * \n * The least significant\n 8 bits of the resulting `UInt` value are the same as the bits of this `UByte` value, \n * whereas the most significant\n 24 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt =
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UInt(data.toInt() and 0xFF)\n /**\n * Converts this [UByte] value to [ULong].\n *\n * The resulting
`ULong` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the
resulting `ULong` value are the same as the bits of this `UByte` value,\n * whereas the most significant 56 bits are
filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong =
ULong(data.toLong() and 0xFF)\n\n /**\n * Converts this [UByte] value to [Float].\n *\n * The resulting
`Float` value represents the same numerical value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public
inline fun toFloat(): Float = this.toInt().toFloat()\n\n /**\n * Converts this [UByte] value to [Double].\n *\n * The resulting `Double` value represents the same
numerical value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double =
this.toInt().toDouble()\n\n public override fun toString(): String = toInt().toString()\n}\n\n/**\n * Converts this
[Byte] value to [UByte].\n *\n * If this value is positive, the resulting `UByte` value represents the same numerical
value as this `Byte`.\n *\n * The resulting `UByte` value has the same binary representation as this `Byte` value.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Byte.toUByte(): UByte = UByte(this)\n\n/**\n * Converts this [Short] value to [UByte].\n *\n * If
this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n *
the same numerical value as this `Short`.\n *\n * The resulting `UByte` value
is represented by the least significant 8 bits of this `Short` value.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Short.toUByte(): UByte = UByte(this.toByte())\n\n/**\n * Converts this [Int] value to [UByte].\n
*\n * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value
represents\n * the same numerical value as this `Int`.\n *\n * The resulting `UByte` value is represented by the least
significant 8 bits of this `Int` value.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Int.toUByte(): UByte = UByte(this.toByte())\n\n/**\n * Converts this [Long] value to [UByte].\n
*\n * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value
represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UByte` value is represented by the
least significant 8 bits of this `Long` value.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun Long.toUByte(): UByte = UByte(this.toByte())\n", "\n * Copyright 2010-2022 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport kotlin.experimental.*\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npu
blic value class UInt @PublishedApi internal constructor(@PublishedApi internal val data: Int) :
Comparable<UInt> {\n\n companion object {\n\n /**\n * A constant holding the minimum value an
instance of UInt can have.\n *\n public const val MIN_VALUE: UInt = UInt(0)\n\n /**\n * A
constant holding the maximum value
an instance of UInt can have.\n *\n public const val MAX_VALUE: UInt = UInt(-1)\n\n /**\n *
The number of bytes used to represent an instance of UInt in a binary form.\n *\n public const val
SIZE_BYTES: Int = 4\n\n /**\n * The number of bits used to represent an instance of UInt in a binary
form.\n *\n public const val SIZE_BITS: Int = 32\n }\n\n /**\n * Compares this value with the
specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: UByte): Int = this.compareTo(other.toUInt())\n\n /**\n * Compares
this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a
negative number if it's less than
other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline
operator fun compareTo(other: UShort): Int = this.compareTo(other.toUInt())\n\n /**\n * Compares this value

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with the specified value for order.\n    * Returns zero if this value is equal to the specified other value, a negative
number if it's less than other,\n    * or a positive number if it's greater than other.\n    */\n
@kotlin.internal.InlineOnly\n    @Suppress("OVERRIDE_BY_INLINE")\n    public override inline operator fun
compareTo(other: UInt): Int = uintCompare(this.data, other.data)\n\n    /**\n    * Compares this value with the
specified value for order.\n    * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n    * or a positive number if it's greater than other.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n    /** Adds the other value to this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:
UByte): UInt = this.plus(other.toUInt())\n    /** Adds the other value to this value. */\n
    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UShort): UInt = this.plus(other.toUInt())\n
    /** Adds the other value to this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:
UInt): UInt = UInt(this.data.plus(other.data))\n    /** Adds the other value to this value. */\n
    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other)\n\n    /** Subtracts the other value from this value. */\n    @kotlin.internal.InlineOnly\n
    public inline operator fun minus(other: UByte): UInt = this.minus(other.toUInt())\n    /** Subtracts the other value
from this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other:
UShort): UInt = this.minus(other.toUInt())\n    /** Subtracts the other value from this value. */\n
    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UInt): UInt =
UInt(this.data.minus(other.data))\n    /** Subtracts the other value from this value. */\n
    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: ULong): ULong =
this.toULong().minus(other)\n\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n
    public inline operator fun times(other: UByte): UInt = this.times(other.toUInt())\n    /** Multiplies this value by the
other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UShort): UInt =
this.times(other.toUInt())\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n
    public inline operator fun times(other: UInt): UInt = UInt(this.data.times(other.data))\n    /** Multiplies this value
by the other value. */\n    @kotlin.internal.InlineOnly\n
    public inline operator fun times(other: ULong): ULong = this.toULong().times(other)\n\n    /** Divides this value
by the other value, truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n
    public inline operator fun div(other: UByte): UInt = this.div(other.toUInt())\n    /** Divides this value by the other
value, truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline
operator fun div(other: UShort): UInt = this.div(other.toUInt())\n    /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator
fun div(other: UInt): UInt = uintDivide(this, other)\n    /** Divides this value by the other value, truncating the result
to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other:
ULong): ULong =
this.toULong().div(other)\n\n    /**\n    * Calculates the remainder of truncating division of this value by the other
value.\n    * \n    * The result is always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public
inline operator fun rem(other: UByte): UInt = this.rem(other.toUInt())\n    /**\n    * Calculates the remainder of
truncating division of this value by the other value.\n    * \n    * The result is always less than the divisor.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: UShort): UInt = this.rem(other.toUInt())\n
    /**\n    * Calculates the remainder of truncating division of this value by the other value.\n    * \n    * The result is
always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: UInt):
UInt = uintRemainder(this, other)\n    /**\n    * Calculates the remainder of truncating division of this value by the
other value.\n    * \n
    * \n    * The result is always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun
rem(other: ULong): ULong = this.toULong().rem(other)\n\n    /**\n    * Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.\n    * \n    * For unsigned types, the results of
flooring division and truncating division are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun

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floorDiv(other: UByte): UInt = this.floorDiv(other.toUInt())\n /**\n * Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.\n *\n * For unsigned types, the results of
flooring division and truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun
floorDiv(other: UShort): UInt = this.floorDiv(other.toUInt())\n /**\n * Divides this value by the other value,
flooring the result to an integer that is closer
to negative infinity.\n *\n * For unsigned types, the results of flooring division and truncating division are the
same.\n *\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UInt): UInt = div(other)\n /**\n
* Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.\n *\n
* For unsigned types, the results of flooring division and truncating division are the same.\n *\n
@kotlin.internal.InlineOnly\n public inline fun floorDiv(other: ULong): ULong =
this.toULong().floorDiv(other)\n\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n *\n * The result is always less than the divisor.\n *\n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UByte): UByte = this.mod(other.toUInt()).toUByte()\n
/**\n * Calculates the remainder of flooring division of this value by the other value.\n *\n * The result is
always less than the divisor.\n *\n * For unsigned types, the remainders of flooring division and truncating
division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort =
this.mod(other.toUInt()).toUShort()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n *\n * The result is always less than the divisor.\n *\n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UInt): UInt = rem(other)\n /**\n * Calculates the remainder of flooring division of this value by
the other value.\n *\n * The result is always less than the divisor.\n *\n * For unsigned types, the
remainders of flooring division
and truncating division are the same.\n *\n @kotlin.internal.InlineOnly\n public inline fun mod(other:
ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value incremented by one.\n *\n *
@sample samples.misc.Builtins.inc\n *\n @kotlin.internal.InlineOnly\n public inline operator fun inc(): UInt
= UInt(data.inc())\n\n /**\n * Returns this value decremented by one.\n *\n * @sample
samples.misc.Builtins.dec\n *\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UInt =
UInt(data.dec())\n\n /** Creates a range from this value to the specified [other] value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UInt): UIntRange = UIntRange(this,
other)\n\n /**\n * Shifts this value left by the [bitCount] number of bits.\n *\n * Note that only the five
lowest-order bits of the [bitCount] are used as the shift distance.\n *\n * The shift distance actually
used is therefore always in the range `0..31`.\n *\n @kotlin.internal.InlineOnly\n public inline infix fun
shl(bitCount: Int): UInt = UInt(data shl bitCount)\n\n /**\n * Shifts this value right by the [bitCount] number of
bits, filling the leftmost bits with zeros.\n *\n * Note that only the five lowest-order bits of the [bitCount] are
used as the shift distance.\n *\n * The shift distance actually used is therefore always in the range `0..31`.\n
*\n @kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)\n\n /**
Performs a bitwise AND operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix
fun and(other: UInt): UInt = UInt(this.data and other.data)\n\n /** Performs a bitwise OR operation between the two
values. *\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UInt): UInt = UInt(this.data or
other.data)\n\n /** Performs a bitwise
XOR operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other:
UInt): UInt = UInt(this.data xor other.data)\n\n /** Inverts the bits in this value. *\n @kotlin.internal.InlineOnly\n
public inline fun inv(): UInt = UInt(data.inv())\n\n /**\n * Converts this [UInt] value to [Byte].\n *\n * If
this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `UInt`.\n *\n * The resulting `Byte` value is represented by the least significant 8 bits of
this `UInt` value.\n *\n * Note that the resulting `Byte` value may be negative.\n *\n
@kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [UInt]

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value to [Short].\n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents\n * the same numerical value as this `UInt`.\n
*\n * The resulting `Short` value is represented by the least significant 16 bits of this `UInt` value.\n * Note
that the resulting `Short` value may be negative.\n */\n @kotlin.internal.InlineOnly\n public inline fun
toShort(): Short = data.toShort()\n /**\n * Converts this [UInt] value to [Int].\n *\n * If this value is less
than or equals to [Int.MAX_VALUE], the resulting `Int` value represents\n * the same numerical value as this
`UInt`. Otherwise the result is negative.\n *\n * The resulting `Int` value has the same binary representation as
this `UInt` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data\n /**\n *
Converts this [UInt] value to [Long].\n *\n * The resulting `Long` value represents the same numerical value as
this `UInt`.\n *\n * The least significant 32 bits of the resulting `Long` value are the same as the bits of this
`UInt` value,\n * whereas the most
significant 32 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long
= data.toLong() and 0xFFFF_FFFF\n\n /**\n * Converts this [UInt] value to [UByte].\n *\n * If this value
is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical
value as this `UInt`.\n *\n * The resulting `UByte` value is represented by the least significant 8 bits of this
`UInt` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n
/**\n * Converts this [UInt] value to [UShort].\n *\n * If this value is less than or equals to
[UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `UInt`.\n
*\n * The resulting `UShort` value is represented by the least significant 16 bits of this `UInt` value.\n */\n
@\n @kotlin.internal.InlineOnly\n public inline fun toUShort():
UShort = data.toUShort()\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun
toUInt(): UInt = this\n /**\n * Converts this [UInt] value to [ULong].\n *\n * The resulting `ULong` value
represents the same numerical value as this `UInt`.\n *\n * The least significant 32 bits of the resulting `ULong`
value are the same as the bits of this `UInt` value,\n * whereas the most significant 32 bits are filled with zeros.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = ULong(data.toLong() and
0xFFFF_FFFF)\n\n /**\n * Converts this [UInt] value to [Float].\n *\n * The resulting value is the closest
`Float` to this `UInt` value.\n * In case when this `UInt` value is exactly between two `Float`s,\n * the one with
zero at least significant bit of mantissa is selected.\n */\n @kotlin.internal.InlineOnly\n public inline fun
toFloat(): Float = this.toDouble().toFloat()\n
/**\n * Converts this [UInt] value to [Double].\n *\n * The resulting `Double` value represents the same
numerical value as this `UInt`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double =
uintToDouble(data)\n\n public override fun toString(): String = toLong().toString()\n}\n\n/**\n * Converts this
[Byte] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value
as this `Byte`.\n *\n * The least significant 8 bits of the resulting `UInt` value are the same as the bits of this `Byte`
value,\n * whereas the most significant 24 bits are filled with the sign bit of this value.\n
*/\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Byte.toUInt(): UInt = UInt(this.toInt())\n\n /**\n * Converts this [Short] value to [UInt].\n *\n * If
this value is positive, the resulting `UInt` value represents the same numerical
value as this `Short`.\n *\n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this
`Short` value,\n * whereas the most significant 16 bits are filled with the sign bit of this value.\n
*/\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Short.toUInt(): UInt = UInt(this.toInt())\n\n /**\n * Converts this [Int] value to [UInt].\n *\n * If this
value is positive, the resulting `UInt` value represents the same numerical value as this `Int`.\n *\n * The resulting
`UInt` value has the same binary representation as this `Int` value.\n
*/\n @kotlin.internal.InlineOnly\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Int.toUInt(): UInt = UInt(this)\n\n /**\n * Converts this [Long] value to [UInt].\n *\n * If this value
is positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same
numerical value

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as this `Long`. \n * \n * The resulting `UInt` value is represented by the least significant 32 bits of this `Long`
value. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun Long.toUInt(): UInt = UInt(this.toInt())\n/** \n * Converts this [Float] value to [UInt]. \n * \n *
The fractional part, if any, is rounded down towards zero. \n * Returns zero if this `Float` value is negative or `NaN`,
[UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic inline fun Float.toUInt(): UInt = doubleToUInt(this.toDouble())\n/** \n * Converts this [Double] value to
[UInt]. \n * \n * The fractional part, if any, is rounded down towards zero. \n * Returns zero if this `Double` value is
negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`. \n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\
npublic
inline fun Double.toUInt(): UInt = doubleToUInt(this)\n", "/* \n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin
Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file. \n * \n * \n // Auto-generated file. DO NOT EDIT! \n \n package kotlin \n \n import
kotlin.experimental.* \n import
kotlin.jvm.* \n \n @SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline \n pu
blic value class UShort @PublishedApi internal constructor(@PublishedApi internal val data: Short) :
Comparable<UShort> { \n \n     companion object { \n \n         /** \n          * A constant holding the minimum value an
instance of UShort can have. \n          * \n          * public const val MIN_VALUE: UShort = UShort(0) \n \n          * \n
          * A constant holding the maximum value an instance of UShort can have. \n          * \n          * public const val
MAX_VALUE: UShort = UShort(-1) \n \n          * \n          * The number of bytes used to represent an instance of UShort in a binary form. \n          * \n
          * public const val SIZE_BYTES: Int = 2 \n \n          * \n          * The number of bits used to represent an instance of
UShort in a binary form. \n          * \n          * public const val SIZE_BITS: Int = 16 \n \n          * \n          * Compares this
value with the specified value for order. \n          * \n          * Returns zero if this value is equal to the specified other value, a
negative number if it's less than other, \n          * \n          * or a positive number if it's greater than other. \n          * \n
          * \n @kotlin.internal.InlineOnly \n     public inline operator fun compareTo(other: UByte): Int =
this.toInt().compareTo(other.toInt()) \n \n     /** \n      * Compares this value with the specified value for order. \n      *
Returns zero if this value is equal to the specified other value, a negative number if it's less than other, \n      * \n
      * or a positive number if it's greater than other. \n      * \n      * \n @kotlin.internal.InlineOnly \n     public inline operator fun
compareTo(other: UInt): Int = this.toUInt().compareTo(other) \n \n     /** \n      * Compares this value with the
specified value for order. \n      * \n      * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other, \n      * \n      * or a positive number if it's greater than other. \n      * \n      * \n @kotlin.internal.InlineOnly \n
     public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other) \n \n     /** \n      * Adds the
other value to this value. \n      * \n      * \n @kotlin.internal.InlineOnly \n     public inline operator fun plus(other: UByte): UInt =
this.toUInt().plus(other.toUInt()) \n \n     /** \n      * Adds the other value to this value. \n      * \n      * \n @kotlin.internal.InlineOnly \n
     public inline operator fun plus(other: UShort): UInt =
this.toUInt().plus(other.toUInt()) \n \n     /** \n      * Adds the other value to this value. \n      * \n      * \n @kotlin.internal.InlineOnly \n
     public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other) \n \n     /** \n      * Adds the other value to this
value. \n      * \n      * \n @kotlin.internal.InlineOnly \n     public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other) \n \n     /** \n      * Subtracts the other value from this value. \n      * \n      * \n @kotlin.internal.InlineOnly \n
     public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt()) \n \n     /** \n      * Subtracts the
other value from this value. \n      * \n      * \n @kotlin.internal.InlineOnly \n     public inline operator fun minus(other: UShort):

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UInt = this.toUInt().minus(other.toUInt())\n
    /** Subtracts the other value from this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    minus(other: UInt): UInt = this.toUInt().minus(other)\n    /** Subtracts the other value from this value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: ULong): ULong =\n    this.toULong().minus(other)\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UByte): UInt = this.toUInt().times(other.toUInt())\n    /** Multiplies this\n    value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UShort): UInt\n    = this.toUInt().times(other.toUInt())\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n    /** Multiplies this value by the other value. */\n    @kotlin.internal.InlineOnly\n    public inline operator\n    fun times(other: ULong): ULong = this.toULong().times(other)\n    /** Divides this value by the other value,\n    truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator\n    fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n    /** Divides this value by the other value,\n    truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator\n    fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n    /** Divides this value by the other value,\n    truncating the result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator\n    fun div(other: UInt): UInt = this.toUInt().div(other)\n    /** Divides this value by the other value, truncating the\n    result to an integer that is closer to zero. */\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other:\n    ULong): ULong = this.toULong().div(other)\n\n    /**\n    * Calculates the remainder of truncating division of this value by the other value.\n    * \n    * The result\n    is always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other:\n    UByte): UInt = this.toUInt().rem(other.toUInt())\n    /**\n    * Calculates the remainder of truncating division of\n    this value by the other value.\n    * \n    * The result is always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: UShort): UInt =\n    this.toUInt().rem(other.toUInt())\n    /**\n    * Calculates the remainder of truncating division of this value by the\n    other value.\n    * \n    * The result is always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public\n    inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n    /**\n    * Calculates the remainder of\n    truncating division of this value by the other value.\n    * \n    * The result\n    is always less than the divisor.\n    */\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other:\n    ULong): ULong = this.toULong().rem(other)\n    /**\n    * Divides this value by the other value, flooring the\n    result to an integer that is closer to negative infinity.\n    * \n    * For unsigned types, the results of flooring division\n    and truncating division are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other:\n    UByte): UInt = this.toUInt().floorDiv(other.toUInt())\n    /**\n    * Divides this value by the other value, flooring\n    the result to an integer that is closer to negative infinity.\n    * \n    * For unsigned types, the results of flooring\n    division and truncating division are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun\n    floorDiv(other: UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n    /**\n    * Divides this value by the other\n    value, flooring the result to an integer that is\n    closer to negative infinity.\n    * \n    * For unsigned types, the results of flooring division and truncating division\n    are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other: UInt): UInt =\n    this.toUInt().floorDiv(other)\n    /**\n    * Divides this value by the other value, flooring the result to an integer that\n    is closer to negative infinity.\n    * \n    * For unsigned types, the results of flooring division and truncating division\n    are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other: ULong): ULong =\n    this.toULong().floorDiv(other)\n    /**\n    * Calculates the remainder of flooring division of this value by the\n    other value.\n    * \n    * The result is always less than the divisor.\n    * \n    * For unsigned types, the remainders\n    of flooring division and truncating division are the same.\n    */\n    @kotlin.internal.InlineOnly\n    public inline\n    fun mod(other: UByte): UByte = this.toUInt().mod(other.toUInt()).toUByte()\n\n    /**\n    * Calculates the remainder of flooring division of this value by the other value.\n    * \n    * The result is\n    always less than the divisor.\n    * \n    * For unsigned types, the remainders of flooring division and truncating

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division are the same.\n *^n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort =
this.toUInt().mod(other.toUInt()).toUShort()\n /**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n *^n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UInt): UInt = this.toUInt().mod(other)\n /**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n
*\n
For unsigned types, the remainders of flooring division and truncating division are the same.\n *^n
@kotlin.internal.InlineOnly\n public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n\n
/**\n * Returns this value incremented by one.\n * \n * @sample samples.misc.Builtins.inc\n *^n
@kotlin.internal.InlineOnly\n public inline operator fun inc(): UShort = UShort(data.inc())\n\n /**\n *
Returns this value decremented by one.\n * \n * @sample samples.misc.Builtins.dec\n *^n
@kotlin.internal.InlineOnly\n public inline operator fun dec(): UShort = UShort(data.dec())\n\n /** Creates a
range from this value to the specified [other] value. *\n @kotlin.internal.InlineOnly\n public inline operator fun
rangeTo(other: UShort): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a bitwise AND
operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun
and(other: UShort): UShort = UShort(this.data and other.data)\n\n /** Performs a bitwise OR operation between the
two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UShort): UShort =
UShort(this.data or other.data)\n\n /** Performs a bitwise XOR operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun xor(other: UShort): UShort = UShort(this.data xor
other.data)\n\n /** Inverts the bits in this value. *\n @kotlin.internal.InlineOnly\n public inline fun inv():
UShort = UShort(data.inv())\n\n /**\n * Converts this [UShort] value to [Byte].\n * \n * If this value is less
than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this
`UShort`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits of this `UShort`
value.\n * \n * Note that the resulting `Byte` value may be negative.\n *^n @kotlin.internal.InlineOnly\n
public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [UShort] value to [Short].\n * \n *
If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents\n * the same
numerical value as this `UShort`. Otherwise the result is negative.\n * \n * The resulting `Short` value has the
same binary representation as this `UShort` value.\n *^n @kotlin.internal.InlineOnly\n public inline fun
toShort(): Short = data\n\n /**\n * Converts this [UShort] value to [Int].\n * \n * The resulting `Int` value
represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `Int`
value are the same as the bits of this `UShort` value,\n * whereas the most significant 16 bits are filled with
zeros.\n *^n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFFFF\n\n /**\n
* Converts this
[UShort] value to [Long].\n * \n * The resulting `Long` value represents the same numerical value as this
`UShort`.\n * \n * The least significant 16 bits of the resulting `Long` value are the same as the bits of this
`UShort` value,\n * whereas the most significant 48 bits are filled with zeros.\n *^n
@kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and 0xFFFF\n\n /**\n *
Converts this [UShort] value to [UByte].\n * \n * If this value is less than or equals to [UByte.MAX_VALUE],
the resulting `UByte` value represents\n * the same numerical value as this `UShort`.\n * \n * The resulting
`UByte` value is represented by the least significant 8 bits of this `UShort` value.\n *^n
@kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n\n /** Returns this value. *\n
@kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = this\n\n /**\n * Converts
this [UShort] value to [UInt].\n * \n * The resulting `UInt` value represents the same numerical value as this
`UShort`.\n * \n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this
`UShort` value,\n * whereas the most significant 16 bits are filled with zeros.\n *^n
@kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFFFF)\n\n /**\n
* Converts this [UShort] value to [ULong].\n * \n * The resulting `ULong` value represents the same numerical

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value as this `UShort`.n *n * The least significant 16 bits of the resulting `ULong` value are the same as the
bits of this `UShort` value,n * whereas the most significant 48 bits are filled with zeros.n */n
@kotlin.internal.InlineOnlyn public inline fun toULong(): ULong = ULong(data.toLong() and 0xFFFF)n\n
/**n * Converts this [UShort] value to [Float].n *n * The resulting `Float`
value represents the same numerical value as this `UShort`.n */n @kotlin.internal.InlineOnlyn public inline
fun toFloat(): Float = this.toInt().toFloat()\n /**n * Converts this [UShort] value to [Double].n *n * The
resulting `Double` value represents the same numerical value as this `UShort`.n */n
@kotlin.internal.InlineOnlyn public inline fun toDouble(): Double = this.toInt().toDouble()\n\n public override
fun toString(): String = toInt().toString()\n\n}n\n/**n * Converts this [Byte] value to [UShort].n *n * If this value
is positive, the resulting `UShort` value represents the same numerical value as this `Byte`.n *n * The least
significant 8 bits of the resulting `UShort` value are the same as the bits of this `Byte` value,n * whereas the most
significant 8 bits are filled with the sign bit of this value.n
*/n@SinceKotlin("1.5")n@WasExperimental(ExperimentalUnsignedTypes::class)n@kotlin.internal.InlineOnly\n
npublic inline fun
Byte.toUShort(): UShort = UShort(this.toShort())n/**n * Converts this [Short] value to [UShort].n *n * If this
value is positive, the resulting `UShort` value represents the same numerical value as this `Short`.n *n * The
resulting `UShort` value has the same binary representation as this `Short` value.n
*/n@SinceKotlin("1.5")n@WasExperimental(ExperimentalUnsignedTypes::class)n@kotlin.internal.InlineOnly\n
npublic inline fun Short.toUShort(): UShort = UShort(this)n/**n * Converts this [Int] value to [UShort].n *n * If
this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n *
the same numerical value as this `Int`.n *n * The resulting `UShort` value is represented by the least significant 16
bits of this `Int` value.n
*/n@SinceKotlin("1.5")n@WasExperimental(ExperimentalUnsignedTypes::class)n@kotlin.internal.InlineOnly\n
npublic inline fun Int.toUShort(): UShort = UShort(this.toShort())n/**n * Converts this
[Long] value to [UShort].n *n * If this value is positive and less than or equals to [UShort.MAX_VALUE], the
resulting `UShort` value represents\n * the same numerical value as this `Long`.n *n * The resulting `UShort`
value is represented by the least significant 16 bits of this `Long` value.n
*/n@SinceKotlin("1.5")n@WasExperimental(ExperimentalUnsignedTypes::class)n@kotlin.internal.InlineOnly\n
npublic inline fun Long.toUShort(): UShort = UShort(this.toShort())n", "*/n * Copyright 2010-2022 JetBrains s.r.o.
and Kotlin Programming Language contributors.n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.n */n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.ranges\n\n/**n * A range of values of type `Char`.n */npublic class CharRange(start: Char, endInclusive:
Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {\n override val start: Char get() = first\n
override val endInclusive: Char get() = last\n\n override fun contains(value: Char): Boolean = first <= value && value <= last\n\n /**n
* Checks whether the range is empty.n *n * The range is empty if its start value is greater than the end
value.n */n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n
other is CharRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last\n\n
override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first.code + last.code)\n\n override fun toString():
String = "$first..$last"\n\n companion object {\n /**n * An empty range of values of type Char.n */n public
val EMPTY: CharRange = CharRange(1.toChar(), 0.toChar())\n }n}\n\n/**n * A range of values of type `Int`.n
*/n\npublic class IntRange(start: Int, endInclusive: Int) : IntProgression(start, endInclusive, 1), ClosedRange<Int> {\n
override val start: Int get() = first\n
override val endInclusive: Int get() = last\n\n override fun contains(value: Int): Boolean = first <= value &&
value <= last\n\n /**n * Checks whether the range is empty.n *n * The range is empty if its start value is
greater than the end value.n */n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other:
Any?): Boolean =\n other is IntRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last
== other.last\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first + last)\n\n override fun

```

```

toString(): String = "$first..$last"
companion object {
    /** An empty range of values of type Int. */
    public val EMPTY: IntRange = IntRange(1, 0)
}
/** A range of values of type `Long`. */
public class LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long> {
    override val start: Long get() = first
    override val endInclusive: Long get() = last
    override fun contains(value: Long): Boolean = first <= value && value <= last
    /** Checks whether the range is empty. The range is empty if its start value is greater than the end value. */
    override fun isEmpty(): Boolean = first > last
    override fun equals(other: Any?): Boolean = other is LongRange && (isEmpty() && other.isEmpty() || first == other.first && last == other.last)
    override fun hashCode(): Int = if (isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))).toInt()
    override fun toString(): String = "$first..$last"
companion object {
    /** An empty range of values of type Long. */
    public val EMPTY: LongRange = LongRange(1, 0)
}
"/** Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors. Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. */
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("CollectionsKt")
@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)
package kotlin.collections
import kotlin.contracts.*
import kotlin.random.Random
internal object EmptyIterator : ListIterator<Nothing> {
    override fun hasNext(): Boolean = false
    override fun hasPrevious(): Boolean = false
    override fun nextIndex(): Int = 0
    override fun previousIndex(): Int = -1
    override fun next(): Nothing = throw NoSuchElementException()
    override fun previous(): Nothing = throw NoSuchElementException()
}
internal object EmptyList : List<Nothing>, Serializable, RandomAccess {
    private const val serialVersionUID: Long = -7390468764508069838L
    override fun equals(other: Any?): Boolean = other is List<*> && other.isEmpty()
    override fun hashCode(): Int = 1
    override fun toString(): String = "[]"
    override val size: Int get() = 0
    override fun isEmpty(): Boolean = true
    override fun contains(element: Nothing): Boolean = false
    override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()
    override fun get(index: Int): Nothing = throw IndexOutOfBoundsException("Empty list doesn't contain element at index $index.")
    override fun indexOf(element: Nothing): Int = -1
    override fun lastIndexOf(element: Nothing): Int = -1
    override fun iterator(): Iterator<Nothing> = EmptyIterator
    override fun listIterator(): ListIterator<Nothing> = EmptyIterator
    override fun listIterator(index: Int): ListIterator<Nothing> {
        if (index != 0) throw IndexOutOfBoundsException("Index: $index")
        return EmptyIterator
    }
    override fun subList(fromIndex: Int, toIndex: Int): List<Nothing> {
        if (fromIndex == 0 && toIndex == 0) return this
        throw IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex")
    }
    private fun readResolve(): Any = EmptyList
    internal fun <T> Array<out T>.asCollection(): Collection<T> = ArrayAsCollection(this, isVarargs = false)
    private class ArrayAsCollection<T>(val values: Array<out T>, val isVarargs: Boolean) : Collection<T> {
        override val size: Int get() = values.size
        override fun isEmpty(): Boolean = values.isEmpty()
        override fun contains(element: T): Boolean = values.contains(element)
        override fun containsAll(elements: Collection<T>): Boolean = elements.all { contains(it) }
        override fun iterator(): Iterator<T> = values.iterator()
        // override hidden toArray implementation to prevent copying of values array
        public fun toArray(): Array<out Any?> = values.copyToArrayOfAny(isVarargs)
    }
    /** Returns an empty read-only list. The returned list is serializable (JVM). */
    @sample samples.collections.Collections.Lists.emptyReadOnlyList
    /** Returns an empty read-only list. The returned list is serializable (JVM). */
    @sample samples.collections.Collections.Lists.readOnlyList
    /** Returns an empty read-only list. The returned list is serializable (JVM). */
    @sample samples.collections.Collections.Lists.emptyReadOnlyList
    /** Returns an empty new [MutableList]. */
    @sample samples.collections.Collections.Lists.emptyMutableList

```

```

*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableListOf(): MutableList<T> =
ArrayList()\n\n/**\n * Returns an empty new [ArrayList].\n * @sample
samples.collections.Collections.Lists.emptyArrayList\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> arrayListOf(): ArrayList<T>
= ArrayList()\n\n/**\n * Returns a new [MutableList] with the given elements.\n * @sample
samples.collections.Collections.Lists.mutableList\n *\npublic fun <T> mutableListOf(vararg elements: T):
MutableList<T> =\n    if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs =
true))\n\n/**\n * Returns a new [ArrayList] with the given elements.\n * @sample
samples.collections.Collections.Lists.arrayList\n *\npublic fun <T> arrayListOf(vararg elements: T): ArrayList<T>
=\n    if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**\n * Returns a new read-only list either of single given element, if it is not null, or empty list if the element is null. The
returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n *\npublic fun
<T : Any> listOfNotNull(element: T?): List<T> = if (element != null) listOf(element) else emptyList()\n\n/**\n *
Returns a new read-only list
only of those given elements, that are not null. The returned list is serializable (JVM).\n * @sample
samples.collections.Collections.Lists.listOfNotNull\n *\npublic fun <T : Any> listOfNotNull(vararg elements: T?):
List<T> = elements.filterNotNull()\n\n/**\n * Creates a new read-only list with the specified [size], where each
element is calculated by calling the specified\n * [init] function.\n * *n * The function [init] is called for each list
element sequentially starting from the first one.\n * It should return the value for a list element given its index.\n * *n
* @sample samples.collections.Collections.Lists.readOnlyListFromInitializer\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> List(size: Int, init: (index: Int) -> T):
List<T> = MutableList(size, init)\n\n/**\n * Creates a new mutable list with the specified [size], where each element
is calculated by calling the specified\n * [init] function.\n * *n * The function [init] is called for each
list element sequentially starting from the first one.\n * It should return the value for a list element given its index.\n
*\n * @sample samples.collections.Collections.Lists.mutableListFromInitializer\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> MutableList(size: Int, init: (index:
Int) -> T): MutableList<T> {\n    val list = ArrayList<T>(size)\n    repeat(size) { index -> list.add(init(index)) }\n
return list\n}\n\n/**\n * Builds a new read-only [List] by populating a [MutableList] using the given
[builderAction]\n * and returning a read-only list with the same elements.\n * *n * The list passed as a receiver to the
[builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified
behavior.\n * *n * The returned list is serializable (JVM).\n * *n * @sample
samples.collections.Builders.Lists.buildListSample\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <E> buildList(@BuilderInference builderAction: MutableList<E>().() -> Unit): List<E> {\n    contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n    return
buildListInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal
expect inline fun <E> buildListInternal(builderAction: MutableList<E>().() -> Unit): List<E>\n\n/**\n * Builds a
new read-only [List] by populating a [MutableList] using the given [builderAction]\n * and returning a read-only list
with the same elements.\n * *n * The list passed as a receiver to the [builderAction] is valid only inside that
function.\n * Using it outside of the function produces an unspecified behavior.\n * *n * The returned list is
serializable (JVM).\n * *n * [capacity] is used to hint the expected number of elements added in the
[builderAction].\n * *n * @throws IllegalArgumentException if the given [capacity] is negative.\n * *n * @sample
samples.collections.Builders.Lists.buildListSampleWithCapacity\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <E> buildList(capacity: Int, @BuilderInference builderAction: MutableList<E>().() -> Unit): List<E> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n    return buildListInternal(capacity,
builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal expect inline

```

```

fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>.( ) -> Unit): List<E>\n\n/**\n * Returns an
[IntRange] of the valid indices for this collection.\n * @sample
samples.collections.Collections.Collections.indicesOfCollection\n * \npublic val Collection<*>.indices: IntRange\n
get() = 0..size - 1\n\n/**\n * Returns the index of the last item in the list or -1 if the list is empty.\n * \n * @sample
samples.collections.Collections.Lists.lastIndexOfList\n * \npublic val <T> List<T>.lastIndex:
Int\n get() = this.size - 1\n\n/**\n * Returns `true` if the collection is not empty.\n * @sample
samples.collections.Collections.Collections.collectionIsNotEmpty\n * \n@kotlin.internal.InlineOnly\npublic inline
fun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable collection is
either null or empty.\n * @sample samples.collections.Collections.Collections.collectionIsNullOrEmpty\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.isNullOrEmpty():
Boolean {\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n\n return this == null ||
this.isEmpty()\n}\n\n/**\n * Returns this Collection if it's not `null` and the empty list otherwise.\n * @sample
samples.collections.Collections.Collections.collectionOrElse\n * \n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>?.orElse(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's
not `null` and the empty list otherwise.\n * @sample samples.collections.Collections.Lists.listOrElse\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orElse(): List<T> = this ?: emptyList()\n\n/**\n
* Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is
empty.\n * \n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->
R): R where C : Collection<*>, C : R =\n if (isEmpty()) defaultValue() else this\n\n\n/**\n * Checks if all
elements in the specified collection are contained in this collection.\n * \n * Allows to overcome type-safety
restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * @sample
samples.collections.Collections.Collections.collectionContainsAll\n
*\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension
takes precedence in some cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes
T> Collection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\n\n/**\n *
Returns a new list with the elements of this list randomly shuffled\n * using the specified [random] instance as the
source of randomness.\n * \n *\n@SinceKotlin("1.3")\npublic fun <T> Iterable<T>.shuffled(random: Random):
List<T> = toMutableList().apply { shuffle(random) }\n\n\ninternal fun <T> List<T>.optimizeReadOnlyList() =
when (size) {\n 0 -> emptyList()\n 1 -> listOf(this[0])\n else -> this\n}\n\n\n/**\n * Searches this list or its range
for the provided [element] using the binary search algorithm.\n * The list is expected to be sorted into ascending
order according to the Comparable natural ordering of its elements,\n * otherwise the result is undefined.\n * \n * If
the list contains multiple elements equal to the specified [element], there is no guarantee which
one will be found.\n * \n * `null` value is considered to be less than any non-null value.\n * \n * @return the index of
the element, if it is contained in the list within the specified range;\n * otherwise, the inverted insertion point `(-
insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so
that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchOnComparable\n * @sample
samples.collections.Collections.Lists.binarySearchWithBoundaries\n * \npublic fun <T : Comparable<T>>
List<T?>.binarySearch(element: T?, fromIndex: Int = 0, toIndex: Int = size): Int {\n rangeCheck(size, fromIndex,
toIndex)\n\n var low = fromIndex\n var high = toIndex - 1\n\n while (low <= high) {\n val mid = (low +
high).ushr(1) // safe from overflows\n val midVal = get(mid)\n val cmp = compareValues(midVal,
element)\n\n if (cmp < 0)\n low = mid + 1\n else if (cmp > 0)\n high = mid - 1\n else\n return mid // key found\n
}\n\n return -(low + 1) // key not found\n}\n\n\n/**\n * Searches this list or its range for the provided [element] using
the binary search algorithm.\n * The list is expected to be sorted into ascending order according to the specified
[comparator],\n * otherwise the result is undefined.\n * \n * If the list contains multiple elements equal to the
specified [element], there is no guarantee which one will be found.\n * \n * `null` value is considered to be less than

```

any non-null value.
 * @return the index of the element, if it is contained in the list within the specified range;
 * otherwise, the inverted insertion point $\text{-(insertion point - 1)}$.
 * The insertion point is defined as the index at which the element should be inserted,
 * so that the list (or the specified subrange of list) still remains sorted according to the specified [comparator].

```

* @sample samples.collections.Collections.Lists.binarySearchWithComparator
public fun <T>
List<T>.binarySearch(element: T, comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Int {
    rangeCheck(size, fromIndex, toIndex)
    var low = fromIndex
    var high = toIndex - 1
    while (low <= high) {
        val mid = (low + high).ushr(1) // safe from overflows
        val midVal = get(mid)
        val cmp = comparator.compare(midVal, element)
        if (cmp < 0)
            low = mid + 1
        else if (cmp > 0)
            high = mid - 1
        else
            return mid // key found
    }
    return -(low + 1) // key not found
}

```

Searches this list or its range for an element having the key returned by the specified [selector] function
 * equal to the provided [key] value using the binary search algorithm.
 * The list is expected to be sorted into ascending order according to the Comparable natural ordering of keys
 * of its elements.
 * otherwise the result is undefined.
 * If the list contains multiple elements with the specified [key], there is no guarantee which one will be found.
 * `null` value is considered to be less than any non-null value.
 * @return the index of the element with the specified [key], if it is contained in the list within the specified range;
 * otherwise, the inverted insertion point $\text{-(insertion point - 1)}$.
 * The insertion point is defined as the index at which the element should be inserted,
 * so that the list (or the specified subrange of list) still remains sorted.

```

* @sample samples.collections.Collections.Lists.binarySearchByKey
public inline fun <T, K : Comparable<K>> List<T>.binarySearchBy(
    key: K?, fromIndex: Int = 0, toIndex: Int = size,
    crossinline selector: (T) -> K?): Int =
    binarySearch(fromIndex, toIndex) { compareValues(selector(it), key) }

```

// do not introduce this overload --- too rare
 public fun
 <T, K> List<T>.binarySearchBy(key: K, comparator: Comparator<K>, fromIndex: Int = 0, toIndex: Int = size(),
 selector: (T) -> K): Int =
 binarySearch(fromIndex, toIndex) { comparator.compare(selector(it), key) }
 * Searches this list or its range for an element for which the given [comparison] function returns zero
 using the binary search algorithm.
 * The list is expected to be sorted so that the signs of the [comparison] function's return values ascend on the list elements,
 * i.e. negative values come before zero and zeroes come before positive values.
 * Otherwise, the result is undefined.
 * If the list contains multiple elements for which [comparison] returns zero, there is no guarantee which one will be found.
 * @param comparison function that returns zero when called on the list element being searched.
 * On the elements coming before the target element, the function must return negative values;
 * on the elements coming after the target element, the function must return positive values.
 * @return the index of the found element, if it is contained in the list within the specified range;
 * otherwise, the inverted insertion point $\text{-(insertion point - 1)}$.
 * The insertion point is defined as the index at which the element should be inserted,
 * so that the list (or the specified subrange of list) still remains sorted.

```

* @sample samples.collections.Collections.Lists.binarySearchWithComparisonFunction
public fun <T>
List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {
    rangeCheck(size, fromIndex, toIndex)
    var low = fromIndex
    var high = toIndex - 1
    while (low <= high) {
        val mid = (low + high).ushr(1) // safe from overflows
        val midVal = get(mid)
        val cmp = comparison(midVal)
        if (cmp < 0)
            low = mid + 1
        else if (cmp > 0)
            high = mid - 1
        else
            return mid //
            key found
    }
    return -(low + 1) // key not found
}

```

* Checks that `from` and `to` are in the range of [0..size] and throws an appropriate exception, if they aren't.
 * private fun rangeCheck(size: Int, fromIndex: Int, toIndex: Int) {
 when {
 fromIndex > toIndex -> throw IllegalArgumentException("\\$fromIndex (\$fromIndex) is greater than toIndex (\$toIndex).")
 fromIndex < 0 -> throw IndexOutOfBoundsException("\\$fromIndex (\$fromIndex) is less than zero.")
 toIndex > size -> throw IndexOutOfBoundsException("\\$toIndex (\$toIndex) is greater than size (\$size).")
 }
 }
 @PublishedApi
 @SinceKotlin("1.3")
 internal expect fun checkIndexOverflow(index: Int):

```

Int\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkCountOverflow(count: Int):
Int\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun throwIndexOverflow() { throw
ArithmeticException("Index overflow has happened.") }\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal
fun throwCountOverflow() { throw ArithmeticException("Count overflow has happened.") }\n\n\n"/*\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n@file:OptIn(kotlin.experiment
al.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\nprivate object
EmptyMap : Map<Any?, Nothing>, Serializable { \n    private const val serialVersionUID: Long =
8246714829545688274\n\n    override fun equals(other: Any?): Boolean = other is Map<*, *> &&
other.isEmpty()\n    override fun hashCode(): Int = 0\n    override fun toString(): String = "{}"\n\n    override val
size: Int get() = 0\n    override fun isEmpty(): Boolean = true\n\n    override fun containsKey(key: Any?): Boolean =
false\n    override fun containsValue(value:
Nothing): Boolean = false\n    override fun get(key: Any?): Nothing? = null\n    override val entries:
Set<Map.Entry<Any?, Nothing>> get() = EmptySet\n    override val keys: Set<Any?> get() = EmptySet\n
override val values: Collection<Nothing> get() = EmptyList\n\n    private fun readResolve(): Any =
EmptyMap\n}\n\n/**\n * Returns an empty read-only map of specified type.\n * \n * The returned map is serializable
(JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n\npublic fun <K, V>
emptyMap(): Map<K, V> = @Suppress("UNCHECKED_CAST") (EmptyMap as Map<K, V>)\n\n/**\n * Returns
a new read-only map with the specified contents, given as a list of pairs\n * where the first value is the key and the
second is the value.\n * \n * If multiple pairs have the same key, the resulting map will contain the value from the
last of those pairs.\n * \n * Entries of the map are iterated in the order they were specified.\n * \n * The returned map
is serializable (JVM).\n
*/\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n */\n\npublic fun <K, V> mapOf(vararg pairs:
Pair<K, V>): Map<K, V> =\n    if (pairs.size > 0) pairs.toMap(LinkedHashMap(mapCapacity(pairs.size))) else
emptyMap()\n\n/**\n * Returns an empty read-only map.\n * \n * The returned map is serializable (JVM).\n *
*/\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n\n@kotl
in.internal.InlineOnly\n\npublic inline fun <K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n * \n *
The returned map preserves the entry iteration order.\n * @sample
samples.collections.Maps.Instantiation.emptyMutableMap\n
*/\n\n@SinceKotlin("1.1")\n\n@kotl
in.internal.InlineOnly\n\npublic inline fun <K, V> mutableMapOf():
MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given
as a list of pairs\n * where the first component is the key and the second is the value.\n * \n * If multiple pairs have
the same key,
the resulting map will contain the value from the last of those pairs.\n * \n * Entries of the map are iterated in the
order they were specified.\n * \n * @sample samples.collections.Maps.Instantiation.mutableMapFromPairs\n *
*/\n * @sample samples.collections.Maps.Instantiation.emptyMutableMap\n */\n\npublic fun <K, V> mutableMapOf(vararg
pairs: Pair<K, V>): MutableMap<K, V> =\n    LinkedHashMap<K, V>(mapCapacity(pairs.size)).apply {
putAll(pairs) }\n\n/**\n * Returns an empty new [HashMap].\n * \n * @sample
samples.collections.Maps.Instantiation.emptyHashMap\n
*/\n\n@SinceKotlin("1.1")\n\n@kotl
in.internal.InlineOnly\n\npublic inline fun <K, V> hashMapOf(): HashMap<K, V>
= HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with the specified contents, given as a list of pairs\n *
where the first component is the key and the second is the value.\n * \n * @sample
samples.collections.Maps.Instantiation.hashMapFromPairs\n */\n\npublic fun <K, V> hashMapOf(vararg pairs:
Pair<K, V>): HashMap<K, V> = HashMap<K,
V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [LinkedHashMap].\n
*/\n\n@SinceKotlin("1.1")\n\n@kotl
in.internal.InlineOnly\n\npublic inline fun <K, V> linkedMapOf():
LinkedHashMap<K, V> = LinkedHashMap<K, V>()\n\n/**\n * Returns a new [LinkedHashMap] with the specified

```


contents, given as a list of pairs where the first component is the key and the second is the value. If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs. Entries of the map are iterated in the order they were specified.

`@sample`
`samples.collections.Maps.Instantiation.linkedMapFromPairs`

```

public fun <K, V> linkedMapOf(vararg pairs: Pair<K, V>): LinkedHashMap<K, V> = pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))

```

`*` Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction] and returning a read-only map with the same key-value pairs. The map passed as a receiver to the [builderAction] is valid only inside that function. Using it outside of the function produces an unspecified behavior. Entries of the map are iterated in the order they were added by the [builderAction]. The returned map is serializable (JVM).

`@sample`
`samples.collections.Builders.Maps.buildMapSample`

```

@SinceKotlin("1.6")@WasExperimental(ExperimentalStdlibApi::class)@kotlin.internal.InlineOnly
public inline fun <K, V> buildMap(@BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {
    contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }
    return buildMapInternal(builderAction)
}

```

`@PublishedApi`

```

@SinceKotlin("1.3")@kotlin.internal.InlineOnly
internal expect inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>().->Unit): Map<K, V>

```

`*` Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction] and returning a read-only map with the same key-value pairs. The map passed as a receiver to the [builderAction] is valid only inside that function. Using it outside of the function produces an unspecified behavior. [capacity] is used to hint the expected number of pairs added in the [builderAction]. Entries of the map are iterated in the order they were added by the [builderAction]. The returned map is serializable (JVM). @throws `IllegalArgumentException` if the given [capacity] is negative.

`@sample`
`samples.collections.Builders.Maps.buildMapSample`

```

@SinceKotlin("1.6")@WasExperimental(ExperimentalStdlibApi::class)@kotlin.internal.InlineOnly
public inline fun <K, V> buildMap(capacity: Int, @BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {
    contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }
    return buildMapInternal(capacity, builderAction)
}

```

`@PublishedApi`

```

@SinceKotlin("1.3")@kotlin.internal.InlineOnly
internal expect inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>().->Unit): Map<K, V>

```

`*` Calculate the initial capacity of a map.

```

@PublishedApi
internal expect fun mapCapacity(expectedSize: Int): Int

```

`*` Returns `true` if this map is not empty.

`@sample`
`samples.collections.Maps.Usage.mapIsNotEmpty`

```

@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.isNotEmpty(): Boolean = !isEmpty()

```

`*` Returns `true` if this nullable map is either null or empty.

`@sample`
`samples.collections.Maps.Usage.mapIsNullOrEmpty`

```

@SinceKotlin("1.3")@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>?.isNullOrEmpty(): Boolean {
    contract { returns(false) implies (this@isNullOrEmpty != null) }
    return this == null || isEmpty()
}

```

`*` Returns the [Map] if its not `null`, or the empty [Map] otherwise.

`@sample`
`samples.collections.Maps.Usage.mapOrElse`

```

@kotlin.internal.InlineOnly
public inline fun <K, V> Map<K, V>?.orElse(): Map<K, V> = this ?: emptyMap()

```

`*` Returns this map if it's not empty or the result of calling [defaultValue] function if the map is empty.

`@sample`
`samples.collections.Maps.Usage.mapIfEmpty`

```

@SinceKotlin("1.3")@kotlin.internal.InlineOnly
public inline fun <M, R> M.ifEmpty(defaultValue: () -> R): R where M : Map<*, *>, M : R = if (isEmpty())
    defaultValue() else this

```

`*` Checks if the map contains the given key. This method allows to use the `x in map` syntax for checking whether an object is contained in the map.

`@sample`
`samples.collections.Maps.Usage.containsKey`

```

@kotlin.internal.OnlyInputTypes
K, V> Map<out K, V>.contains(key: K): Boolean = containsKey(key)

```

`*` Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.

```

*  

@kotlin.internal.InlineOnly  

public  

inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.get(key: K): V? =  

@Suppress("UNCHECKED_CAST") (this as Map<K, V>).get(key)  

* Allows to use the index operator for storing values in a mutable map.  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit {  

put(key, value)  

* Returns `true` if the map contains the specified [key].  

*  

* Allows to overcome type-safety restriction of `containsKey` that requires to pass a key of type `K`.  

*  

@kotlin.internal.InlineOnly  

public inline fun <@kotlin.internal.OnlyInputTypes K> Map<out K, *>.containsKey(key: K): Boolean =  

@Suppress("UNCHECKED_CAST") (this as Map<K, *>).containsKey(key)  

* Returns `true` if the map maps one or more keys to the specified [value].  

*  

* Allows to overcome type-safety restriction of `containsValue` that requires to pass a value of type `V`.  

*  

@sample samples.collections.Maps.Usage.containsValue  

*  

@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in some cases  

@kotlin.internal.InlineOnly  

public inline fun <K, @kotlin.internal.OnlyInputTypes V> Map<K, V>.containsValue(value: V): Boolean = this.containsValue(value)  

* Removes the specified key and its corresponding value from this map.  

*  

* @return the previous value associated with the key, or `null` if the key was not present in the map.  

*  

* Allows to overcome type-safety restriction of `remove` that requires to pass a key of type `K`.  

*  

@kotlin.internal.InlineOnly  

public inline fun <@kotlin.internal.OnlyInputTypes K, V> MutableMap<out K, V>.remove(key: K): V? =  

@Suppress("UNCHECKED_CAST") (this as MutableMap<K, V>).remove(key)  

* Returns the key component of the map entry.  

*  

* This method allows to use destructuring declarations when working with maps, for example:  

*  

*  

* for ((key, value) in map) {  

// do something with the key and the value  

* }  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <K, V> Map.Entry<K, V>.component1(): K = key  

* Returns the value component of the map entry.  

*  

* This method allows to use destructuring declarations when working with maps, for example:  

*  

*  

* for ((key, value) in map) {  

// do something with the key and the value  

* }  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <K, V> Map.Entry<K, V>.component2(): V = value  

* Converts entry to [Pair] with key being first component and value being second.  

*  

@kotlin.internal.InlineOnly  

public inline fun <K, V> Map.Entry<K, V>.toPair(): Pair<K, V> = Pair(key, value)  

* Returns the value for the given key, or the result of the [defaultValue] function if there was no entry for the given key.  

*  

* @sample samples.collections.Maps.Usage.getOrElse  

*  

@kotlin.internal.InlineOnly  

public inline fun <K, V> Map<K, V>.getOrDefault(key: K, defaultValue: () -> V): V = get(key) ?: defaultValue  

*  

@kotlin.internal.InlineOnly  

public inline fun <K, V> Map<K, V>.getOrNull(key: K): V? = get(key)  

* Returns the value for the given [key] or throws an exception if there is no such key in the map.  

*  

* If the map was created by [withDefault], resorts to its `defaultValue` provider function instead of throwing an exception.  

*  

* @throws NoSuchElementException when the map doesn't contain a value for the specified key and no implicit default value was provided for that map.  

*  

@SinceKotlin("1.1")  

public fun <K, V> Map<K, V>.getValue(key: K): V = getOrDefault(key)  

* Returns the value for the given key. If the key is not found in the map, calls the [defaultValue] function, puts its result into the map under the given key and returns it.  

*  

* Note that the operation is not guaranteed to be atomic if the map is being modified concurrently.  

*  

* @sample samples.collections.Maps.Usage.getOrPut  

*  

@kotlin.internal.InlineOnly  

public inline fun <K, V> MutableMap<K, V>.getOrPut(key: K, defaultValue: () -> V): V {  

val value = get(key)  

return if (value == null) {  

val answer = defaultValue()  

put(key, answer)  

answer  

} else {  

value  

}  

* Returns an [Iterator] over the entries in the [Map].  

*  

* @sample samples.collections.Maps.Usage.forOverEntries  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <K, V> Map<out K, V>.iterator(): Iterator<Map.Entry<K, V>> = entries.iterator()  

* Returns a [MutableIterator] over the mutable entries in the [MutableMap].

```

```

*  

@kotlin.jvm.JvmName("mutableIterator")  

@kotlin.internal.InlineOnly  

public inline operator fun <K, V>  

MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K,  

V>> = entries.iterator()  

* Populates the given [destination] map with entries having the keys of this map  

and the values obtained  

* by applying the [transform] function to each entry in this [Map].  

public inline fun  

<K, V, R, M : MutableMap<in K, in R>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K,  

V>) -> R): M {  

return entries.associateByTo(destination, { it.key }, transform)  

}  

* Populates the given  

[destination] map with entries having the keys obtained  

* by applying the [transform] function to each entry in this  

[Map] and the values of this map.  

* In case if any two entries are mapped to the equal keys, the value of the  

latter one will overwrite  

* the value associated with the former one.  

public inline fun <K, V, R, M :  

MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M  

{  

return entries.associateByTo(destination, transform, {  

it.value })  

}  

* Puts all the given [pairs] into this [MutableMap] with the first component in the pair being  

the key and the second the value.  

public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Array<out  

Pair<K, V>>): Unit {  

for ((key, value) in pairs) {  

put(key, value)  

}  

}  

* Puts all the elements  

of the given collection into this [MutableMap] with the first component in the pair being the key and the second the  

value.  

public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {  

for ((key,  

value) in pairs) {  

put(key, value)  

}  

}  

* Puts all the elements of the given sequence into this  

[MutableMap] with the first component in the pair being the key and the second the value.  

public fun <K, V>  

MutableMap<in K, in V>.putAll(pairs: Sequence<Pair<K, V>>): Unit {  

for ((key, value) in pairs) {  

put(key, value)  

}  

}  

* Returns a new map with entries having the  

keys of this map and the values obtained by applying the [transform]  

* function to each entry in this [Map].  

@sample  

samples.collections.maps.transformations.mapValues  

public inline fun <K, V, R> Map<out K,  

V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {  

return mapValuesTo(LinkedHashMap<K,  

R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()  

}  

* Returns a new Map with entries  

having the keys obtained by applying the [transform] function to each entry in this  

* [Map] and the values of this  

map.  

* In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite  

* the value associated with the former one.  

* The returned map preserves the entry iteration order of the original  

map.  

@sample samples.collections.maps.transformations.mapKeys  

public inline fun <K, V, R>  

Map<out K, V>.mapKeys(transform:  

(Map.Entry<K, V>) -> R): Map<R, V> {  

return mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)),  

transform) // .optimizeReadOnlyMap()  

}  

* Returns a map containing all key-value pairs with keys  

matching the given [predicate].  

* The returned map preserves the entry iteration order of the original map.  

@sample samples.collections.maps.filtering.filterKeys  

public inline fun <K, V> Map<out K,  

V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {  

val result = LinkedHashMap<K, V>()  

for (entry in  

this) {  

if (predicate(entry.key)) {  

result.put(entry.key, entry.value)  

}  

}  

return  

result  

}  

* Returns a map containing all key-value pairs with values matching the given [predicate].  

* The returned map preserves the entry iteration order of the original map.  

@sample  

samples.collections.maps.filtering.filterValues  

public inline fun <K, V> Map<out K,  

V>.filterValues(predicate: (V) -> Boolean): Map<K,  

V> {  

val result = LinkedHashMap<K, V>()  

for (entry in this) {  

if (predicate(entry.value)) {  

result.put(entry.key, entry.value)  

}  

}  

return result  

}  

* Appends all entries matching the  

given [predicate] into the mutable map given as [destination] parameter.  

* @return the destination map.  

@sample samples.collections.maps.filtering.filterTo  

public inline fun <K, V, M : MutableMap<in K, in V>>  

Map<out K, V>.filterTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {  

for (element in this)  

{  

if (predicate(element)) {  

destination.put(element.key, element.value)  

}  

}  

return  

destination  

}  

* Returns a new map containing all key-value pairs matching the given [predicate].  

* The returned map preserves the entry iteration order of the original map.  

@sample

```

```

samples.collections.Maps.Filtering.filter\n *\npublic inline fun <K, V> Map<out K, V>.filter(predicate:
(Map.Entry<K, V>) -> Boolean): Map<K, V> {\n    return filterTo(LinkedHashMap<K, V>(),
predicate)\n}\n\n/**\n * Appends all entries not matching the given [predicate] into the given [destination].\n *\n *
@return the destination map.\n *\n * @sample samples.collections.Maps.Filtering.filterNotTo\n *\npublic inline fun
<K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -
> Boolean): M {\n    for (element in this) {\n        if (!predicate(element)) {\n            destination.put(element.key,
element.value)\n        }\n    }\n    return destination\n}\n\n/**\n * Returns a new map containing all key-value pairs
not matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original
map.\n *\n * @sample samples.collections.Maps.Filtering.filterNot\n *\npublic inline fun <K, V> Map<out K,
V>.filterNot(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n    return filterNotTo(LinkedHashMap<K,
V>(), predicate)\n}\n\n/**\n * Returns a new map containing all key-value pairs from the given collection of
pairs.\n *\n * The returned map preserves the entry iteration order of the original collection.\n *\n * If any of two pairs
would have the same key the last one gets added to the map.\n *\npublic fun <K, V> Iterable<Pair<K,
V>>.toMap(): Map<K, V> {\n    if (this is Collection) {\n        return when (size) {\n            0 -> emptyMap()\n            1 -> mapOf(if (this is List) this[0] else iterator().next())\n            else -> toMap(LinkedHashMap<K,
V>(mapCapacity(size)))\n        }\n    }\n    return toMap(LinkedHashMap<K,
V>().optimizeReadOnlyMap())\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value
pairs from the given collection of pairs.\n *\npublic fun <K, V, M : MutableMap<in K, in V>> Iterable<Pair<K,
V>>.toMap(destination: M): M =\n    destination.apply { putAll(this@toMap) }\n}\n\n/**\n * Returns a new map
containing all key-value
pairs from the given array of pairs.\n *\n * The returned map preserves the entry iteration order of the original
array.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n *\npublic fun <K, V>
Array<out Pair<K, V>>.toMap(): Map<K, V> = when (size) {\n    0 -> emptyMap()\n    1 -> mapOf(this[0])\n    else
-> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n}\n\n/**\n * Populates and returns the [destination]
mutable map with key-value pairs from the given array of pairs.\n *\npublic fun <K, V, M : MutableMap<in K, in
V>> Array<out Pair<K, V>>.toMap(destination: M): M =\n    destination.apply { putAll(this@toMap) }\n}\n\n/**\n * Returns a new map containing all key-value pairs from the given sequence of pairs.\n *\n * The returned map
preserves the entry iteration order of the original sequence.\n *\n * If any of two pairs would have the same key the last
one gets added to the map.\n *\npublic fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> =
toMap(LinkedHashMap<K,
V>().optimizeReadOnlyMap())\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs
from the given sequence of pairs.\n *\npublic fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K,
V>>.toMap(destination: M): M =\n    destination.apply { putAll(this@toMap) }\n}\n\n/**\n * Returns a new read-only
map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration
order of the original map.\n *\npublic fun <K, V> Map<out K, V>.toMap(): Map<K, V> =
when (size) {\n    0 -> emptyMap()\n    1 -> toSingletonMap()\n    else -> toMutableMap()\n}\n\n/**\n * Returns a
new mutable map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry
iteration order of the original map.\n *\npublic fun <K, V> Map<out K,
V>.toMutableMap(): MutableMap<K, V> = LinkedHashMap(this)\n}\n\n/**\n * Populates and returns the
[destination] mutable
map with key-value pairs from the given map.\n *\npublic fun <K, V, M : MutableMap<in
K, in V>> Map<out K, V>.toMap(destination: M): M =\n    destination.apply { putAll(this@toMap) }\n}\n\n/**\n * Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].\n *\n * The
returned map preserves the entry iteration order of the original map.\n *\n * The [pair] is iterated in the end if it has a
unique key.\n *\npublic operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> =\n    if
(this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply { put(pair.first, pair.second) }\n}\n\n/**\n * Creates a
new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].\n *\n * The
returned map preserves the entry iteration order of the original map.\n *\n * Those [pairs] with unique keys are

```

iterated in the end in the order of [pairs] collection.

```

public operator fun <K, V> Map<out K, V>.plus(pairs:
    Iterable<Pair<K, V>>): Map<K, V> =
    if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply {
        putAll(pairs) }

```

* Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].

* The returned map preserves the entry iteration order of the original map.

* Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.

```

public operator fun <K, V>
    Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> =
    if (this.isEmpty()) pairs.toMap() else
    LinkedHashMap(this).apply { putAll(pairs) }

```

* Creates a new read-only map by replacing or adding entries to this map from a given sequence of key-value [pairs].

* The returned map preserves the entry iteration order of the original map.

* Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Sequence<Pair<K, V>>): Map<K,
    V> =
    LinkedHashMap(this).apply { putAll(pairs) }.optimizeReadOnlyMap()

```

* Creates a new read-only map by replacing or adding entries to this map from another [map].

* The returned map preserves the entry iteration order of the original map.

* Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].

```

public operator fun <K, V> Map<out K, V>.plus(map: Map<out K, V>):
    Map<K, V> =
    LinkedHashMap(this).apply { putAll(map) }

```

* Appends or replaces the given [pair] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in K, in
    V>.plusAssign(pair: Pair<K, V>) {
    put(pair.first, pair.second)
}

```

* Appends or replaces all pairs from the given collection of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K,
    V> MutableMap<in K, in V>.plusAssign(pairs: Iterable<Pair<K, V>>) {
    putAll(pairs)
}

```

* Appends or replaces all pairs from the given array of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs:
    Array<out Pair<K, V>>) {
    putAll(pairs)
}

```

* Appends or replaces all pairs from the given sequence of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<in
    K, in V>.plusAssign(pairs: Sequence<Pair<K, V>>) {
    putAll(pairs)
}

```

* Appends or replaces all entries from the given [map] in this mutable map.

```

@kotlin.internal.InlineOnly
public inline operator fun <K,
    V> MutableMap<in K, in V>.plusAssign(map: Map<K, V>) {
    putAll(map)
}

```

* Returns a map containing all entries of the original map except the entry with the given [key].

* The returned map preserves the entry iteration order of the original map.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K,
    V>.minus(key: K):
    Map<K, V> =
    this.toMutableMap().apply { minusAssign(key) }.optimizeReadOnlyMap()

```

* Returns a map containing all entries of the original map except those entries

* the keys of which are contained in the given [keys] collection.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K, V>.minus(keys: Iterable<K>): Map<K, V> =
    this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()

```

* Returns a map containing all entries of the original map except those entries

* the keys of which are contained in the given [keys] array.

* The returned map preserves the entry iteration order of the original map.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K, V>.minus(keys: Array<out K>): Map<K, V> =
    this.toMutableMap().apply {
        minusAssign(keys)
    }.optimizeReadOnlyMap()

```

* Returns a map containing all entries of the original map except

those entries

* the keys of which are contained in the given [keys] sequence.

* The returned map preserves the entry iteration order of the original map.

```

@SinceKotlin("1.1")
public operator fun <K, V> Map<out K,
    V>.minus(keys: Sequence<K>): Map<K, V> =
    this.toMutableMap().apply {
        minusAssign(keys)
    }.optimizeReadOnlyMap()

```

* Removes the entry with the given [key] from this mutable map.

```

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<K,
    V>.minusAssign(key: K) {
    remove(key)
}

```

* Removes all entries the keys of which are contained in the given [keys] collection from this mutable map.

```

@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<K,
    V>.minusAssign(keys: Iterable<K>) {
    this.keys.removeAll(keys)
}

```

* Removes all entries the keys of

which are contained in the given [keys] array from this mutable map.

```

*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^public
inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Array<out K>) {
this.keys.removeAll(keys)}
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^public inline
operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Sequence<K>) {
this.keys.removeAll(keys)}
do not expose for now @PublishedApi^internal fun <K, V> Map<K,
V>.optimizeReadOnlyMap() = when (size) {
0 -> emptyMap()
1 -> toSingletonMapOrSelf()
else ->
this}
/*^ Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.
* Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
*^@file:kotlin.jvm.JvmMultifileClass^@file:kotlin.jvm.JvmName("SetsKt")^@file:OptIn(kotlin.experimenta
l.ExperimentalTypeInference::class)^package
kotlin.collections^import kotlin.contracts.*^internal object EmptySet : Set<Nothing>, Serializable {
private const val serialVersionUID: Long = 3406603774387020532
override fun equals(other: Any?): Boolean
= other is Set<*> && other.isEmpty()
override fun hashCode(): Int = 0
override fun toString(): String =
"[]"
override val size: Int get() = 0
override fun isEmpty(): Boolean = true
override fun
contains(element: Nothing): Boolean = false
override fun containsAll(elements: Collection<Nothing>): Boolean
= elements.isEmpty()
override fun iterator(): Iterator<Nothing> = EmptyIterator
private fun
readResolve(): Any = EmptySet}
*^@sample samples.collections.Collections.Sets.emptyReadOnlySet
*^public fun <T> emptySet():
Set<T> = EmptySet
*^@sample samples.collections.Collections.Sets.emptyReadOnlySet
*^public fun <T> setOf(vararg elements: T): Set<T> = if
(elements.size > 0) elements.toSet() else emptySet()
*^@sample samples.collections.Collections.Sets.emptyReadOnlySet
*^public inline fun <T> setOf(): Set<T> = emptySet()
*^@sample
samples.collections.Collections.Sets.emptyMutableSet
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^public inline fun <T> mutableSetOf(): MutableSet<T> =
LinkedHashSet()
*^@sample samples.collections.Collections.Sets.mutableSet
*^public fun <T> mutableSetOf(vararg elements: T): MutableSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^public inline fun <T> hashSetOf(): HashSet<T> =
HashSet()
*^@sample samples.collections.Collections.Sets.emptyHashSet
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^public inline fun <T> linkedSetOf(): LinkedHashSet<T>
= LinkedHashSet()
*^@sample samples.collections.Collections.Sets.linkedHashSet
*^public fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))
* Returns a new read-only set either with single given element, if it is not null, or empty set if the element is null.
* The returned set is serializable (JVM).
*^@SinceKotlin("1.4")^public fun <T : Any> setOfNotNull(element: T?): Set<T> = if (element != null)
setOf(element) else emptySet()
*^@SinceKotlin("1.4")^public fun <T
^@sample samples.collections.Collections.Sets.setOfNotNull

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: Any> setOfNotNull(vararg elements: T?): Set<T> {\n  return
elements.filterNotNullTo(LinkedHashSet())\n}\n\n/**\n * Builds a new read-only [Set] by populating a
[MutableSet] using the given [builderAction]\n * and returning a read-only set with the same elements.\n
*\n * The set passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the
function produces an unspecified behavior.\n *\n * Elements of the set are iterated in the order they were added by
the [builderAction].\n *\n * The returned set is serializable (JVM).\n *\n * @sample
samples.collections.Builders.Sets.buildSetSample\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <E> buildSet(@BuilderInference builderAction: MutableSet<E>().-> Unit): Set<E> {\n  contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n  return
buildSetInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal
expect inline fun <E> buildSetInternal(builderAction: MutableSet<E>().-> Unit): Set<E>\n\n/**\n * Builds a
new read-only [Set] by populating a [MutableSet] using the given [builderAction]\n * and returning a read-only
set with the same elements.\n *\n * The set passed as a receiver to the [builderAction] is valid only inside that
function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * [capacity] is used to hint the
expected number of elements added in the [builderAction].\n *\n * Elements of the set are iterated in the order they
were added by the [builderAction].\n *\n * The returned set is serializable (JVM).\n *\n * @throws
IllegalArgumentExcepion if the given [capacity] is negative.\n *\n * @sample
samples.collections.Builders.Sets.buildSetSample\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <E> buildSet(capacity: Int, @BuilderInference builderAction: MutableSet<E>().-> Unit): Set<E> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n  return buildSetInternal(capacity,
builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal
expect inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().-> Unit): Set<E>\n\n\n/**
Returns this Set if it's not `null` and the empty set otherwise. *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Set<T>?.orEmpty(): Set<T> = this ?: emptySet()\n\ninternal fun <T> Set<T>.optimizeReadOnlySet() = when (size)
{\n  0 -> emptySet()\n  1 -> setOf(iterator().next())\n  else -> this}\n}\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n@file:Suppress("PLATFOR
M_CLASS_MAPPED_TO_KOTLIN")\n\npackage kotlin.text\n\n/**\n * Parses the string as a signed [Byte]
number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n *\n@SinceKotlin("1.1")\n\npublic fun String.toByteArrayOrNull():
Byte? = toByteOrNull(radix = 10)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result\n *
or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when
[radix] is not a valid radix for string to number conversion.\n *\n *\n@SinceKotlin("1.1")\n\npublic fun
String.toByteArrayOrNull(radix: Int): Byte? {\n  val int = this.toIntOrNull(radix) ?: return null\n  if (int <
Byte.MIN_VALUE || int > Byte.MAX_VALUE) return null\n  return int.toByteArray()\n}\n\n/**\n * Parses the string as
a [Short] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n *\n@SinceKotlin("1.1")\n\npublic fun String.toShortOrNull(): Short? = toShortOrNull(radix = 10)\n\n/**\n * Parses
the string as a [Short] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string
to number conversion.\n *\n *\n@SinceKotlin("1.1")\n\npublic fun String.toShortOrNull(radix: Int): Short? {\n  val
int = this.toIntOrNull(radix) ?: return null\n  if (int < Short.MIN_VALUE || int > Short.MAX_VALUE) return
null\n  return int.toShort()\n}\n\n/**\n * Parses the string as an [Int] number and returns the result\n * or `null` if
the string is not a valid representation of a number.\n *\n *\n@SinceKotlin("1.1")\n\npublic fun String.toIntOrNull():
Int? = toIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [Int] number and returns the result\n * or `null` if
the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a

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valid radix for string to number conversion.\n *\n@SinceKotlin("1.1")\npublic fun String.toIntOrNull(radix: Int):
Int? {\n    checkRadix(radix)\n    val length = this.length\n    if (length == 0) return null\n    val start: Int\n    val
isNegative: Boolean\n    val limit: Int\n    val firstChar
= this[0]\n    if (firstChar < '0') { // Possible leading sign\n        if (length == 1) return null // non-digit (possible
sign) only, no digits after\n        start = 1\n        if (firstChar == '-') {\n            isNegative = true\n            limit =
Int.MIN_VALUE\n        } else if (firstChar == '+') {\n            isNegative = false\n            limit = -
Int.MAX_VALUE\n        } else\n            return null\n    } else {\n        start = 0\n        isNegative = false\n        limit
= -Int.MAX_VALUE\n    }\n    val limitForMaxRadix = (-Int.MAX_VALUE) / 36\n    var limitBeforeMul =
limitForMaxRadix\n    var result = 0\n    for (i in start until length) {\n        val digit = digitOf(this[i], radix)\n        if
(digit < 0) return null\n        if (result < limitBeforeMul) {\n            if (limitBeforeMul == limitForMaxRadix) {\n
                limitBeforeMul = limit / radix\n            }\n            if (result < limitBeforeMul) {\n                return null\n
            }\n        } else {\n            return null\n        }\n    }\n    result *= radix\n    if (result < limit
+ digit) return null\n    result -= digit\n}\n    return if (isNegative) result else -result\n}\n\n**\n * Parses the
string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.1")\npublic fun String.toLongOrNull(): Long? = toLongOrNull(radix = 10)\n\n**\n * Parses the
string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.\n *\n@SinceKotlin("1.1")\npublic fun String.toLongOrNull(radix: Int): Long? {\n
    checkRadix(radix)\n    val length = this.length\n    if (length == 0) return null\n    val start: Int\n    val isNegative:
Boolean\n    val limit: Long\n    val firstChar
= this[0]\n    if (firstChar < '0') { // Possible leading sign\n        if (length == 1) return null // non-digit (possible
sign) only, no digits after\n        start = 1\n        if (firstChar == '-') {\n            isNegative = true\n            limit =
Long.MIN_VALUE\n        } else if (firstChar == '+') {\n            isNegative = false\n            limit = -
Long.MAX_VALUE\n        } else\n            return null\n    } else {\n        start = 0\n        isNegative = false\n
        limit = -Long.MAX_VALUE\n    }\n    val limitForMaxRadix = (-Long.MAX_VALUE) / 36\n    var
limitBeforeMul = limitForMaxRadix\n    var result = 0L\n    for (i in start until length) {\n        val digit =
digitOf(this[i], radix)\n        if (digit < 0) return null\n        if (result < limitBeforeMul) {\n            if
(limitBeforeMul == limitForMaxRadix) {\n                limitBeforeMul = limit / radix\n            }\n            if (result <
limitBeforeMul) {\n                return null\n            }\n        } else {\n            return null\n        }\n    }\n
    result *= radix\n    if (result <
limit + digit) return null\n    result -= digit\n}\n    return if (isNegative) result else -result\n}\n\ninternal
fun numberFormatError(input: String): Nothing = throw NumberFormatException("Invalid number format:
'$input')\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@package kotlin.time\nimport kotlin.contracts.*\nimport kotlin.jvm.JvmInline\nimport kotlin.math.*\n\n**\n * Represents the amount of time one instant of time is away from another instant.\n *\n * A negative duration is
possible in a situation when the second instant is earlier than the first one.\n *\n * The type can store duration values
up to \u00b1146 years with nanosecond precision,\n
* and up to \u00b1146 million years with millisecond precision.\n *\n * If a duration-returning operation provided in
`kotlin.time` produces a duration value that doesn't fit into the above range,\n *\n * the returned `Duration` is infinite.\n
*\n * An infinite duration value [Duration.INFINITE] can be used to represent infinite timeouts.\n *\n * To
construct a duration use either the extension function [toDuration],\n *\n * or the extension properties [hours],
[minutes], [seconds], and so on,\n *\n * available on [Int], [Long], and [Double] numeric types.\n *\n * To get the value
of this duration expressed in a particular [duration units][DurationUnit]\n *\n * use the functions [toInt], [toLong], and
[toDouble]\n *\n * or the properties [inWholeHours], [inWholeMinutes], [inWholeSeconds], [inWholeNanoseconds],
and so on.\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\n@JvmInline\npublic value
class Duration internal constructor(private val rawValue: Long) : Comparable<Duration> {\n

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private val value: Long get() = rawValue shr 1\n private inline val unitDiscriminator: Int get() =
rawValue.toInt() and 1\n private fun isInNanos() = unitDiscriminator == 0\n private fun isInMillis() =
unitDiscriminator == 1\n private val storageUnit get() = if (isInNanos()) DurationUnit.NANOSECONDS else
DurationUnit.MILLISECONDS\n\n init {\n if (durationAssertionsEnabled) {\n if (isInNanos()) {\n
if (value !in -MAX_NANOS..MAX_NANOS) throw AssertionError("\$value ns is out of nanoseconds
range")\n } else {\n if (value !in -MAX_MILLIS..MAX_MILLIS) throw AssertionError("\$value
ms is out of milliseconds range")\n if (value in -
MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) throw AssertionError("\$value ms is denormalized")\n
}\n }\n }\n\n companion object {\n /** The duration equal to exactly 0 seconds. */\n public
val ZERO: Duration = Duration(0L)\n\n /** The duration whose value is positive infinity. It is useful for representing timeouts that should never expire.
*/\n public val INFINITE: Duration = durationOfMillis(MAX_MILLIS)\n internal val NEG_INFINITE:
Duration = durationOfMillis(-MAX_MILLIS)\n\n /** Converts the given time duration [value] expressed in the
specified [sourceUnit] into the specified [targetUnit]. */\n @ExperimentalTime\n public fun convert(value:
Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double =\n convertDurationUnit(value,
sourceUnit, targetUnit)\n\n // Duration construction extension properties in Duration companion scope\n\n
/** Returns a [Duration] equal to this [Int] number of nanoseconds. */\n @kotlin.internal.InlineOnly\n
public inline val Int.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n /** Returns a
[Duration] equal to this [Long] number of nanoseconds. */\n @kotlin.internal.InlineOnly\n
public inline val Long.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n /**\n *
Returns a [Duration] equal to this [Double] number of nanoseconds.\n * Depending on its magnitude,
the value is rounded to an integer number of nanoseconds or milliseconds.\n * @throws
IllegalArgumentException if this [Double] value is `NaN`.\n */\n @kotlin.internal.InlineOnly\n public
inline val Double.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n /** Returns a
[Duration] equal to this [Int] number of microseconds. */\n @kotlin.internal.InlineOnly\n public inline val
Int.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n /** Returns a [Duration] equal to
this [Long] number of microseconds. */\n @kotlin.internal.InlineOnly\n public inline val
Long.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n /**\n * Returns
a [Duration] equal to this [Double] number of microseconds.\n * Depending on its magnitude, the
value is rounded to an integer number of nanoseconds or milliseconds.\n * @throws
IllegalArgumentException if this [Double] value is `NaN`.\n */\n @kotlin.internal.InlineOnly\n public
inline val Double.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n /** Returns a
[Duration] equal to this [Int] number of milliseconds. */\n @kotlin.internal.InlineOnly\n public inline val
Int.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n /** Returns a [Duration] equal to this
[Long] number of milliseconds. */\n @kotlin.internal.InlineOnly\n public inline val Long.milliseconds get()
= toDuration(DurationUnit.MILLISECONDS)\n\n /**\n * Returns a [Duration] equal to this [Double]
number of milliseconds.\n * Depending on its magnitude, the
value is rounded to an integer number of nanoseconds or milliseconds.\n * @throws
IllegalArgumentException if this [Double] value is `NaN`.\n */\n @kotlin.internal.InlineOnly\n public
inline val Double.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n /** Returns a
[Duration] equal to this [Int] number of seconds. */\n @kotlin.internal.InlineOnly\n public inline val
Int.seconds get() = toDuration(DurationUnit.SECONDS)\n\n /** Returns a [Duration] equal to this [Long]
number of seconds. */\n @kotlin.internal.InlineOnly\n public inline val Long.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n /**\n * Returns a [Duration] equal to this [Double] number of
seconds.\n * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or
milliseconds.\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*/\n @kotlin.internal.InlineOnly\n public inline val Double.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n /** Returns a [Duration] equal to this [Int] number of minutes. */\n

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    @kotlin.internal.InlineOnly\n    public inline val Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n
    /** Returns a [Duration] equal to this [Long] number of minutes. */\n    @kotlin.internal.InlineOnly\n
public inline val Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n    /**\n    * Returns a
[Duration] equal to this [Double] number of minutes.\n    *\n    * Depending on its magnitude, the value is
rounded to an integer number of nanoseconds or milliseconds.\n    *\n    * @throws IllegalArgumentException
if this [Double] value is `NaN`.\n    */\n    @kotlin.internal.InlineOnly\n    public inline val Double.minutes
get() = toDuration(DurationUnit.MINUTES)\n\n\n    /** Returns a [Duration]
equal to this [Int] number of hours. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.hours get() =
toDuration(DurationUnit.HOURS)\n\n\n    /** Returns a [Duration] equal to this [Long] number of hours. */\n
    @kotlin.internal.InlineOnly\n    public inline val Long.hours get() = toDuration(DurationUnit.HOURS)\n\n\n
    /**\n    * Returns a [Duration] equal to this [Double] number of hours.\n    *\n    * Depending on its
magnitude, the value is rounded to an integer number of nanoseconds or milliseconds.\n    *\n    * @throws
IllegalArgumentException if this [Double] value is `NaN`.\n    */\n    @kotlin.internal.InlineOnly\n    public
inline val Double.hours get() = toDuration(DurationUnit.HOURS)\n\n\n\n    /** Returns a [Duration] equal to this
[Int] number of days. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.days get() =
toDuration(DurationUnit.DAYS)\n\n\n    /** Returns a [Duration]
equal to this [Long] number of days. */\n    @kotlin.internal.InlineOnly\n    public inline val Long.days get() =
toDuration(DurationUnit.DAYS)\n\n\n    /**\n    * Returns a [Duration] equal to this [Double] number of days.\n
    *\n    * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or
milliseconds.\n    *\n    * @throws IllegalArgumentException if this [Double] value is `NaN`.\n    */\n
    @kotlin.internal.InlineOnly\n    public inline val Double.days get() = toDuration(DurationUnit.DAYS)\n\n\n\n
// deprecated static factory functions\n\n    /** Returns a [Duration] representing the specified [value] number of
nanoseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use
'Int.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("value.nanoseconds",
"kotlin.time.Duration.Companion.nanoseconds"))\n    @DeprecatedSinceKotlin(warningSince
= "1.6")\n    public fun nanoseconds(value: Int): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n\n    /** Returns a [Duration] representing the specified
[value] number of nanoseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.nanoseconds' extension property from Duration.Companion instead.",
ReplaceWith("value.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n
    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun nanoseconds(value: Long): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of nanoseconds.\n    *\n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Double.nanoseconds' extension property from Duration.Companion
instead.", ReplaceWith("value.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n
    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun nanoseconds(value: Double): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Int.microseconds' extension property from Duration.Companion instead.",
ReplaceWith("value.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n
    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun microseconds(value: Int): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n
    @Deprecated("Use 'Long.microseconds' extension property from Duration.Companion
instead.", ReplaceWith("value.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n
    @DeprecatedSinceKotlin(warningSince = "1.6")\n    public fun microseconds(value: Long): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n\n    /**\n    * Returns a [Duration] representing the

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specified [value] number of microseconds.\n      *\n      * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n      *\n      @SinceKotlin("1.5")\n      @ExperimentalTime\n      @Deprecated("Use 'Double.microseconds' extension property from Duration.Companion instead."),
ReplaceWith("value.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n
@DeprecatedSinceKotlin(warningSince = "1.6")\n      public fun microseconds(value: Double): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n      /** Returns a [Duration] representing the specified
[value] number of milliseconds. *\n      @SinceKotlin("1.5")\n
      @ExperimentalTime\n      @Deprecated("Use 'Int.milliseconds' extension property from
Duration.Companion instead.", ReplaceWith("value.milliseconds",
"kotlin.time.Duration.Companion.milliseconds"))\n      @DeprecatedSinceKotlin(warningSince = "1.6")\n
public fun milliseconds(value: Int): Duration = value.toDuration(DurationUnit.MILLISECONDS)\n\n      /**
Returns a [Duration] representing the specified [value] number of milliseconds. *\n      @SinceKotlin("1.5")\n
      @ExperimentalTime\n      @Deprecated("Use 'Long.milliseconds' extension property from Duration.Companion
instead.", ReplaceWith("value.milliseconds", "kotlin.time.Duration.Companion.milliseconds"))\n
      @DeprecatedSinceKotlin(warningSince = "1.6")\n      public fun milliseconds(value: Long): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n      /**\n      * Returns a [Duration] representing the
specified [value] number of milliseconds.\n
      *\n      * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n      *\n
      @SinceKotlin("1.5")\n      @ExperimentalTime\n      @Deprecated("Use 'Double.milliseconds' extension
property from Duration.Companion instead.", ReplaceWith("value.milliseconds",
"kotlin.time.Duration.Companion.milliseconds"))\n      @DeprecatedSinceKotlin(warningSince = "1.6")\n
public fun milliseconds(value: Double): Duration = value.toDuration(DurationUnit.MILLISECONDS)\n\n      /**
Returns a [Duration] representing the specified [value] number of seconds. *\n      @SinceKotlin("1.5")\n
      @ExperimentalTime\n      @Deprecated("Use 'Int.seconds' extension property from Duration.Companion
instead.", ReplaceWith("value.seconds", "kotlin.time.Duration.Companion.seconds"))\n
      @DeprecatedSinceKotlin(warningSince = "1.6")\n      public fun seconds(value: Int): Duration =
value.toDuration(DurationUnit.SECONDS)\n\n      /** Returns a [Duration] representing the specified [value] number of seconds. *\n
      @SinceKotlin("1.5")\n
      @ExperimentalTime\n      @Deprecated("Use 'Long.seconds' extension property from Duration.Companion
instead.", ReplaceWith("value.seconds", "kotlin.time.Duration.Companion.seconds"))\n
      @DeprecatedSinceKotlin(warningSince = "1.6")\n      public fun seconds(value: Long): Duration =
value.toDuration(DurationUnit.SECONDS)\n\n      /**\n      * Returns a [Duration] representing the specified
[value] number of seconds.\n
      *\n      * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n      *\n      @SinceKotlin("1.5")\n      @ExperimentalTime\n      @Deprecated("Use
'Double.seconds' extension property from Duration.Companion instead.", ReplaceWith("value.seconds",
"kotlin.time.Duration.Companion.seconds"))\n      @DeprecatedSinceKotlin(warningSince = "1.6")\n      public
fun seconds(value:
      Double): Duration = value.toDuration(DurationUnit.SECONDS)\n\n      /** Returns a [Duration] representing
the specified [value] number of minutes. *\n      @SinceKotlin("1.5")\n      @ExperimentalTime\n
      @Deprecated("Use 'Int.minutes' extension property from Duration.Companion instead.",
ReplaceWith("value.minutes", "kotlin.time.Duration.Companion.minutes"))\n
      @DeprecatedSinceKotlin(warningSince = "1.6")\n      public fun minutes(value: Int): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n      /** Returns a [Duration] representing the specified [value]
number of minutes. *\n      @SinceKotlin("1.5")\n      @ExperimentalTime\n      @Deprecated("Use
'Long.minutes' extension property from Duration.Companion instead.", ReplaceWith("value.minutes",
"kotlin.time.Duration.Companion.minutes"))\n      @DeprecatedSinceKotlin(warningSince = "1.6")\n      public
fun minutes(value: Long): Duration = value.toDuration(DurationUnit.MINUTES)\n\n

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    /**\n     * Returns a [Duration] representing the specified [value] number of minutes.\n     *\n     * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n     */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Double.minutes' extension property from Duration.Companion instead.", ReplaceWith("value.minutes",\n    \"kotlin.time.Duration.Companion.minutes\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun minutes(value: Double): Duration = value.toDuration(DurationUnit.MINUTES)\n\n    /** Returns a [Duration] representing the specified [value] number of hours. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Int.hours' extension property from Duration.Companion instead.",\n    ReplaceWith("value.hours", \"kotlin.time.Duration.Companion.hours\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun hours(value: Int): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /** Returns a [Duration] representing the specified [value] number of hours. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Long.hours' extension property from Duration.Companion instead.",\n    ReplaceWith("value.hours", \"kotlin.time.Duration.Companion.hours\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun hours(value: Long): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /**\n     * Returns a [Duration] representing the specified [value] number of hours.\n     * *\n     * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n     */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Double.hours' extension property from Duration.Companion instead.", ReplaceWith("value.hours",\n    \"kotlin.time.Duration.Companion.hours\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun hours(value: Double): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /** Returns a [Duration] representing the specified [value] number of days. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Int.days' extension property from Duration.Companion instead.",\n    ReplaceWith("value.days", \"kotlin.time.Duration.Companion.days\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun days(value: Int): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /** Returns a [Duration] representing the specified [value] number of days. *\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Long.days' extension property from Duration.Companion instead.", ReplaceWith("value.days",\n    \"kotlin.time.Duration.Companion.days\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun days(value: Long): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /**\n     * Returns a [Duration] representing the specified [value] number of days.\n     * *\n     * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n     */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Double.days' extension property from Duration.Companion instead.", ReplaceWith("value.days",\n    \"kotlin.time.Duration.Companion.days\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun days(value: Double): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /**\n     * Parses a string that represents a duration and returns the parsed [Duration] value.\n     * *\n     * The following formats are accepted:\n     * *\n     * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and [parseIsoString].\n     * *\n     * - The format of string returned by the default [Duration.toString] and `toString` in a specific unit,\n     * e.g. `10s`, `1h 30m` or `-(1h 30m)`.\n     * *\n     * @throws IllegalArgumentException if the string doesn't represent a duration in any of the supported formats.\n     */\n    @sample samples.time.Durations.parse\n    public fun parse(value: String): Duration = try {\n        parseDuration(value, strictIso = false)\n    } catch (e: IllegalArgumentException) {\n        throw IllegalArgumentException("Invalid duration string format: '$value'.", e)\n    }\n\n    /**\n     * Parses a string that represents a duration in ISO-8601 format and returns the parsed [Duration] value.\n     * *\n     * @throws IllegalArgumentException if the string doesn't represent a duration in ISO-8601 format.\n     */\n    @sample samples.time.Durations.parseIsoString\n    public fun parseIsoString(value: String): Duration = try {\n        parseDuration(value, strictIso = true)\n    } catch (e: IllegalArgumentException) {\n

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    throw IllegalArgumentException("Invalid ISO duration string format: '$value'.", e)\n    }\n\n    /**\n     * Parses a string that represents a duration and returns the parsed [Duration] value,\n     * or `null` if the string doesn't represent a duration in any of the supported formats.\n     *\n     * The following formats are accepted:\n     *\n     * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and [parseIsoString].\n     * - The format of string returned by the default [Duration.toString] and `toString` in a specific unit,\n     *   e.g. `10s`, `1h 30m` or `-(1h 30m)`.\n     * @sample samples.time.Durations.parse\n     */\n    public fun\n    parseOrNull(value: String): Duration? = try {\n        parseDuration(value, strictIso = false)\n    } catch (e:\n    IllegalArgumentException) {\n        null\n    }\n\n    /**\n     * Parses a string that represents a duration in\n    ISO-8601\n    format and returns the parsed [Duration] value,\n     * or `null` if the string doesn't represent a duration in ISO-\n    8601 format.\n     * @sample samples.time.Durations.parseIsoString\n     */\n    public fun\n    parseIsoStringOrNull(value: String): Duration? = try {\n        parseDuration(value, strictIso = true)\n    } catch\n    (e: IllegalArgumentException) {\n        null\n    }\n\n    // arithmetic operators\n\n    /** Returns the\n    negative of this value. */\n    public operator fun unaryMinus(): Duration = durationOf(-value,\n    unitDiscriminator)\n\n    /**\n     * Returns a duration whose value is the sum of this and [other] duration values.\n     *\n     * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,\n     * e.g. when adding infinite durations of different sign.\n     */\n    public operator fun plus(other: Duration):\n    Duration {\n        when {\n            this.isInfinite() -> {\n                if (other.isFinite() || (this.rawValue xor other.rawValue >= 0))\n                    return this\n                else\n                    throw IllegalArgumentException("Summing infinite durations of different signs yields an undefined result.")\n            }\n            other.isInfinite() -> return other\n        }\n        return when {\n            this.unitDiscriminator ==\n            other.unitDiscriminator -> {\n                val result = this.value + other.value // never overflows long, but can\n                overflow long63\n                when {\n                    isInNanos() ->\n                    durationOfNanosNormalized(result)\n                } else ->\n                    durationOfMillisNormalized(result)\n            }\n            this.isInMillis() ->\n                addValuesMixedRanges(this.value, other.value)\n            else ->\n                addValuesMixedRanges(other.value, this.value)\n        }\n    }\n\n    private fun\n    addValuesMixedRanges(thisMillis:\n    Long, otherNanos: Long): Duration {\n        val otherMillis = nanosToMillis(otherNanos)\n        val resultMillis =\n        thisMillis + otherMillis\n        return if (resultMillis in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS)\n        {\n            val otherNanoRemainder = otherNanos - millisToNanos(otherMillis)\n            durationOfNanos(millisToNanos(resultMillis) + otherNanoRemainder)\n        } else {\n            durationOfMillis(resultMillis.coerceIn(-MAX_MILLIS, MAX_MILLIS))\n        }\n    }\n\n    /**\n     * Returns a\n    duration whose value is the difference between this and [other] duration values.\n     *\n     * @throws\n    IllegalArgumentException if the operation results in an undefined value for the given arguments,\n     * e.g. when\n    subtracting infinite durations of the same sign.\n     */\n    public operator fun minus(other: Duration): Duration =\n    this + (-other)\n\n    /**\n     * Returns a duration whose value is this duration value multiplied by the given [scale]\n     * number.\n     *\n     * @throws\n    IllegalArgumentException if the operation results in an undefined value for the\n    given arguments,\n     * e.g. when multiplying an infinite duration by zero.\n     */\n    public operator fun\n    times(scale: Int): Duration {\n        if (isInfinite()) {\n            return when {\n                scale == 0 -> throw\n                IllegalArgumentException("Multiplying infinite duration by zero yields an undefined result.")\n                scale > 0\n                -> this\n                else -> -this\n            }\n        }\n        if (scale == 0) return ZERO\n\n        val value = value\n        val result = value * scale\n        return if (isInNanos()) {\n            if (value in (MAX_NANOS /\n            Int.MIN_VALUE)..(-MAX_NANOS / Int.MIN_VALUE)) {\n                // can't overflow nanos range for any\n                scale\n                durationOfNanos(result)\n            } else {\n                if (result / scale == value) {\n                    durationOfNanosNormalized(result)\n                }\n            }\n        } else {\n            val millis = nanosToMillis(value)\n            val remNanos = value -\n            millisToNanos(millis)\n            val resultMillis = millis * scale\n            val totalMillis = resultMillis +\n            nanosToMillis(remNanos * scale)\n            if (resultMillis / scale == millis && totalMillis xor resultMillis >=

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0) {\n
    durationOfMillis(totalMillis.coerceIn(-MAX_MILLIS..MAX_MILLIS))\n
} else
{\n
    if (value.sign * scale.sign > 0) INFINITE else NEG_INFINITE\n
}\n
}\n
} else {\n
    if (result / scale == value) {\n
        durationOfMillis(result.coerceIn(-
MAX_MILLIS..MAX_MILLIS))\n
    } else {\n
        if (value.sign * scale.sign > 0) INFINITE else
NEG_INFINITE\n
    }\n
}\n
}\n
} /**\n
 * Returns a duration whose value is this duration value
multiplied by the given [scale]
number.\n
 * The operation may involve rounding when the result cannot be represented exactly with a
[Double] number.\n
 * @throws IllegalArgumentException if the operation results in an undefined value for
the given arguments,\n
 * e.g. when multiplying an infinite duration by zero.\n
 */\n
public operator fun
times(scale: Double): Duration {\n
    val intScale = scale.roundToInt()\n
    if (intScale.toDouble() == scale) {\n
        return times(intScale)\n
    }\n
    val unit = storageUnit\n
    val result = toDouble(unit) * scale\n
    return result.toDuration(unit)\n
}\n
} /**\n
 * Returns a duration whose value is this duration value divided by
the given [scale] number.\n
 * @throws IllegalArgumentException if the operation results in an undefined
value for the given arguments,\n
 * e.g. when dividing zero duration by zero.\n
 */\n
public operator fun
div(scale: Int): Duration {\n
    if (scale
== 0) {\n
        return when {\n
            isPositive() -> INFINITE\n
            isNegative() -> NEG_INFINITE\n
        } else -> throw IllegalArgumentException("Dividing zero duration by zero yields an undefined result.")\n
    }\n
    if (isInNanos()) {\n
        return durationOfNanos(value / scale)\n
    } else {\n
        if
(isInfinite())\n
            return this * scale.sign\n
        val result = value / scale\n
        if (result in -
MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n
            val rem = millisToNanos(value - (result *
scale)) / scale\n
            return durationOfNanos(millisToNanos(result) + rem)\n
        }\n
        return
durationOfMillis(result)\n
    }\n
}\n
} /**\n
 * Returns a duration whose value is this duration value divided
by the given [scale] number.\n
 * @throws IllegalArgumentException if the operation results in an
undefined value for the given
arguments,\n
 * e.g. when dividing an infinite duration by infinity or zero duration by zero.\n
 */\n
public
operator fun div(scale: Double): Duration {\n
    val intScale = scale.roundToInt()\n
    if (intScale.toDouble() ==
scale && intScale != 0) {\n
        return div(intScale)\n
    }\n
    val unit = storageUnit\n
    val result =
toDouble(unit) / scale\n
    return result.toDuration(unit)\n
}\n
} /** Returns a number that is the ratio of this
and [other] duration values. *\n
public operator fun div(other: Duration): Double {\n
    val coarserUnit =
maxOf(this.storageUnit, other.storageUnit)\n
    return this.toDouble(coarserUnit) / other.toDouble(coarserUnit)\n
}\n
} /** Returns true, if the duration value is less than zero. *\n
public fun isNegative(): Boolean = rawValue
< 0\n
} /** Returns true, if the duration value is greater than zero. *\n
public fun isPositive(): Boolean =
rawValue > 0\n
} /** Returns true,
if the duration value is infinite. *\n
public fun isInfinite(): Boolean = rawValue == INFINITE.rawValue ||
rawValue == NEG_INFINITE.rawValue\n
} /** Returns true, if the duration value is finite. *\n
public fun
isFinite(): Boolean = !isInfinite()\n
} /** Returns the absolute value of this value. The returned value is always
non-negative. *\n
public val absoluteValue: Duration get() = if (isNegative()) -this else this\n
} override fun
compareTo(other: Duration): Int {\n
    val compareBits = this.rawValue xor other.rawValue\n
    if (compareBits
< 0 || compareBits.toInt() and 1 == 0) // different signs or same sign/same range\n
        return
this.rawValue.compareTo(other.rawValue)\n
    // same sign/different ranges\n
    val r = this.unitDiscriminator -
other.unitDiscriminator // compare ranges\n
    return if (isNegative()) -r else r\n
}\n
} // splitting to
components\n
} /**\n
 * Splits this duration into days, hours, minutes,
seconds, and nanoseconds and executes the given [action] with these components.\n
 * The result of [action] is
returned as the result of this function.\n
 * - `nanoseconds` represents the whole number of nanoseconds in
this duration, and its absolute value is less than 1_000_000_000;\n
 * - `seconds` represents the whole number of
seconds in this duration, and its absolute value is less than 60;\n
 * - `minutes` represents the whole number of
minutes in this duration, and its absolute value is less than 60;\n
 * - `hours` represents the whole number of hours
in this duration, and its absolute value is less than 24;\n
 * - `days` represents the whole number of days in this

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duration.\n *\n * Infinite durations are represented as either [Long.MAX_VALUE] days, or
[Long.MIN_VALUE] days (depending on the sign of infinity),\n * and zeroes in the lower components.\n */\n
public inline fun <T> toComponents(action: (days: Long, hours: Int, minutes:
Int, seconds: Int, nanoseconds: Int) -> T): T {\n    contract { callsInPlace(action,
InvocationKind.EXACTLY_ONCE) }\n    return action(inWholeDays, hoursComponent, minutesComponent,
secondsComponent, nanosecondsComponent)\n }\n\n /**\n * Splits this duration into hours, minutes, seconds,
and nanoseconds and executes the given [action] with these components.\n * The result of [action] is returned as
the result of this function.\n *\n * - `nanoseconds` represents the whole number of nanoseconds in this duration,
and its absolute value is less than 1_000_000_000;\n * - `seconds` represents the whole number of seconds in this
duration, and its absolute value is less than 60;\n * - `minutes` represents the whole number of minutes in this
duration, and its absolute value is less than 60;\n * - `hours` represents the whole number of hours in this
duration.\n *\n * Infinite durations are represented as either [Long.MAX_VALUE] hours, or
[Long.MIN_VALUE]
hours (depending on the sign of infinity),\n * and zeroes in the lower components.\n */\n
public inline fun <T> toComponents(action: (hours: Long, minutes: Int, seconds: Int, nanoseconds: Int) -> T): T {\n    contract {
callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n    return action(inWholeHours, minutesComponent,
secondsComponent, nanosecondsComponent)\n }\n\n /**\n * Splits this duration into minutes, seconds, and
nanoseconds and executes the given [action] with these components.\n * The result of [action] is returned as the
result of this function.\n *\n * - `nanoseconds` represents the whole number of nanoseconds in this duration,
and its absolute value is less than 1_000_000_000;\n * - `seconds` represents the whole number of seconds in this
duration, and its absolute value is less than 60;\n * - `minutes` represents the whole number of minutes in this
duration.\n *\n * Infinite durations are represented
as either [Long.MAX_VALUE] minutes, or [Long.MIN_VALUE] minutes (depending on the sign of infinity),\n
* and zeroes in the lower components.\n */\n
public inline fun <T> toComponents(action: (minutes: Long,
seconds: Int, nanoseconds: Int) -> T): T {\n    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE)
}\n    return action(inWholeMinutes, secondsComponent, nanosecondsComponent)\n }\n\n /**\n * Splits
this duration into seconds, and nanoseconds and executes the given [action] with these components.\n * The result
of [action] is returned as the result of this function.\n *\n * - `nanoseconds` represents the whole number of
nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n * - `seconds` represents the
whole number of seconds in this duration.\n *\n * Infinite durations are represented as either
[Long.MAX_VALUE] seconds, or [Long.MIN_VALUE] seconds (depending on the sign of infinity),\n
* and zero nanoseconds.\n */\n
public inline fun <T> toComponents(action: (seconds: Long, nanoseconds:
Int) -> T): T {\n    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n    return
action(inWholeSeconds, nanosecondsComponent)\n }\n\n @PublishedApi\n internal val hoursComponent:
Int\n    get() = if (isInfinite()) 0 else (inWholeHours % 24).toInt()\n\n @PublishedApi\n internal val
minutesComponent: Int\n    get() = if (isInfinite()) 0 else (inWholeMinutes % 60).toInt()\n\n @PublishedApi\n
internal val secondsComponent: Int\n    get() = if (isInfinite()) 0 else (inWholeSeconds % 60).toInt()\n\n
@PublishedApi\n internal val nanosecondsComponent: Int\n    get() = when {\n        isInfinite() -> 0\n
isInMillis() -> millisToNanos(value % 1_000).toInt()\n        else -> (value % 1_000_000_000).toInt()\n
}\n\n // conversion to units\n\n /**\n * Returns the value of this duration
expressed as a [Double] number of the specified [unit].\n *\n * The operation may involve rounding when the
result cannot be represented exactly with a [Double] number.\n *\n * An infinite duration value is converted
either to [Double.POSITIVE_INFINITY] or [Double.NEGATIVE_INFINITY] depending on its sign.\n */\n
public fun toDouble(unit: DurationUnit): Double {\n    return when (rawValue) {\n        INFINITE.rawValue ->
Double.POSITIVE_INFINITY\n        NEG_INFINITE.rawValue -> Double.NEGATIVE_INFINITY\n
else -> {\n        // TODO: whether it's ok to convert to Double before scaling\n
convertDurationUnit(value.toDouble(), storageUnit, unit)\n        }\n    }\n\n /**\n * Returns the value
of this duration expressed as a [Long] number of the specified [unit].\n *\n * If the result doesn't fit in the range

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of [Long] type, it is coerced into that range:\n * - [Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n * - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public fun toLong(unit: DurationUnit): Long {\n return when (rawValue) {\n INFINITE.rawValue -> Long.MAX_VALUE\n NEG_INFINITE.rawValue -> Long.MIN_VALUE\n else -> convertDurationUnit(value, storageUnit, unit)\n }\n }\n /**\n * Returns the value of this duration expressed as an [Int] number of the specified [unit].\n * If the result doesn't fit in the range of [Int] type, it is coerced into that range:\n * - [Int.MIN_VALUE] is returned if it's less than `Int.MIN_VALUE`,\n * - [Int.MAX_VALUE] is returned if it's greater than `Int.MAX_VALUE`.\n * An infinite duration value is converted either to [Int.MAX_VALUE] or [Int.MIN_VALUE] depending on its sign.\n */\n public fun toInt(unit: DurationUnit): Int =\n toLong(unit).coerceIn(Int.MIN_VALUE.toLong(), Int.MAX_VALUE.toLong()).toInt()\n /** The value of this duration expressed as a [Double] number of days. *\n @ExperimentalTime\n @Deprecated("Use inWholeDays property instead or convert toDouble(DAYS) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.DAYS)")\n public val inDays: Double get() =\n toDouble(DurationUnit.DAYS)\n /** The value of this duration expressed as a [Double] number of hours. *\n @ExperimentalTime\n @Deprecated("Use inWholeHours property instead or convert toDouble(HOURS) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.HOURS)")\n public val inHours: Double get() =\n toDouble(DurationUnit.HOURS)\n /** The value of this duration expressed as a [Double] number of minutes. *\n @ExperimentalTime\n @Deprecated("Use inWholeMinutes property instead or convert toDouble(MINUTES) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.MINUTES)")\n public val inMinutes: Double get() =\n toDouble(DurationUnit.MINUTES)\n /** The value of this duration expressed as a [Double] number of seconds. *\n @ExperimentalTime\n @Deprecated("Use inWholeSeconds property instead or convert toDouble(SECONDS) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.SECONDS)")\n public val inSeconds: Double get() =\n toDouble(DurationUnit.SECONDS)\n /** The value of this duration expressed as a [Double] number of milliseconds. *\n @ExperimentalTime\n @Deprecated("Use inWholeMilliseconds property instead or convert toDouble(MILLISECONDS) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.MILLISECONDS)")\n public val inMilliseconds: Double get() =\n toDouble(DurationUnit.MILLISECONDS)\n /** The value of this duration expressed as a [Double] number of microseconds. *\n @ExperimentalTime\n @Deprecated("Use inWholeMicroseconds property instead or convert toDouble(MICROSECONDS) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.MICROSECONDS)")\n public val inMicroseconds: Double get() =\n toDouble(DurationUnit.MICROSECONDS)\n /** The value of this duration expressed as a [Double] number of nanoseconds. *\n @ExperimentalTime\n @Deprecated("Use inWholeNanoseconds property instead or convert toDouble(NANOSECONDS) if a double value is required.")\n ReplaceWith("toDouble(DurationUnit.NANOSECONDS)")\n public val inNanoseconds: Double get() =\n toDouble(DurationUnit.NANOSECONDS)\n /**\n * The value of this duration expressed as a [Long] number of days.\n * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeDays: Long\n get() =\n toLong(DurationUnit.DAYS)\n /**\n * The value of this duration expressed as a [Long] number of hours.\n * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeHours: Long\n get() =\n toLong(DurationUnit.HOURS)\n /**\n * The value of this duration expressed as a [Long] number of minutes.\n * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeMinutes: Long\n get() =\n toLong(DurationUnit.MINUTES)\n /**\n * The value of this duration expressed as a [Long] number of


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seconds.\n * An infinite duration value is converted either to [Long.MAX_VALUE] or
[Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeSeconds: Long\n    get() =
toLong(DurationUnit.SECONDS)\n\n /**\n * The value of this duration expressed as a [Long] number of
milliseconds.\n *\n * An infinite duration value is converted either
to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val
inWholeMilliseconds: Long\n    get() {\n        return if (isInMillis() && isFinite()) value else
toLong(DurationUnit.MILLISECONDS)\n    }\n\n /**\n * The value of this duration expressed as a [Long]
number of microseconds.\n *\n * If the result doesn't fit in the range of [Long] type, it is coerced into that
range:\n * - [Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n * -
[Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n *\n * An infinite duration value
is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val
inWholeMicroseconds: Long\n    get() = toLong(DurationUnit.MICROSECONDS)\n\n /**\n * The value of
this duration expressed as a [Long] number of nanoseconds.\n *\n * If the result doesn't fit in the range of
[Long] type, it is coerced into that
range:\n * - [Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n * -
[Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n *\n * An infinite duration value
is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val
inWholeNanoseconds: Long\n    get() {\n        val value = value\n        return when {\n            isInNanos()
-> value\n            value > Long.MAX_VALUE / NANOS_IN_MILLIS -> Long.MAX_VALUE\n            value
< Long.MIN_VALUE / NANOS_IN_MILLIS -> Long.MIN_VALUE\n            else -> millisToNanos(value)\n        }\n    }\n\n // shortcuts\n\n /**\n * Returns the value of this duration expressed as a [Long] number of
nanoseconds.\n *\n * If the value doesn't fit in the range of [Long] type, it is coerced into that range, see the
conversion [Double.toLong] for details.\n *\n * The range of durations that can be expressed
as a `Long` number of nanoseconds is approximately \u00b1292 years.\n */\n @ExperimentalTime\n @Deprecated(\
"Use inWholeNanoseconds property instead.", ReplaceWith("this.inWholeNanoseconds"))\n
public fun toLongNanoseconds(): Long = inWholeNanoseconds\n\n /**\n * Returns the value of this duration
expressed as a [Long] number of milliseconds.\n *\n * The value is coerced to the range of [Long] type, if it
doesn't fit in that range, see the conversion [Double.toLong] for details.\n *\n * The range of durations that can
be expressed as a `Long` number of milliseconds is approximately \u00b1292 million years.\n */\n
@ExperimentalTime\n @Deprecated(\
"Use inWholeMilliseconds property instead.",
ReplaceWith("this.inWholeMilliseconds"))\n    public fun toLongMilliseconds(): Long = inWholeMilliseconds\n\n
/**\n * Returns a string representation of this duration value\n * expressed as a combination of numeric
components, each in its
own unit.\n *\n * Each component is a number followed by the unit abbreviated name: `d`, `h`, `m`, `s`:\n *
`5h`, `1d 12h`, `1h 0m 30.340s`.\n * The last component, usually seconds, can be a number with a fractional
part.\n *\n * If the duration is less than a second, it is represented as a single number\n * with one of sub-
second units: `ms` (milliseconds), `us` (microseconds), or `ns` (nanoseconds):\n * `140.884ms`, `500us`, `24ns`.\n
*\n * A negative duration is prefixed with `-` sign and, if it consists of multiple components, surrounded with
parentheses:\n * `-12m` and `-(1h 30m)`.\n *\n * Special cases:\n * - an infinite duration is formatted as
`"Infinity"` or `"-Infinity"` without a unit.\n *\n * It's recommended to use [toIsoString] that uses more strict
ISO-8601 format instead of this `toString`\n * when you want to convert a duration to a string in cases of
serialization, interchange, etc.\n *\n
* @sample samples.time.Durations.toStringDefault\n */\n override fun toString(): String = when (rawValue)
{\n    0L -> "0s"\n    INFINITE.rawValue -> "Infinity"\n    NEG_INFINITE.rawValue -> "-Infinity"\n
else -> {\n        val isNegative = isNegative()\n        buildString {\n            if (isNegative) append('-')\n
            absoluteValue.toComponents { days, hours, minutes, seconds, nanoseconds ->\n                val hasDays = days
!= 0L\n                val hasHours = hours != 0\n                val hasMinutes = minutes != 0\n                val
hasSeconds = seconds != 0 || nanoseconds != 0\n                var components = 0\n                if (hasDays) {\n

```

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        append(days).append('d')\n                components++\n                }\n                if (hasHours ||
(hasDays && (hasMinutes || hasSeconds))) {\n                if (components++ > 0) append(' ')\n                append(hours).append('h')\n                }\n                if (hasMinutes || (hasSeconds && (hasHours
|| hasDays))) {\n                if (components++ > 0) append(' ')\n                append(minutes).append('m')\n                }\n                if (hasSeconds) {\n                if (components++ > 0) append(' ')\n                when
{\n                seconds != 0 || hasDays || hasHours || hasMinutes ->\n                appendFractional(seconds, nanoseconds, 9, \"s\", isoZeroes = false)\n                nanoseconds >= 1_000_000 -
>\n                appendFractional(nanoseconds / 1_000_000, nanoseconds % 1_000_000, 6, \"ms\",
isoZeroes = false)\n                nanoseconds >= 1_000 ->\n                appendFractional(nanoseconds
/ 1_000, nanoseconds % 1_000, 3, \"us\", isoZeroes = false)\n                else ->\n                append(nanoseconds).append(\"ns\")\n                }\n                }\n                if
(isNegative && components > 1) insert(1, ' ').append('')\n                }\n                }\n                }\n                }\n                private fun
StringBuilder.appendFractional(whole: Int, fractional: Int, fractionalSize: Int, unit: String, isoZeroes: Boolean) {\n
                append(whole)\n                if (fractional != 0) {\n                append('.')\n                val fracString =
fractional.toString().padStart(fractionalSize, '0')\n                val nonZeroDigits = fracString.indexOfLast { it != '0' } +
1\n                when {\n                !isoZeroes && nonZeroDigits < 3 -> appendRange(fracString, 0, nonZeroDigits)\n
                else -> appendRange(fracString, 0, ((nonZeroDigits + 2) / 3) * 3)\n                }\n                }\n                append(unit)\n
}\n\n                /**\n                * Returns a string representation of this duration value expressed in the given [unit]\n                * and
formatted
                with the specified [decimals] number of digits after decimal point.\n                *\n                * Special cases:\n                * - an infinite
duration is formatted as `\"Infinity\"` or `\"-Infinity\"` without a unit.\n                *\n                * @param decimals the number of
digits after decimal point to show. The value must be non-negative.\n                *\n                * No more than 12 decimals will be shown,
even if a larger number is requested.\n                *\n                * @return the value of duration in the specified [unit] followed by
that unit abbreviated name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n                *\n                * @throws IllegalArgumentException if
[decimals] is less than zero.\n                *\n                * @sample samples.time.Durations.toStringDecimals\n                */\n                public fun
toString(unit: DurationUnit, decimals: Int = 0): String {\n                require(decimals >= 0) { \"decimals must be not
negative, but was $decimals\" }\n                val number = toDouble(unit)\n                if (number.isInfinite()) return
number.toString()\n                return formatToExactDecimals(number,
                decimals.coerceAtMost(12)) + unit.shortName()\n                }\n\n                /**\n                * Returns an ISO-8601 based string
representation of this duration.\n                *\n                * The returned value is presented in the format `PTm>s.fS`, where `h`,
`m`, `s` are the integer components of this duration (see [toComponents])\n                * and `f` is a fractional part of second.
Depending on the roundness of the value the fractional part can be formatted with either\n                * 0, 3, 6, or 9 decimal
digits.\n                *\n                * The infinite duration is represented as `\"PT999999999999999H\"` which is larger than any
possible finite duration in Kotlin.\n                *\n                * Negative durations are indicated with the sign `-` in the beginning of
the returned string, for example, `\"-PT5M30S\"`.\n                *\n                * @sample samples.time.Durations.toIsoString\n                */\n                public fun toIsoString(): String = buildString {\n                if (isNegative()) append('-')\n                append(\"PT\")\n                this@Duration.absoluteValue.toComponents {
                hours, minutes, seconds, nanoseconds ->\n                @Suppress(\"NAME_SHADOWING\")\n                var hours =
hours\n                if (isInfinite()) {\n                // use large enough value instead of Long.MAX_VALUE\n
                hours = 9_999_999_999_999\n                }\n                val hasHours = hours != 0L\n                val hasSeconds = seconds !=
0 || nanoseconds != 0\n                val hasMinutes = minutes != 0 || (hasSeconds && hasHours)\n                if (hasHours)
{\n                append(hours).append('H')\n                }\n                if (hasMinutes) {\n
                append(minutes).append('M')\n                }\n                if (hasSeconds || (!hasHours && !hasMinutes)) {\n
                appendFractional(seconds, nanoseconds, 9, \"S\", isoZeroes = true)\n                }\n                }\n                }\n\n                from number of units\n                // extension functions\n                /** Returns a [Duration] equal to this [Int] number of the specified
[unit]. *\n                @SinceKotlin(\"1.6\")\n                @WasExperimental(ExperimentalTime::class)\n                public
fun Int.toDuration(unit: DurationUnit): Duration {\n                return if (unit <= DurationUnit.SECONDS) {\n
                durationOfNanos(convertDurationUnitOverflow(this.toLong(), unit, DurationUnit.NANOSECONDS))\n                } else\n

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    toLong().toDuration(unit)\n}\n\n/** Returns a [Duration] equal to this [Long] number of the specified [unit].
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic fun Long.toDuration(unit:
DurationUnit): Duration {n    val maxNsInUnit = convertDurationUnitOverflow(MAX_NANOS,
DurationUnit.NANOSECONDS, unit)\n    if (this in -maxNsInUnit..maxNsInUnit) {\n        return
durationOfNanos(convertDurationUnitOverflow(this, unit, DurationUnit.NANOSECONDS))\n    } else {\n        val
millis = convertDurationUnit(this, unit, DurationUnit.MILLISECONDS)\n        return
durationOfMillis(millis.coerceIn(-MAX_MILLIS, MAX_MILLIS))\n    }\n}\n\n/** Returns a [Duration] equal
to this [Double] number of the specified [unit].\n *\n * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or milliseconds.\n *\n *
@throws IllegalArgumentException if this `Double` value is `NaN`.\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic fun Double.toDuration(unit:
DurationUnit): Duration {n    val valueInNs = convertDurationUnit(this, unit, DurationUnit.NANOSECONDS)\n
require(!valueInNs.isNaN()) { "Duration value cannot be NaN." }\n    val nanos = valueInNs.roundToLong()\n
return if (nanos in -MAX_NANOS..MAX_NANOS) {\n        durationOfNanos(nanos)\n    } else {\n        val millis =
convertDurationUnit(this, unit, DurationUnit.MILLISECONDS).roundToLong()\n        durationOfMillisNormalized(millis)\n    }\n}\n\n// constructing from number of units\n// deprecated extension
properties\n\n/** Returns a [Duration] equal to this [Int] number of nanoseconds.
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.nanoseconds' extension property from
Duration.Companion instead.", ReplaceWith("this.nanoseconds",
"kotlin.time.Duration.Companion.nanoseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Int.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this
[Long] number of nanoseconds. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use
'Long.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds",
"kotlin.time.Duration.Companion.nanoseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Long.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this
[Double] number of nanoseconds.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.nanoseconds' extension property
from Duration.Companion instead.", ReplaceWith("this.nanoseconds",
"kotlin.time.Duration.Companion.nanoseconds"))\n@DeprecatedSinceKotlin(warningSince
= "1.5")\npublic val Double.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a
[Duration] equal to this [Int] number of microseconds.
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.microseconds' extension property from
Duration.Companion instead.", ReplaceWith("this.microseconds",
"kotlin.time.Duration.Companion.microseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Int.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this
[Long] number of microseconds. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use
'Long.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds",
"kotlin.time.Duration.Companion.microseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Long.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/**
* Returns a [Duration] equal to this [Double] number of microseconds.\n *\n * @throws IllegalArgumentException
if this [Double] value is `NaN`.\n *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use
'Double.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds",
"kotlin.time.Duration.Companion.microseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Double.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to
this [Int] number of milliseconds. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use
'Int.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds",
"kotlin.time.Duration.Companion.milliseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val
Int.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this

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[Long] number of milliseconds. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use
'Long.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds",
"\"kotlin.time.Duration.Companion.milliseconds\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/**\n * Returns a [Duration] equal to this
[Double] number of milliseconds.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Double.milliseconds' extension property
from Duration.Companion instead.", ReplaceWith("this.milliseconds",
"\"kotlin.time.Duration.Companion.milliseconds\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n\n/** Returns a [Duration] equal to this
[Int] number of seconds. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Int.seconds'
extension
extension
property from Duration.Companion instead.", ReplaceWith("this.seconds",
"\"kotlin.time.Duration.Companion.seconds\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.seconds get() = toDuration(DurationUnit.SECONDS)\n\n\n/** Returns a [Duration] equal to this [Long] number of
seconds. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Long.seconds' extension property
from Duration.Companion instead.", ReplaceWith("this.seconds",
"\"kotlin.time.Duration.Companion.seconds\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.seconds get() = toDuration(DurationUnit.SECONDS)\n\n\n/**\n * Returns a [Duration] equal to this [Double]
number of seconds.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Double.seconds' extension property from
Duration.Companion instead.", ReplaceWith("this.seconds",
"\"kotlin.time.Duration.Companion.seconds\""))@DeprecatedSinceKotlin(warningSince
= \"1.5\")\npublic val Double.seconds get() = toDuration(DurationUnit.SECONDS)\n\n\n/** Returns a [Duration]
equal to this [Int] number of minutes. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use
'Int.minutes' extension property from Duration.Companion instead.", ReplaceWith("this.minutes",
"\"kotlin.time.Duration.Companion.minutes\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n\n/** Returns a [Duration] equal to this [Long] number of
minutes. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Long.minutes' extension property
from Duration.Companion instead.", ReplaceWith("this.minutes",
"\"kotlin.time.Duration.Companion.minutes\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n\n\n/**\n * Returns a [Duration] equal to this [Double]
number of minutes.\n *\n * @throws IllegalArgumentException
if this [Double] value is `NaN`.\n
*^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use
'Double.minutes' extension property from Duration.Companion instead.", ReplaceWith("this.minutes",
"\"kotlin.time.Duration.Companion.minutes\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.minutes get() = toDuration(DurationUnit.MINUTES)\n\n\n\n/** Returns a [Duration] equal to this [Int]
number of hours. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Int.hours' extension
property from Duration.Companion instead.", ReplaceWith("this.hours",
"\"kotlin.time.Duration.Companion.hours\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.hours get() = toDuration(DurationUnit.HOURS)\n\n\n\n/** Returns a [Duration] equal to this [Long] number of
hours. *^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Long.hours' extension property from
Duration.Companion instead.", ReplaceWith("this.hours",
"\"kotlin.time.Duration.Companion.hours\""))@DeprecatedSinceKotlin(warningSince
= \"1.5\")\npublic val Long.hours get() = toDuration(DurationUnit.HOURS)\n\n\n\n/**\n * Returns a [Duration] equal
to this [Double] number of hours.\n *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*^@SinceKotlin("1.3")@ExperimentalTime@Deprecated("Use 'Double.hours' extension property from
Duration.Companion instead.", ReplaceWith("this.hours",
"\"kotlin.time.Duration.Companion.hours\""))@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val

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Double.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Int] number of
days. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated(\n"Use 'Int.days' extension property from
Duration.Companion instead.\n", ReplaceWith(\n"this.days\n",
\n" kotlin.time.Duration.Companion.days\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic val Int.days
get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this
[Long] number of days. *\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated(\n"Use 'Long.days'
extension property from Duration.Companion instead.\n", ReplaceWith(\n"this.days\n",
\n" kotlin.time.Duration.Companion.days\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic val
Long.days get() = toDuration(DurationUnit.DAYS)\n\n/**\n * Returns a [Duration] equal to this [Double] number
of days.\n * *\n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated(\n"Use 'Double.days' extension property from
Duration.Companion instead.\n", ReplaceWith(\n"this.days\n",
\n" kotlin.time.Duration.Companion.days\n"))\n@DeprecatedSinceKotlin(warningSince = `1.5`)\npublic val
Double.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a duration whose value is the specified
[duration] value multiplied by this number.
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline
operator fun Int.times(duration: Duration): Duration = duration * this\n\n/**\n * Returns a duration whose value is
the specified [duration] value multiplied by this number.\n * *\n * The operation may involve rounding when the
result cannot be represented exactly with a [Double] number.\n * *\n * @throws IllegalArgumentException if the
operation results in a `NaN` value.\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Double.times(duration: Duration): Duration = duration * this\n\n\nprivate fun
parseDuration(value: String, strictIso: Boolean): Duration {\n    var length = value.length\n    if (length == 0) throw
IllegalArgumentException(\n"The string is empty\n")\n    var index = 0\n    var result = Duration.ZERO\n    val
infinityString = `Infinity`\n    when (value[index]) {\n        '+', '-' -> index++\n    }\n    val hasSign = index > 0\n    val isNegative = hasSign && value.startsWith('-')\n    when
{\n        length <= index ->\n            throw IllegalArgumentException(\n"No components\n")\n        value[index] == 'P'
-> {\n            if (++index == length) throw IllegalArgumentException()\n            val nonDigitSymbols = `+-.\n`\n            var isTimeComponent = false\n            var prevUnit: DurationUnit? = null\n            while (index < length) {\n                if (value[index] == 'T') {\n                    if (isTimeComponent || ++index == length) throw
IllegalArgumentException()\n                    isTimeComponent = true\n                    continue\n                }\n                val component = value.substringWhile(index) { it in '0'..'9' || it in nonDigitSymbols }\n                if
(component.isEmpty()) throw IllegalArgumentException()\n                index += component.length\n                val
unitChar = value.getOrElse(index) { throw IllegalArgumentException(\n"Missing unit for value $component\n") }\n                index++\n                val unit
= durationUnitByIsoChar(unitChar, isTimeComponent)\n                if (prevUnit != null && prevUnit <= unit)
throw IllegalArgumentException(\n"Unexpected order of duration components\n")\n                prevUnit = unit\n                val dotIndex = component.indexOf('.')\n                if (unit == DurationUnit.SECONDS && dotIndex > 0) {\n                    val whole = component.substring(0, dotIndex)\n                    result +=
parseOverLongIsoComponent(whole).toDuration(unit)\n                    result +=
component.substring(dotIndex).toDouble().toDuration(unit)\n                } else {\n                    result +=
parseOverLongIsoComponent(component).toDuration(unit)\n                }\n            }\n            strictIso -> {\n                throw IllegalArgumentException()\n                value.regionMatches(index, infinityString, 0, length = maxOf(length -
index, infinityString.length), ignoreCase = true) -> {\n                    result = Duration.INFINITE\n                }\n            }
            else -> {\n                // parse default string format\n                var prevUnit: DurationUnit? = null\n                var afterFirst =
false\n                var allowSpaces = !hasSign\n                if (hasSign && value[index] == '(' && value.last() == ')') {\n                    allowSpaces = true\n                    if (++index == --length) throw
IllegalArgumentException(\n"No components\n")\n

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    }
    while (index < length) {
        if (afterFirst && allowSpaces)
            index = value.skipWhile(index) { it == ' ' }
        afterFirst = true
        val component = value.substringWhile(index) { it in '0'..'9' || it == '.' }
        if (component.isEmpty()) throw IllegalArgumentException()
        index += component.length
        val unitName = value.substringWhile(index) { it in 'a'..'z' }
        index += unitName.length
        val unit = durationUnitByShortName(unitName)

        if (prevUnit != null && prevUnit <= unit) throw IllegalArgumentException("Unexpected order of duration components")
        prevUnit = unit
        val dotIndex = component.indexOf('.')
        if (dotIndex > 0) {
            val whole = component.substring(0, dotIndex)
            result += whole.toLong().toDuration(unit)
            component.substring(dotIndex).toDouble().toDuration(unit)
            if (index < length) throw IllegalArgumentException("Fractional component must be last")
        } else {
            result += component.toLong().toDuration(unit)
        }
    }
    return if (isNegative) -result else result
}

private fun parseOverLongIsoComponent(value: String): Long {
    val length = value.length
    var startIndex = 0
    if (length > 0 && value[0] in "+-") startIndex++
    if ((length - startIndex) > 16 && (startIndex..value.lastIndex).all { value[it] in '0'..'9' }) {
        // all chars are digits, but more than ceiling(log10(MAX_MILLIS / 1000)) of them
        return if (value[0] == '-') Long.MIN_VALUE else Long.MAX_VALUE
    } // TODO: replace with just toLong after min JDK becomes 8
    return if (value.startsWith("+")) value.drop(1).toLong() else value.toLong()
}

private inline fun String.substringWhile(startIndex: Int, predicate: (Char) -> Boolean): String = substring(startIndex, skipWhile(startIndex, predicate))
private inline fun String.skipWhile(startIndex: Int, predicate: (Char) -> Boolean): Int {
    var i = startIndex
    while (i < length && predicate(this[i])) i++
    return i
}

// The ranges are chosen so that they are:
// - symmetric relative to zero: this greatly simplifies operations with sign, e.g. unaryMinus and minus.
// - non-overlapping, but adjacent: the first value that doesn't fit in nanos range, can be exactly represented in millis.
internal const val NANOS_IN_MILLIS = 1_000_000 // maximum number duration can store in nanosecond range
internal const val MAX_NANOS = Long.MAX_VALUE / 2 / NANOS_IN_MILLIS * NANOS_IN_MILLIS - 1 // ends in ..._999_999
// maximum number duration can store in millisecond range, also encodes an infinite value
internal const val MAX_MILLIS = Long.MAX_VALUE / 2 // MAX_NANOS expressed in milliseconds
private const val MAX_NANOS_IN_MILLIS = MAX_NANOS / NANOS_IN_MILLIS
private fun nanosToMillis(nanos: Long): Long = nanos / NANOS_IN_MILLIS
private fun millisToNanos(millis: Long): Long = millis * NANOS_IN_MILLIS
private fun durationOfNanos(normalNanos: Long) = Duration(normalNanos shl 1)
private fun durationOfMillis(normalMillis: Long) = Duration((normalMillis shl 1) + 1)
private fun durationOf(normalValue: Long, unitDiscriminator: Int) = Duration((normalValue shl 1) + unitDiscriminator)
private fun durationOfNanosNormalized(nanos: Long) = if (nanos in -MAX_NANOS..MAX_NANOS) {
    durationOfNanos(nanos)
} else {
    durationOfMillis(nanosToMillis(nanos))
}
private fun durationOfMillisNormalized(millis: Long) = if (millis in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {
    durationOfNanos(millisToNanos(millis))
} else {
    durationOfMillis(millis.coerceIn(-MAX_MILLIS, MAX_MILLIS))
}

internal expect val durationAssertionsEnabled: Boolean
internal expect fun formatToExactDecimals(value: Double, decimals: Int): String
internal expect fun formatUpToDecimals(value: Double, decimals: Int): String

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 */
@file:kotlin.jvm.JvmName("UnsignedKt")
package kotlin

@PublishedApi
internal fun uintCompare(v1: Int, v2: Int): Int = (v1 xor Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE)
@PublishedApi
internal fun ulongCompare(v1: Long, v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor Long.MIN_VALUE)
@PublishedApi
internal fun uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() /

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v2.toLong()).toUInt()\n@PublishedApi\ninternal fun uintRemainder(v1: UInt, v2: UInt): UInt = (v1.toLong() %
v2.toLong()).toUInt()\n\n// Division and remainder are based on Guava's UnsignedLongs implementation\n\n
Copyright 2011 The Guava Authors\n\n@PublishedApi\ninternal fun ulongDivide(v1: ULong, v2: ULong): ULong
{\n    val dividend = v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63:\n
return if (v1 < v2) ULong(0) else ULong(1)\n    }\n\n    // Optimization - use signed division if both dividend and
divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend / divisor)\n    }\n\n    // Otherwise, approximate
the quotient, check, and correct if necessary.\n    val quotient = ((dividend ushr 1) / divisor) shl 1\n    val rem
= dividend - quotient * divisor\n    return ULong(quotient + if (ULong(rem) >= ULong(divisor)) 1 else
0)\n}\n\n@PublishedApi\ninternal fun ulongRemainder(v1: ULong, v2: ULong): ULong {\n    val dividend =
v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63:\n        return if (v1 < v2) {\n
        v1 // dividend < divisor\n        } else {\n            v1 - v2 // dividend >= divisor\n        }\n    }\n\n    // Optimization
- use signed modulus if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend %
divisor)\n    }\n\n    // Otherwise, approximate the quotient, check, and correct if necessary.\n    val quotient =
((dividend ushr 1) / divisor) shl 1\n    val rem = dividend - quotient * divisor\n    return ULong(rem - if (ULong(rem)
>= ULong(divisor)) divisor else 0)\n}\n\n@PublishedApi\ninternal fun doubleToUInt(v: Double): UInt = when {\n
v.isNaN() -> 0u\n    v <= UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n
    v >= UInt.MAX_VALUE.toDouble() -> UInt.MAX_VALUE\n    v <= Int.MAX_VALUE -> v.toInt().toUInt()\n
else -> (v - Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt()    // Int.MAX_VALUE < v <
UInt.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun doubleToULong(v: Double): ULong = when {\n
v.isNaN() -> 0u\n    v <= ULong.MIN_VALUE.toDouble() -> ULong.MIN_VALUE\n    v >=
ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n    v < Long.MAX_VALUE ->
v.toLong().toULong()\n\n    // Real values from Long.MAX_VALUE to (Long.MAX_VALUE + 1) are not
representable in Double, so don't handle them.\n    else -> (v - 9223372036854775808.0).toLong().toULong() +
9223372036854775808uL    // Long.MAX_VALUE + 1 < v <
ULong.MAX_VALUE\n}\n\n\n@PublishedApi\ninternal fun uintToDouble(v: Int): Double = (v and
Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n\n@PublishedApi\ninternal fun
ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n\n\ninternal fun
ulongToString(v: Long): String = ulongToString(v, 10)\n\n\ninternal fun ulongToString(v: Long, base: Int): String
{\n    if (v >= 0) return v.toString(base)\n    var quotient = ((v ushr 1) / base) shl 1\n    var rem = v - quotient *
base\n    if (rem >= base) {\n        rem -= base\n        quotient += 1\n    }\n    return quotient.toString(base) +
rem.toString(base)\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\n/**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through
the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable(crossinline iterator: ()
-> Iterator<T>): Iterable<T> = object : Iterable<T> {\n    override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n
* A wrapper over another [Iterable] (or any other object that can produce an [Iterator]) that returns\n * an indexing
iterator.\n *\n\ninternal class IndexingIterable<out T>(private val iteratorFactory: () -> Iterator<T>) :
Iterable<IndexedValue<T>> {\n    override fun iterator(): Iterator<IndexedValue<T>> =
IndexingIterator(iteratorFactory())\n}\n\n\n/**\n * Returns the size of this iterable if it is known, or `null`
otherwise.\n *\n\n@PublishedApi\ninternal fun <T> Iterable<T>.collectionSizeOrNull(): Int? = if (this is
Collection<*>) this.size else null\n\n\n/**\n * Returns the size of this iterable if it is known, or the specified [default]
value otherwise.\n *\n\n@PublishedApi\ninternal fun <T> Iterable<T>.collectionSizeOrDefault(default: Int): Int = if
(this is Collection<*>) this.size else default\n\n\n\n/**\n * Returns a single list of all elements from all collections
in the given collection.\n * @sample samples.collections.Iterables.Operations.flattenIterable\n *\n\npublic fun <T>
Iterable<Iterable<T>>.flatten(): List<T> {\n    val result = ArrayList<T>()\n    for (element in this) {\n

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result.addAll(element)\n } \n return result\n}\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from
the first values of each pair from this collection,\n * *second* list is built from the second values of each pair from
this collection.\n * @sample samples.collections.Iterables.Operations.unzipIterable\n */\npublic fun <T, R>
Iterable<Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val expectedSize = collectionSizeOrDefault(10)\n
val listT = ArrayList<T>(expectedSize)\n val listR = ArrayList<R>(expectedSize)\n for (pair in this) {\n
listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n}\n\n"/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage
kotlin.sequences\n\nimport kotlin.random.Random\n\n/**\n * Given an [iterator] function constructs a [Sequence]
that returns values through the [Iterator]\n * provided by that function.\n * The values are evaluated lazily, and the
sequence is potentially infinite.\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence(crossinline iterator: () -> Iterator<T>):
Sequence<T> = object : Sequence<T> {\n override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n * Creates a
sequence that returns all elements from this iterator. The sequence is constrained to be iterated only once.\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n */\npublic fun <T>
Iterator<T>.asSequence():
Sequence<T> = Sequence { this }.constrainOnce()\n\n/**\n * Creates a sequence that returns the specified values.\n
*/\n * @sample samples.collections.Sequences.Building.sequenceOfValues\n */\npublic fun <T> sequenceOf(vararg
elements: T): Sequence<T> = if (elements.isEmpty()) emptySequence() else elements.asSequence()\n\n/**\n *
Returns an empty sequence.\n */\npublic fun <T> emptySequence(): Sequence<T> = EmptySequence\n\nprivate
object EmptySequence : Sequence<Nothing>, DropTakeSequence<Nothing> {\n override fun iterator():
Iterator<Nothing> = EmptyIterator\n override fun drop(n: Int) = EmptySequence\n override fun take(n: Int) =
EmptySequence\n}\n\n/**\n * Returns this sequence if it's not `null` and the empty sequence otherwise.\n *
*/\n * @sample samples.collections.Sequences.Usage.sequenceOrEmpty\n
*/\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>?.orEmpty():
Sequence<T> = this ?: emptySequence()\n\n/**\n * Returns a sequence
that iterates through the elements either of this sequence\n * or, if this sequence turns out to be empty, of the
sequence returned by [defaultValue] function.\n * @sample
samples.collections.Sequences.Usage.sequenceIfEmpty\n */\n\n@SinceKotlin("1.3")\npublic fun <T>
Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {\n val iterator =
this@ifEmpty.iterator()\n if (iterator.hasNext()) {\n yieldAll(iterator)\n } else {\n
yieldAll(defaultValue())\n }\n}\n\n/**\n * Returns a sequence of all elements from all sequences in this
sequence.\n * @sample samples.collections.Sequences.Transformations.flattenSequenceOfSequences\n */\npublic fun <T>
Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }\n\n/**\n * Returns a sequence of all
elements from all iterables in this sequence.\n * @sample samples.collections.Sequences.Transformations.flattenSequenceOfLists\n
*/\n\n@kotlin.jvm.JvmName("flattenSequenceOfIterable")\npublic fun <T> Sequence<Iterable<T>>.flatten():
Sequence<T> = flatten { it.iterator() }\n\nprivate fun <T, R> Sequence<T>.flatten(iterator: (T) -> Iterator<R>):
Sequence<R> {\n if (this is TransformingSequence<*, *>) {\n return (this as TransformingSequence<*,
T>).flatten(iterator)\n }\n return FlatteningSequence(this, { it }, iterator)\n}\n\n/**\n * Returns a pair of lists,
where\n * *first* list is built from the first values of each pair from this sequence,\n * *second* list is built from the
second values of each pair from this sequence.\n * @sample samples.collections.Sequences.Transformations.unzip\n */\npublic fun <T, R> Sequence<Pair<T, R>>.unzip():
Pair<List<T>, List<R>> {\n val listT = ArrayList<T>()\n val listR = ArrayList<R>()\n for (pair in this) {\n
listT.add(pair.first)\n listR.add(pair.second)\n }

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}

return listT to listR}

/**
 * Returns a sequence that yields elements of this sequence randomly
 shuffled.
 * Note that every iteration of the sequence returns elements in a different order.
 * The operation
 is _intermediate_ and _stateful_.
 */
@SinceKotlin("1.4")
public fun <T> Sequence<T>.shuffled():
Sequence<T> = shuffled(Random)

/**
 * Returns a sequence that yields elements of this sequence randomly
 shuffled
 * using the specified [random] instance as the source of randomness.
 * Note that every iteration of
 the sequence returns elements in a different order.
 * The operation is _intermediate_ and _stateful_.
 */
@SinceKotlin("1.4")
public fun <T> Sequence<T>.shuffled(random: Random): Sequence<T> =
sequence<T> {
    val buffer = toMutableList()
    while (buffer.isNotEmpty()) {
        val j =
random.nextInt(buffer.size)
        val last = buffer.removeLast()
        val value = if (j < buffer.size) buffer.set(j,
last) else last
        yield(value)
    }
}

/**
 * A sequence that returns the values from the underlying
 [sequence] that either match or do not match
 * the specified [predicate].
 * @param sendWhen If `true`,
 values for which the predicate returns `true` are returned. Otherwise,
 * values for which the predicate returns
 `false` are returned
 */
internal class FilteringSequence<T>(\n private val sequence: Sequence<T>,\n private
val sendWhen: Boolean = true,\n private val predicate: (T) -> Boolean)\n : Sequence<T> {\n\n override fun
iterator(): Iterator<T> = object : Iterator<T> {\n    val iterator = sequence.iterator()\n    var nextState: Int = -1 //
-1 for unknown, 0 for done, 1 for continue\n    var nextItem: T? = null\n\n    private fun calcNext() {\n
while (iterator.hasNext()) {\n        val item = iterator.next()\n        if (predicate(item) == sendWhen) {\n
nextItem = item\n
nextState = 1\n        return\n        }\n        nextState = 0\n    }\n\n    override
fun next(): T {\n        if (nextState == -1)\n            calcNext()\n        if (nextState == 0)\n            throw
NoSuchElementException()\n        val result = nextItem\n        nextItem = null\n        nextState = -1\n
@Suppress("UNCHECKED_CAST")\n        return result as T\n    }\n\n    override fun hasNext(): Boolean
{\n        if (nextState == -1)\n            calcNext()\n        return nextState == 1\n    }\n}

/**
 * A
sequence which returns the results of applying the given [transformer] function to the values
 * in the underlying
 [sequence].
 */
internal class TransformingSequence<T, R>\nconstructor(private val sequence: Sequence<T>,\n
private val transformer: (T) -> R) : Sequence<R> {\n    override fun iterator(): Iterator<R> = object : Iterator<R>
{\n        val iterator = sequence.iterator()\n        override fun next(): R {\n            return transformer(iterator.next())\n
        }\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n\n    internal fun
<E> flatten(iterator: (R) -> Iterator<E>): Sequence<E> {\n        return FlatteningSequence<T, R, E>(sequence,
transformer, iterator)\n    }\n}

/**
 * A sequence which returns the results of applying the given [transformer]
 function to the values
 * in the underlying [sequence], where the transformer function takes the index of the value
 in the underlying
 * sequence along with the value itself.
 */
internal class TransformingIndexedSequence<T,
R>\nconstructor(private val sequence: Sequence<T>,\n private val transformer: (Int, T) -> R) : Sequence<R> {\n
override fun iterator(): Iterator<R> = object : Iterator<R> {\n    val iterator = sequence.iterator()\n    var index =
0\n    override fun next(): R {\n
return transformer(checkIndexOverflow(index++), iterator.next())\n    }\n\n    override fun hasNext():
Boolean {\n        return iterator.hasNext()\n    }\n}

/**
 * A sequence which combines values from
 the underlying [sequence] with their indices and returns them as
 * [IndexedValue] objects.
 */
internal class IndexingSequence<T>\nconstructor(private val sequence: Sequence<T>) : Sequence<IndexedValue<T>> {\n
override fun iterator(): Iterator<IndexedValue<T>> = object : Iterator<IndexedValue<T>> {\n    val iterator =
sequence.iterator()\n    var index = 0\n    override fun next(): IndexedValue<T> {\n        return
IndexedValue(checkIndexOverflow(index++), iterator.next())\n    }\n\n    override fun hasNext(): Boolean {\n
return iterator.hasNext()\n    }\n}

/**
 * A sequence which takes the values from two parallel
 underlying sequences, passes them to the given
 * [transform] function and returns
 the values returned by that function. The sequence stops returning
 * values as soon as one of the underlying
 sequences stops returning values.
 */
internal class MergingSequence<T1, T2, V>\nconstructor(\n private val
sequence1: Sequence<T1>,\n private val sequence2: Sequence<T2>,\n private val transform: (T1, T2) -> V)\n :
Sequence<V> {\n    override fun iterator(): Iterator<V> = object : Iterator<V> {\n        val iterator1 =

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sequence1.iterator()\n    val iterator2 = sequence2.iterator()\n    override fun next(): V {\n        return
transform(iterator1.next(), iterator2.next())\n    }\n\n    override fun hasNext(): Boolean {\n        return
iterator1.hasNext() && iterator2.hasNext()\n    }\n}\n}\n\ninternal class FlatteningSequence<T, R,
E>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val transformer: (T) -> R,\n    private val
iterator: (R) -> Iterator<E>)\n: Sequence<E> {\n    override fun iterator(): Iterator<E>
= object : Iterator<E> {\n        val iterator = sequence.iterator()\n        var itemIterator: Iterator<E>? = null\n\n        override fun next(): E {\n            if (!ensureItemIterator())\n                throw NoSuchElementException()\n            return itemIterator!!.next()\n        }\n\n        override fun hasNext(): Boolean {\n            return ensureItemIterator()\n        }\n\n        private fun ensureItemIterator(): Boolean {\n            if (itemIterator?.hasNext() == false)\n                itemIterator = null\n            while (itemIterator == null) {\n                if (!iterator.hasNext())\n                    return
false\n            } else {\n                val element = iterator.next()\n                val nextItemIterator =
iterator(transformer(element))\n                if (nextItemIterator.hasNext())\n                    itemIterator =
nextItemIterator\n                return true\n            }\n        }\n    }\n\n    return true\n}\n}\n}\n\ninternal fun <T, C, R> flatMapIndexed(source:
Sequence<T>, transform: (Int, T) -> C, iterator: (C) -> Iterator<R>): Sequence<R> =\nsequence {\n    var
index = 0\n    for (element in source) {\n        val result = transform(checkIndexOverflow(index++), element)\n        yieldAll(iterator(result))\n    }\n}\n\n/**\n * A sequence that supports drop(n) and take(n) operations\n
*/\n\ninternal interface DropTakeSequence<T> : Sequence<T> {\n    fun drop(n: Int): Sequence<T>\n    fun take(n:
Int): Sequence<T>\n}\n\n/**\n * A sequence that skips [startIndex] values from the underlying [sequence]\n * and
stops returning values right before [endIndex], i.e. stops at `endIndex - 1`\n */\n\ninternal class SubSequence<T>(\n    private val sequence: Sequence<T>,\n    private val startIndex: Int,\n    private val endIndex: Int)\n: Sequence<T>,\nDropTakeSequence<T> {\n    init {\n        require(startIndex >=
0)\n    } {\n        require(endIndex >= 0) {\n            "endIndex should
be non-negative, but is $endIndex"\n        }\n        require(endIndex >= startIndex) {\n            "endIndex should be not less than
startIndex, but was $endIndex < $startIndex"\n        }\n    }\n\n    private val count: Int get() = endIndex - startIndex\n\n    override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, startIndex + n, endIndex)\n    override fun take(n: Int): Sequence<T> = if (n >= count) this else SubSequence(sequence, startIndex, startIndex + n)\n\n    override fun iterator() = object : Iterator<T> {\n        val iterator =
sequence.iterator()\n        var position = 0\n        // Shouldn't be called from constructor to avoid premature
iteration\n        private fun drop() {\n            while (position < startIndex && iterator.hasNext()) {\n
iterator.next()\n                position++\n            }\n        }\n\n        override fun hasNext(): Boolean {\n            drop()\n            return (position < endIndex) &&
iterator.hasNext()\n        }\n\n        override fun next(): T {\n            drop()\n            if (position >= endIndex)\n                throw NoSuchElementException()\n            position++\n            return iterator.next()\n        }\n    }\n}\n\n/**\n * A sequence that returns at most [count] values from the underlying [sequence], and stops returning values\n * as
soon as that count is reached.\n */\n\ninternal class TakeSequence<T>(\n    private val sequence: Sequence<T>,\n    private val count: Int)\n: Sequence<T>,\nDropTakeSequence<T> {\n    init {\n        require(count >= 0) {\n            "count
must be non-negative, but was $count."\n        }\n    }\n\n    override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, n, count)\n    override fun take(n: Int): Sequence<T> = if (n >=
count) this else TakeSequence(sequence, n)\n\n    override fun iterator():
Iterator<T> = object : Iterator<T> {\n        var left = count\n        val iterator = sequence.iterator()\n\n        override
fun next(): T {\n            if (left == 0)\n                throw NoSuchElementException()\n            left--\n            return
iterator.next()\n        }\n\n        override fun hasNext(): Boolean {\n            return left > 0 && iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence that returns values from the underlying [sequence] while the [predicate] function
returns\n * `true`, and stops returning values once the function returns `false` for the next element.\n */\n\ninternal
class TakeWhileSequence<T>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val predicate: (T) -
> Boolean)\n: Sequence<T> {\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator =
sequence.iterator()\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var nextItem: T?

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= null\n\n
    private fun calcNext() {\n        if (iterator.hasNext()) {\n            val item = iterator.next()\n            if
(predicate(item)) {\n                nextState = 1\n                nextItem = item\n                return\n            }\n            nextState = 0\n        }\n        override fun next(): T {\n            if (nextState == -1)\n                calcNext() // will change nextState\n                if (nextState == 0)\n                    throw NoSuchElementException()\n                @Suppress("UNCHECKED_CAST")\n                val result = nextItem as T\n                // Clean next to avoid keeping
reference on yielded instance\n                nextItem = null\n                nextState = -1\n                return result\n            }\n        }\n        override fun hasNext(): Boolean {\n            if (nextState == -1)\n                calcNext() // will change nextState\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * A sequence
that skips the specified number of values from the underlying [sequence] and returns\n * all values after that.\n */\ninternal class DropSequence<T>(\n    private val sequence: Sequence<T>,\n    private val count: Int\n) :
Sequence<T>, DropTakeSequence<T> {\n    init {\n        require(count >= 0) {"count must be non-negative, but
was $count." }\n    }\n    override fun drop(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0)
DropSequence(this, n) else DropSequence(sequence, n1) }\n    override fun take(n: Int): Sequence<T> = (count +
n).let { n1 -> if (n1 < 0) TakeSequence(this, n) else SubSequence(sequence, count, n1) }\n    override fun
iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator = sequence.iterator()\n        var left = count\n        // Shouldn't be called from constructor to avoid premature iteration\n        private fun drop() {\n            while (left >
0 && iterator.hasNext()) {\n                iterator.next()\n                left--\n            }\n        }\n        override fun next(): T {\n            drop()\n            return iterator.next()\n        }\n        override fun hasNext(): Boolean {\n            drop()\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A
sequence that skips the values from the underlying [sequence] while the given [predicate] returns `true` and
returns\n * all values after that.\n */\ninternal class DropWhileSequence<T>(\n    constructor(\n        private val sequence:
Sequence<T>,\n        private val predicate: (T) -> Boolean\n    ) : Sequence<T> {\n        override fun iterator():
Iterator<T> = object : Iterator<T> {\n            val iterator = sequence.iterator()\n            var dropState: Int = -1 // -1 for not
dropping, 1 for nextItem, 0 for normal iteration\n            var nextItem: T? = null\n            private fun drop() {\n                while (iterator.hasNext()) {\n                    val item = iterator.next()\n                    if (!predicate(item)) {\n                        nextItem
= item\n                        dropState = 1\n                        return\n                    }\n                }\n                dropState = 0\n            }\n            override fun next(): T {\n                if (dropState == -1)\n                    drop()\n                if (dropState == 1) {\n                    @Suppress("UNCHECKED_CAST")\n                    val result = nextItem as T\n                    nextItem = null\n                    dropState = 0\n                    return result\n                }\n                return iterator.next()\n            }\n            override fun
hasNext(): Boolean {\n                if (dropState == -1)\n                    drop()\n                return dropState == 1 ||
iterator.hasNext()\n            }\n        }\n    }\n}\n\ninternal class DistinctSequence<T, K>(\n    private val source: Sequence<T>,\n    private val keySelector: (T) -> K\n) : Sequence<T> {\n    override fun iterator(): Iterator<T> =
DistinctIterator(source.iterator(), keySelector)\n}\n\nprivate class DistinctIterator<T, K>(\n    private val source:
Iterator<T>, private
val keySelector: (T) -> K\n) : AbstractIterator<T>() {\n    private val observed = HashSet<K>()\n    override fun
computeNext() {\n        while (source.hasNext()) {\n            val next = source.next()\n            val key =
keySelector(next)\n            if (observed.add(key)) {\n                setNext(next)\n                return\n            }\n        }\n        done()\n    }\n}\n\nprivate class GeneratorSequence<T : Any>(\n    private val getInitialValue: () -> T?,
private val getNextValue: (T) -> T? ) : Sequence<T> {\n    override fun iterator(): Iterator<T> = object : Iterator<T>
{\n        var nextItem: T? = null\n        var nextState: Int = -2 // -2 for initial unknown, -1 for next unknown, 0 for
done, 1 for continue\n        private fun calcNext() {\n            nextItem = if (nextState == -2) getInitialValue() else
getNextValue(nextItem!!)\n            nextState = if (nextItem == null) 0 else 1\n        }\n        override fun next(): T
{\n            if (nextState
< 0)\n                calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n            val
result = nextItem as T\n            // Do not clean nextItem (to avoid keeping reference on yielded instance) -- need to
keep state for getNextValue\n            nextItem = null\n            nextState = -1\n            return result\n        }\n        override fun hasNext():

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Boolean {
    if (nextState < 0)
        calcNext()
        return nextState == 1
}
}

* Returns a wrapper sequence that provides values of this sequence, but ensures it can be iterated only one time.
* The operation is _intermediate_ and _stateless_.
* [IllegalStateException] is thrown on iterating the returned sequence for the second time and the following times.
public fun <T>
Sequence<T>.constrainOnce(): Sequence<T> {
    // as? does not work in js
    //return this as?
ConstrainedOnceSequence<T> ?: ConstrainedOnceSequence(this)

    return if (this is ConstrainedOnceSequence<T>) this else ConstrainedOnceSequence(this)
}

* Returns a sequence which invokes the function to calculate the next value on each iteration until the function returns `null`.
* The returned sequence is constrained to be iterated only once.
* @see constrainOnce
* @see kotlin.sequences.sequence
* @sample samples.collections.Sequences.Building.generateSequence
public fun <T : Any> generateSequence(nextFunction: () -> T?): Sequence<T> {
    return
GeneratorSequence(nextFunction, { nextFunction() }).constrainOnce()
}

* Returns a sequence defined by the starting value [seed] and the function [nextFunction], which is invoked to calculate the next value based on the previous one on each iteration.
* The sequence produces values until it encounters first `null` value.
* If [seed] is `null`, an empty sequence is produced.
* The sequence can be iterated multiple times, each time starting
with [seed].
* @see kotlin.sequences.sequence
* @sample samples.collections.Sequences.Building.generateSequenceWithSeed
* @kotlin.internal.LowPriorityInOverloadResolution
public fun <T : Any> generateSequence(seed: T?, nextFunction: (T) -> T?): Sequence<T> =
    if (seed == null)
        EmptySequence
    else
GeneratorSequence({ seed }, nextFunction)

* Returns a sequence defined by the function [seedFunction], which is invoked to produce the starting value, and the [nextFunction], which is invoked to calculate the next value based on the previous one on each iteration.
* The sequence produces values until it encounters first `null` value.
* If [seedFunction] returns `null`, an empty sequence is produced.
* The sequence can be iterated multiple times.
* @see kotlin.sequences.sequence
* @sample samples.collections.Sequences.Building.generateSequenceWithLazySeed
public fun <T : Any> generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =
    GeneratorSequence(seedFunction, nextFunction)
}

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* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("PreconditionsKt")
package kotlin
import kotlin.contracts.contract
* Throws an [IllegalArgumentException] if the [value] is false.
* @sample samples.misc.Preconditions.failRequireWithLazyMessage
@kotlin.internal.InlineOnly
public inline fun require(value: Boolean): Unit {
    contract {
        returns() implies value
    }
    require(value) {
        "Failed requirement."
    }
}

* Throws an [IllegalArgumentException] with the result of calling [lazyMessage] if the [value] is false.
* @sample samples.misc.Preconditions.failRequireWithLazyMessage
@kotlin.internal.InlineOnly
public inline fun require(value: Boolean, lazyMessage: () -> Any): Unit {
    contract {
        returns() implies value
    }
    if (!value) {
        val message = lazyMessage()
        throw IllegalArgumentException(message.toString())
    }
}

* Throws an [IllegalArgumentException] if the [value] is null. Otherwise returns the not null value.
@kotlin.internal.InlineOnly
public inline fun <T : Any> requireNotNull(value: T?): T {
    contract {
        returns() implies (value != null)
    }
    return requireNotNull(value) { "Required value was null." }
}

* Throws an [IllegalArgumentException] with the result of calling [lazyMessage] if the [value] is null. Otherwise returns the not null value.
* @sample samples.misc.Preconditions.failRequireNotNullWithLazyMessage
@kotlin.internal.InlineOnly
public inline fun <T : Any> requireNotNull(value: T?, lazyMessage: () -> Any): T {
    contract {
        returns() implies (value != null)
    }
    if (value == null) {
        val message = lazyMessage()
        throw IllegalArgumentException(message.toString())
    } else {
        return value
    }
}

* Throws an

```

```

[IllegalStateException] if the [value] is false.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n * \n @kotlin.internal.InlineOnly\npublic inline fun
check(value: Boolean): Unit {\n contract {\n returns() implies value\n }\n check(value) { \"Check failed.\"
}\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is false.\n
*\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n * \n @kotlin.internal.InlineOnly\npublic
inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n contract {\n returns() implies value\n }\n
if (!value) {\n val message = lazyMessage()\n throw IllegalStateException(message.toString())\n
}\n}\n\n/**\n * Throws
an [IllegalStateException] if the [value] is null. Otherwise\n * returns the not null value.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?): T {\n contract {\n returns() implies (value != null)\n }\n return
checkNotNull(value) { \"Required value was null.\" }\n}\n\n/**\n * Throws an [IllegalStateException] with the
result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n * \n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n returns() implies (value != null)\n
}\n\n if (value == null) {\n val message = lazyMessage()\n throw
IllegalStateException(message.toString())\n } else {\n return value\n }\n}\n\n\n/**\n * Throws an
[IllegalStateException]
with the given [message].\n * \n * @sample samples.misc.Preconditions.failWithError\n
*\n @kotlin.internal.InlineOnly\npublic inline fun error(message: Any): Nothing = throw
IllegalStateException(message.toString())\n\n\n/**\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n @package kotlin.collections\n\n\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport
kotlin.js.*\nimport primitiveArrayConcat\nimport withType\nimport kotlin.ranges.contains\nimport
kotlin.ranges.reversed\n\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n @kotlin.internal.InlineOnly\npublic actual fun <T> Array<out T>.elementAt(index:
Int): T {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\")
}\n}\n\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n @kotlin.internal.InlineOnly\npublic
actual fun ByteArray.elementAt(index: Int): Byte {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n @kotlin.internal.InlineOnly\npublic actual fun ShortArray.elementAt(index: Int): Short
{\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\")
}\n}\n\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n @kotlin.internal.InlineOnly\npublic
actual fun IntArray.elementAt(index: Int): Int {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n @kotlin.internal.InlineOnly\npublic actual fun LongArray.elementAt(index: Int): Long
{\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\")
}\n}\n\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n @kotlin.internal.InlineOnly\npublic
actual fun FloatArray.elementAt(index: Int): Float {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index,

```

```
size: $size}") } } \n \n / ** \n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException]
if the [index] is out of bounds of this array. \n * \n * @sample samples.collections.Collections.Elements.elementAt \n
* \n public actual fun DoubleArray.elementAt(index: Int): Double { \n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } } \n \n / ** \n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array. \n * \n * @sample
samples.collections.Collections.Elements.elementAt \n * \n public actual fun BooleanArray.elementAt(index: Int):
Boolean { \n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size")
} } \n \n / ** \n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array. \n * \n * @sample samples.collections.Collections.Elements.elementAt \n * \n public
actual fun CharArray.elementAt(index: Int): Char { \n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } } \n \n / ** \n * Returns a [List] that wraps the original
array. \n * \n public actual fun <T> Array<out T>.asList(): List<T> { \n    return
ArrayList<T>(this.unsafeCast<Array<Any?>>()) \n \n / ** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun ByteArray.asList(): List<Byte> { \n    return
this.unsafeCast<Array<Byte>>().asList() \n \n / ** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun ShortArray.asList(): List<Short> { \n    return
this.unsafeCast<Array<Short>>().asList() \n \n / ** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun IntArray.asList(): List<Int> { \n    return
this.unsafeCast<Array<Int>>().asList() \n \n / ** \n * Returns a [List] that
wraps the original array. \n * \n @kotlin.internal.InlineOnly \n public actual inline fun LongArray.asList():
List<Long> { \n    return this.unsafeCast<Array<Long>>().asList() \n \n / ** \n * Returns a [List] that wraps the
original array. \n * \n @kotlin.internal.InlineOnly \n public actual inline fun FloatArray.asList(): List<Float> { \n
return this.unsafeCast<Array<Float>>().asList() \n \n / ** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun DoubleArray.asList(): List<Double> { \n    return
this.unsafeCast<Array<Double>>().asList() \n \n / ** \n * Returns a [List] that wraps the original array. \n
* \n @kotlin.internal.InlineOnly \n public actual inline fun BooleanArray.asList(): List<Boolean> { \n    return
this.unsafeCast<Array<Boolean>>().asList() \n \n / ** \n * Returns a [List] that wraps the original array. \n
* \n public actual fun CharArray.asList(): List<Char> { \n    return object : AbstractList<Char>(), RandomAccess { \n
override
val size: Int get() = this@asList.size \n    override fun isEmpty(): Boolean = this@asList.isEmpty() \n    override
fun contains(element: Char): Boolean = this@asList.contains(element) \n    override fun get(index: Int): Char { \n
AbstractList.checkElementIndex(index, size) \n    return this@asList[index] \n    } \n    override fun
indexOf(element: Char): Int { \n    @Suppress("USELESS_CAST") \n    if ((element as Any?) !is Char)
return -1 \n    return this@asList.indexOf(element) \n    } \n    override fun lastIndexOf(element: Char): Int
{ \n    @Suppress("USELESS_CAST") \n    if ((element as Any?) !is Char) return -1 \n    return
this@asList.lastIndexOf(element) \n    } \n    } \n \n / ** \n * Returns `true` if the two specified arrays are *deeply*
equal to one another, \n * i.e. contain the same number of the same elements in the same order. \n * \n * If two
corresponding elements are nested arrays,
they are also compared deeply. \n * If any of arrays contains itself on any nesting level the behavior is undefined. \n
* \n * The elements of other types are compared for equality with the [equals][Any.equals] function. \n * For floating
point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0` \n
* \n @SinceKotlin("1.1") \n @kotlin.internal.LowPriorityInOverloadResolution \n public actual infix fun <T>
Array<out T>.contentDeepEquals(other: Array<out T>): Boolean { \n    return
this.contentDeepEquals(other) \n \n / ** \n * Returns `true` if the two specified arrays are *deeply* equal to one
another, \n * i.e. contain the same number of the same elements in the same order. \n * \n * The specified arrays are
also considered deeply equal if both are `null`. \n * \n * If two corresponding elements are nested arrays, they are
also compared deeply. \n * If any of arrays contains itself on any nesting level the behavior is undefined. \n * \n * The
elements of other types are
```

compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *
 @SinceKotlin("1.4")\n @library("arrayDeepEquals")\n public actual infix fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean {\n definedExternally\n }\n }\n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n *
 @SinceKotlin("1.1")\n @kotlin.internal.LowPriorityInOverloadResolution\n public actual fun <T> Array<out T>.contentDeepHashCode(): Int {\n return this.contentDeepHashCode()\n }\n }\n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n *
 @SinceKotlin("1.4")\n @library("arrayDeepHashCode")\n public actual fun <T> Array<out T>?.contentDeepHashCode(): Int {\n definedExternally\n }\n }\n /**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `[...]` to prevent recursion.\n * \n *
 @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n }\n }\n /**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `[...]` to prevent recursion.\n * \n *
 @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n }\n }\n /**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *
 @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean {\n return this.contentEquals(other)\n }\n }\n /**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *
 @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual infix fun ByteArray.contentEquals(other: ByteArray): Boolean {\n return this.contentEquals(other)\n }\n }\n /**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *
 @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual infix fun ShortArray.contentEquals(other: ShortArray): Boolean {\n return this.contentEquals(other)\n }\n }\n /**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n *
 @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual infix fun IntArray.contentEquals(other: IntArray): Boolean {\n return this.contentEquals(other)\n }\n }\n /**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is

equal to itself and `-0.0` is not equal to `0.0`.
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public actual infix fun LongArray.contentEquals(other: LongArray): Boolean {`
 `return this.contentEquals(other)`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public actual infix fun FloatArray.contentEquals(other: FloatArray): Boolean {`
 `return this.contentEquals(other)`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are`
`*structurally* equal to one another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public actual infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean {`
 `return this.contentEquals(other)`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one`
`another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public actual infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean {`
 `return this.contentEquals(other)`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one`
`another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")`
`@SinceKotlin("1.1")`
`@DeprecatedSinceKotlin(hiddenSince = "1.4")`
`public actual infix fun CharArray.contentEquals(other: CharArray): Boolean {`
 `return this.contentEquals(other)`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n`
`*`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@SinceKotlin("1.4")`
`@library("arrayEquals")`
`public actual infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean {`
 `definedExternally`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@SinceKotlin("1.4")`
`@library("arrayEquals")`
`public actual infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean {`
 `definedExternally`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@SinceKotlin("1.4")`
`@library("arrayEquals")`
`public actual infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean {`
 `definedExternally`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are structurally equal to one another,`
`n * i.e. contain the same number of the same elements in the same order.`
`n * The elements are compared for equality with the [equals][Any.equals]`
`function.`
`n * For floating point numbers it means that `NaN` is equal to itself and -0.0 is not equal to 0.0.`
`n`
`*`
`@SinceKotlin("1.4")`
`@library("arrayEquals")`
`public actual infix fun IntArray?.contentEquals(other: IntArray?): Boolean {`
 `definedExternally`
`}`
`n/n/**`
`n * Returns `true` if the two specified arrays are`

structurally equal

to one another,*\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n * \n @SinceKotlin("1.4")\n @library("arrayEquals")\n public actual*

*infix fun LongArray?.contentEquals(other: LongArray?): Boolean {\n definedExternally\n }\n \n /**\n * Returns `true` if the two specified arrays are **structurally** equal to one another,*\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n * \n @SinceKotlin("1.4")\n @library("arrayEquals")\n public actual**

*infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean {\n definedExternally\n }\n \n /**\n * Returns `true` if the*

*two specified arrays are **structurally** equal to one another,*\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n * \n @SinceKotlin("1.4")\n @library("arrayEquals")\n public actual**

*infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean {\n definedExternally\n }\n \n /**\n * Returns `true` if the two specified arrays are **structurally** equal to one another,*\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n * \n @SinceKotlin("1.4")\n @library("arrayEquals")\n public actual**

*infix fun BooleanArray?.contentEquals(other: BooleanArray?): Boolean {\n definedExternally\n }\n \n /**\n * Returns `true` if the two specified arrays are **structurally** equal to one another,*\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n * \n @SinceKotlin("1.4")\n @library("arrayEquals")\n public actual**

*infix fun CharArray?.contentEquals(other: CharArray?): Boolean {\n definedExternally\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun <T> Array<out T>.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun ByteArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun ShortArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun IntArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun LongArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun FloatArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun DoubleArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

*fun DoubleArray.contentHashCode(): Int {\n return this.contentHashCode()\n }\n \n /**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n @Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n @SinceKotlin("1.1")\n @DeprecatedSinceKotlin(hiddenSince = "1.4")\n public actual*

```

warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince
= "1.4")\npublic actual fun BooleanArray.contentHashCode(): Int {\n  return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n * \n@Deprecated("Use Kotlin compiler
1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\npublic actual fun CharArray.contentHashCode(): Int {\n  return this.contentHashCode()\n}\n\n/**\n *
Returns a hash code based on the contents of this array as if it is [List].\n
*\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun <T> Array<out
T>?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this
array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun
ByteArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based on the contents
of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun
ShortArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun
IntArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based on the contents
of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun
LongArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun
FloatArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based on the
contents of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic
actual fun DoubleArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based
on the contents of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic
actual fun BooleanArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a hash code based
on the contents of this array as if it is [List].\n * \n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic
actual fun CharArray?.contentHashCode(): Int {\n  definedExternally\n}\n\n/**\n * Returns a string representation
of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n * \n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun <T> Array<out T>.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a
string representation
of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n * \n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun ByteArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n * \n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun ShortArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n * \n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
IntArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string representation
of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n * \n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun LongArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n * \n@Deprecated("Use Kotlin compiler 1.4 to

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avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun FloatArray.contentToString():
String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the
specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
DoubleArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun BooleanArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun
CharArray.contentToString(): String {\n    return this.contentToString()\n}\n\n/**\n * Returns a string representation
of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun <T> Array<out T>?.contentToString():
String {\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ByteArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns
a string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ShortArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun IntArray?.contentToString(): String {\n
definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun LongArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns a string representation of the
contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun FloatArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun DoubleArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun BooleanArray?.contentToString():
String {\n    definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun CharArray?.contentToString(): String
{\n    definedExternally\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that
array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it
overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset

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the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException

when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T> {\n    arrayCopy(this, destination, destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n
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* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray {\n    arrayCopy(this.unsafeCast<Array<Byte>>(), destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex,
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endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray {\n    arrayCopy(this.unsafeCast<Array<Short>>(), destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to
```

```
copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("\nACTUAL_FUNCTION_WITH_DEFAULT\n_ARGUMENTS")\n\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): IntArray {\n    arrayCopy(this.unsafeCast<Array<Int>>(),
destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n    return destination}\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed
to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination
range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("\nACTUAL_FUNCTION_WITH_DEFAULT\n_ARGUMENTS")\n\npublic
actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0,
endIndex: Int = size): LongArray {\n    arrayCopy(this.unsafeCast<Array<Long>>(),
destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex, endIndex)\n    return destination}\n}\n\n/**\n *
Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range
of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("\nACTUAL_FUNCTION_WITH_DEFAULT\n_ARGUMENTS")\n\npublic
actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): FloatArray {\n    arrayCopy(this.unsafeCast<Array<Float>>(),
destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n    return destination}\n}\n\n/**\n *
Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination
the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n
* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end
(exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n
*\n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("\nACTUAL_FUNCTION_WITH_DEFAULT\n_ARGUMENTS")\n\npublic
actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int
= 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray
{\n    arrayCopy(this.unsafeCast<Array<Double>>(), destination.unsafeCast<Array<Double>>(), destinationOffset,
startIndex, endIndex)\n    return destination}\n}\n\n/**\n * Copies this array or its subrange into the [destination]
array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the
subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n *

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`this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n */\npublic actual fun CharArray.copyOf(): CharArray {\n
return withType(\`CharArray\`, this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the
original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values
if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n
public actual fun ByteArray.copyOf(newSize: Int): ByteArray {\n require(newSize >= 0) { \`Invalid new
array size: $newSize.\` }\n return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a
copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with
zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated
to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array
are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun
ShortArray.copyOf(newSize: Int): ShortArray {\n require(newSize >= 0) { \`Invalid new array size: $newSize.\`
}\n return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n
* The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than
the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size
of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun
IntArray.copyOf(newSize: Int): IntArray {\n require(newSize >= 0) { \`Invalid new array size: $newSize.\` }\n
return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array,
resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n
* \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If
[newSize] is greater than the size of the original array, the extra elements in the copy array
are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun
LongArray.copyOf(newSize: Int): LongArray {\n require(newSize >= 0) { \`Invalid new array size: $newSize.\`
}\n return withType(\`LongArray\`, arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new array which
is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end
with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is
truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun
FloatArray.copyOf(newSize: Int): FloatArray {\n require(newSize >= 0) { \`Invalid new array size: $newSize.\`
}\n return fillFrom(this,
FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given
[newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize]
is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater
than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun
DoubleArray.copyOf(newSize: Int): DoubleArray {\n require(newSize >= 0) { \`Invalid new array size:
$newSize.\` }\n return fillFrom(this, DoubleArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of
the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `false`
values if necessary.\n * \n * - If [newSize] is less than the size of the original array,
the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra
elements in the copy array are filled with `false` values.\n * \n * @sample`

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samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *^/npublic actual fun
BooleanArray.copyOf(newSize: Int): BooleanArray {\n  require(newSize >= 0) { \"Invalid new array size:
$newSize.\" }\n  return withType(\"BooleanArray\", arrayCopyResize(this, newSize, false))\n}\n/n/**\n * Returns
new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or
padded at the end with null char (`\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with null char (`\u0000`) values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*^/npublic actual fun CharArray.copyOf(newSize: Int): CharArray {\n  require(newSize >= 0) { \"Invalid new
array size: $newSize.\" }\n  return withType(\"CharArray\", fillFrom(this, CharArray(newSize)))\n}\n/n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with `null` values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n
*^/n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out T>.copyOf(newSize: Int):
Array<T?> {\n  require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n  return arrayCopyResize(this,
newSize, null)\n}\n/n/**\n
* Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the
start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n *
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*^/n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out
T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {\n  AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n/n/**\n * Returns a new array which is a
copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to
copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n *^/npublic actual fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex,
toIndex)\n}\n/n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
@param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to
copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the
size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^/npublic
actual fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex,
toIndex)\n}\n/n/**\n * Returns a new array
which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range
(inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *^/npublic actual fun
IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {\n  AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n  return this.asDynamic().slice(fromIndex, toIndex)\n}\n/n/**\n * Returns a new array which is a
copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to
copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException

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if [fromIndex] is greater than [toIndex].\n *\npublic actual fun LongArray.copyOfRange(fromIndex: Int, toIndex:
Int): LongArray {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return
withType("<code>LongArray</code>", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n**\n * Returns a new array which is a
copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to
copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic actual fun
FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex,
toIndex)\n}\n\n**\n * Returns a new array which is a copy of the specified range of the original
array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the
range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or
[toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n *\npublic actual fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return this.asDynamic().slice(fromIndex,
toIndex)\n}\n\n**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n *
@param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to
copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the
size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n *\npublic
actual fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return withType("<code>BooleanArray</code>",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n**\n * Returns a new array which is a copy of the specified
range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param
toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n *\npublic actual fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int):
CharArray {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return withType("<code>CharArray</code>",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n**\n * Fills this array or its subrange with the specified
[element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range
(exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  nativeFill(element, fromIndex, toIndex);\n}\n\n**\n
* Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  nativeFill(element, fromIndex, toIndex);\n}\n\n**\n
* Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

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*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun ShortArray.fill(element:
    Short, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified
[element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param
toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n
 * Fills this array or its subrange with the specified [element]
value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end
of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n
 * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex]
is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n
 * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual
    fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
        AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n        nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n
 * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n
 * Fills this array or its
subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0
by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic

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actual fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  nativeFill(element, fromIndex, toIndex);\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline operator
fun <T> Array<out T>.plus(element: T): Array<T> {\n  return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ByteArray.plus(element: Byte):
ByteArray {\n  return plus(byteArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the
original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun ShortArray.plus(element: Short): ShortArray {\n  return plus(shortArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun IntArray.plus(element: Int):
IntArray {\n  return plus(intArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the
original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline
operator fun LongArray.plus(element:
Long): LongArray {\n  return plus(longArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements
of the original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual
inline operator fun FloatArray.plus(element: Float): FloatArray {\n  return plus(floatArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun DoubleArray.plus(element:
Double): DoubleArray {\n  return plus(doubleArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all
elements of the original array and then the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {\n  return
plus(booleanArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then
the given [element].\n
*/\n\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun CharArray.plus(element: Char):
CharArray {\n  return plus(charArrayOf(element))\n}\n\n/**\n
 * Returns an array containing all elements of the
original array and then all elements of the given [elements] collection.\n
*/\n\n@Suppress("ACTUAL_WITHOUT_EXPECT")\npublic actual operator fun <T> Array<out T>.plus(elements:
Collection<T>): Array<T> {\n  return arrayPlusCollection(this, elements)\n}\n\n/**\n
 * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic
actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n
 * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual
operator fun ShortArray.plus(elements: Collection<Short>): ShortArray
{\n  return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n
 * Returns an
array containing all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual operator fun IntArray.plus(elements: Collection<Int>): IntArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n
 * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual
operator fun LongArray.plus(elements: Collection<Long>): LongArray {\n  return arrayPlusCollection(this,
elements)\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then all elements of the
given [elements] collection.\n
*/\n\npublic actual operator fun FloatArray.plus(elements: Collection<Float>):
FloatArray {\n  return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n
 * Returns an array containing all elements of the original array and then all elements of the given [elements]
collection.\n
*/\n\npublic actual operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n
 * Returns an array

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containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic
actual operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray {\n return
arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and
then all elements of the given [elements] collection.\n */\npublic actual operator fun CharArray.plus(elements:
Collection<Char>): CharArray {\n return fillFromCollection(this.copyOf(size + elements.size), this.size,
elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the
given [elements] array.\n */\n@Suppress("ACTUAL_WITHOUT_EXPECT",
"NOTHING_TO_INLINE")\npublic actual inline operator fun <T> Array<out T>.plus(elements: Array<out T>):
Array<T> {\n return this.asDynamic().concat(elements)\n}\n\n/**\n * Returns an array containing all elements of
the original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ByteArray.plus(elements:
ByteArray): ByteArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun ShortArray.plus(elements:
ShortArray): ShortArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic
actual inline operator fun IntArray.plus(elements: IntArray): IntArray {\n return primitiveArrayConcat(this,
elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the
given [elements] array.\n */\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun
LongArray.plus(elements: LongArray): LongArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun FloatArray.plus(elements:
FloatArray): FloatArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun DoubleArray.plus(elements:
DoubleArray): DoubleArray
{\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the
original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun BooleanArray.plus(elements:
BooleanArray): BooleanArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] array.\n
*/\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline operator fun CharArray.plus(elements:
CharArray): CharArray {\n return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then the given [element].\n
*/\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T>
Array<out T>.plusElement(element: T): Array<T> {\n return
this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Sorts the array
in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n
*/\n@library("primitiveArraySort")\npublic actual fun IntArray.sort(): Unit {\n definedExternally\n}\n\n/**\n *
Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic actual fun
LongArray.sort(): Unit {\n @Suppress("DEPRECATION")\n if (size > 1) sort { a: Long, b: Long ->
a.compareTo(b) }\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n@library("primitiveArraySort")\npublic actual fun
ByteArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n@library("primitiveArraySort")\npublic actual fun
ShortArray.sort(): Unit {\n definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n */\n@library("primitiveArraySort")\npublic actual fun

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DoubleArray.sort(): Unit {
    definedExternally
}

/**
 * Sorts the array in-place.
 *
 * @sample
 * samples.collections.Arrays.Sorting.sortArray
 */
@library("primitiveArraySort")
public actual fun
FloatArray.sort(): Unit {
    definedExternally
}

/**
 * Sorts the array in-place.
 *
 * @sample
 * samples.collections.Arrays.Sorting.sortArray
 */
@library("primitiveArraySort")
public actual fun
CharArray.sort(): Unit {
    definedExternally
}

/**
 * Sorts the array in-place according to the natural order
 * of its elements.
 *
 * The sort is _stable_. It means that equal elements preserve their order relative to each other
 * after sorting.
 *
 * @sample
 * samples.collections.Arrays.Sorting.sortArrayOfComparable
 */
public actual fun
<T : Comparable<T>> Array<out T>.sort(): Unit {
    if (size > 1) sortArray(this)
}

/**
 * Sorts the array in-
 * place according to the order specified by the given [comparison] function.
 *
 * The sort is _stable_. It means
 * that equal elements preserve their order relative to each other after sorting.
 */
@Deprecated("Use sortWith
instead", ReplaceWith("this.sortWith(Comparator(comparison))"))
@DeprecatedSinceKotlin(warningSince =
"1.6")
public fun <T> Array<out T>.sort(comparison: (a: T, b: T) -> Int): Unit {
    if (size > 1)
    sortArrayWith(this, comparison)
}

/**
 * Sorts a range in the array in-place.
 *
 * The sort is _stable_. It
 * means that equal elements preserve their order relative to each other after sorting.
 *
 * @param fromIndex the
 * start of the range (inclusive) to sort, 0 by default.
 *
 * @param toIndex the end of the range (exclusive) to sort, size
 * of this array by default.
 *
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 * is greater than the size of this array.
 *
 * @throws IllegalArgumentException if [fromIndex] is greater than
 * [toIndex].
 */
@sample
samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable
/**
 * @SinceKotlin("1.4")
 */
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public
actual fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    sortArrayWith(this, fromIndex, toIndex,
    naturalOrder())
}

/**
 * Sorts a range in the array in-place.
 *
 * @param fromIndex the start of the range
 * (inclusive) to sort, 0 by default.
 *
 * @param toIndex the end of the range (exclusive) to sort, size of this array by
 * default.
 *
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
 * the size of this array.
 *
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@sample
samples.collections.Arrays.Sorting.sortRangeOfArray
/**
 * @SinceKotlin("1.4")
 */
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public
actual fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex,
    toIndex, size)
    val subarray = this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ByteArray>()
    subarray.sort()
}

/**
 * Sorts a range in the array in-place.
 *
 * @param fromIndex the start of the range
 * (inclusive) to sort, 0 by default.
 *
 * @param toIndex the end of the range (exclusive) to sort, size of this array by
 * default.
 *
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
 * the size of this array.
 *
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@sample
samples.collections.Arrays.Sorting.sortRangeOfArray
/**
 * @SinceKotlin("1.4")
 */
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public
actual fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    val subarray =
    this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ShortArray>()
    subarray.sort()
}

/**
 * Sorts a range in the array in-place.
 *
 * @param fromIndex the start of the range (inclusive) to sort, 0 by
 * default.
 *
 * @param toIndex the end of the range (exclusive) to sort, size of this array by default.
 *
 * @throws
 * IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 *
 * @throws
 * IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@sample
samples.collections.Arrays.Sorting.sortRangeOfArray
/**
 * @SinceKotlin("1.4")
 */
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public
actual fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    val subarray =
    this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<IntArray>()
    subarray.sort()
}

/**
 * Sorts a
 */

```

```

range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the
range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  sortArrayWith(this.unsafeCast<Array<Long>>(),
fromIndex, toIndex, naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex
the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort,
size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or
[toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<FloatArray>()\n  subarray.sort()\n}\n\n/**\n * Sorts a
range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<DoubleArray>()\n  subarray.sort()\n}\n\n/**\n * Sorts
a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*/\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size):
Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<CharArray>()\n  subarray.sort()\n}\n\n/**\n * Sorts the
array in-place according to the order specified by the given [comparison] function.\n */\n@Deprecated("Use other
sorting functions from the Standard Library")\n@DeprecatedSinceKotlin(warningSince =
"1.6")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sort(noinline comparison: (a: Byte, b: Byte) ->
Int): Unit {\n  nativeSort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the
given [comparison] function.\n */\n@Deprecated("Use other sorting functions from the Standard
Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sort(noinline comparison: (a: Short, b: Short) -> Int): Unit {\n  nativeSort(comparison)\n}\n\n/**\n *
Sorts the array in-place according to
the order specified by the given [comparison] function.\n */\n@Deprecated("Use other sorting functions from the
Standard Library")\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline
fun IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int): Unit {\n  nativeSort(comparison)\n}\n\n/**\n * Sorts

```

```

the array in-place according to the order specified by the given [comparison] function.\n *\n@Deprecated("\nUse
other sorting functions from the Standard Library")\n@\n@DeprecatedSinceKotlin(warningSince =
\n"1.6")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sort(noinline comparison: (a: Long, b: Long) ->
Int): Unit {\n    nativeSort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the
given [comparison] function.\n *\n@Deprecated("\nUse other sorting functions from the Standard
Library")\n@\n@DeprecatedSinceKotlin(warningSince = \n"1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sort(noinline
comparison: (a: Float, b: Float) -> Int): Unit {\n    nativeSort(comparison)\n}\n\n/**\n * Sorts the array in-place
according to the order specified by the given [comparison] function.\n *\n@Deprecated("\nUse other sorting
functions from the Standard Library")\n@\n@DeprecatedSinceKotlin(warningSince =
\n"1.6")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sort(noinline comparison: (a: Double, b:
Double) -> Int): Unit {\n    nativeSort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order
specified by the given [comparison] function.\n *\n@Deprecated("\nUse other sorting functions from the Standard
Library")\n@\n@DeprecatedSinceKotlin(warningSince = \n"1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n    nativeSort(comparison)\n}\n\n/**\n *
Sorts the array in-place according to the order specified by the given [comparator].\n *\n * The sort is _stable_. It
means that equal
elements preserve their order relative to each other after sorting.\n *\npublic actual fun <T> Array<out
T>.sortWith(comparator: Comparator<in T>): Unit {\n    if (size > 1) sortArrayWith(this, comparator)\n}\n\n/**\n *
Sorts a range in the array in-place with the given [comparator].\n *\n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n *\n * @param fromIndex the start of the range
(inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n*\n@SinceKotlin("\n1.4")\n@Suppress("\nACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size):
Unit {\n
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArrayWith(this, fromIndex, toIndex,
comparator)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n
*\npublic actual fun ByteArray.toTypedArray(): Array<Byte> {\n    return js("\n[]").slice.call(this)\n}\n\n/**\n *
Returns a *typed* object array containing all of the elements of this primitive array.\n *\npublic actual fun
ShortArray.toTypedArray(): Array<Short> {\n    return js("\n[]").slice.call(this)\n}\n\n/**\n * Returns a *typed*
object array containing all of the elements of this primitive array.\n *\npublic actual fun IntArray.toTypedArray():
Array<Int> {\n    return js("\n[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the
elements of this primitive array.\n *\npublic actual fun LongArray.toTypedArray(): Array<Long> {\n    return
js("\n[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all
of the elements of this primitive array.\n *\npublic actual fun FloatArray.toTypedArray(): Array<Float> {\n
return js("\n[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this
primitive array.\n *\npublic actual fun DoubleArray.toTypedArray(): Array<Double> {\n    return
js("\n[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this
primitive array.\n *\npublic actual fun BooleanArray.toTypedArray(): Array<Boolean> {\n    return
js("\n[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this
primitive array.\n *\npublic actual fun CharArray.toTypedArray(): Array<Char> {\n    return Array(size) { index ->
this[index] }\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n*\n@file:kotlin.jvm.JvmName("\nComparisonsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage

```

```

kotlin.comparisons\n\n/**\n * Compares two values using the specified functions [selectors] to calculate the result
of the comparison.\n * The functions are called sequentially, receive the given values [a] and [b] and return
[Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for [a] and [b] values do
not\n * compare as equal, the result of that comparison is returned.\n *\n * @sample
samples.comparisons.Comparisons.compareValuesByWithSelectors\n *\npublic fun <T> compareValuesBy(a: T,
b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n    require(selectors.size > 0)\n    return
compareValuesByImpl(a, b, selectors)\n}\n\nprivate fun <T> compareValuesByImpl(a: T, b: T, selectors:
Array<out (T) -> Comparable<*>?): Int {\n    for (fn in selectors) {\n        val v1 = fn(a)\n        val v2 = fn(b)\n    val diff = compareValues(v1, v2)\n        if (diff
!= 0) return diff\n    }\n    return 0\n}\n\n/**\n * Compares two values using the specified [selector] function to
calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return
[Comparable] objects.\n * The result of comparison of these [Comparable] instances is returned.\n *\n * @sample
samples.comparisons.Comparisons.compareValuesByWithSingleSelector\n *\n@kotlin.internal.InlineOnly\npublic
inline fun <T> compareValuesBy(a: T, b: T, selector: (T) -> Comparable<*>?): Int {\n    return
compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values using the specified [selector] function to
calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return objects
of type K which are then being\n * compared with the given [comparator].\n *\n * @sample
samples.comparisons.Comparisons.compareValuesByWithComparator\n *\n@kotlin.internal.InlineOnly\npublic
inline fun <T, K> compareValuesBy(a:
T, b: T, comparator: Comparator<in K>, selector: (T) -> K): Int {\n    return comparator.compare(selector(a),
selector(b))\n}\n\n/// Not so useful without type inference for receiver of expression\n/// compareValuesWith(v1,
v2, compareBy { it.prop1 } thenByDescending { it.prop2 })\n\n/**\n * Compares two values using the specified
[comparator].\n *\n * @sample\n@Suppress("NOTHING_TO_INLINE")\npublic inline fun <T> compareValuesWith(a: T,
b: T, comparator: Comparator<T>): Int = comparator.compare(a, b)\n\n/**\n * Compares two nullable
[Comparable] values. Null is considered less than any value.\n *\n * @sample
samples.comparisons.Comparisons.compareValues\n *\npublic fun <T : Comparable<*>> compareValues(a: T?, b:
T?): Int {\n    if (a === b) return 0\n    if (a == null) return -1\n    if (b == null) return 1\n}\n\n@Suppress("UNCHECKED_CAST")\n    return (a as Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a
comparator using the sequence of functions to calculate
a result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return
[Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do
not\n * compare as equal, the result of that comparison is returned from the [Comparator].\n *\n * @sample
samples.comparisons.Comparisons.compareByWithSelectors\n *\npublic fun <T> compareBy(vararg selectors: (T)
-> Comparable<*>?): Comparator<T> {\n    require(selectors.size > 0)\n    return Comparator { a, b ->
compareValuesByImpl(a, b, selectors) }\n}\n\n/**\n * Creates a comparator using the function to transform value
to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.compareByWithSingleSelector\n *\n@kotlin.internal.InlineOnly\npublic inline
fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n    Comparator { a, b ->
compareValuesBy(a, b, selector) }\n\n/**\n * Creates a comparator
using the [selector] function to transform values being compared and then applying\n * the specified [comparator]
to compare transformed values.\n *\n * @sample samples.comparisons.Comparisons.compareByWithComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareBy(comparator: Comparator<in K>, crossinline
selector: (T) -> K): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(a, b, comparator, selector)
}\n}\n\n/**\n * Creates a descending comparator using the function to transform value to a [Comparable] instance for
comparison.\n *\n * @sample samples.comparisons.Comparisons.compareByDescendingWithSingleSelector\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareByDescending(crossinline selector: (T) ->
Comparable<*>?): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(b, a, selector) }\n}\n\n/**\n * Creates a descending comparator using the [selector] function to transform values being compared and then

```


applying the specified [comparator] to compare transformed values. Note that an order of [comparator] is reversed by this wrapper.

```

@sample samples.comparisons.Comparisons.compareByDescendingWithComparator
*/kotlin.internal.InlineOnly
public inline fun <T, K> compareByDescending(comparator: Comparator<in K>,
crossinline selector: (T) -> K): Comparator<T> =
    Comparator { a, b -> compareValuesBy(b, a, comparator,
selector) }
*/
*/ Creates a comparator comparing values after the primary comparator defined them equal. It
uses the function to transform value to a [Comparable] instance for comparison.
@sample
samples.comparisons.Comparisons.thenBy
*/kotlin.internal.InlineOnly
public inline fun <T>
Comparator<T>.thenBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenBy.compare(a, b)
        if (previousCompare != 0) previousCompare else
compareValuesBy(a, b, selector)
    }
*/
*/ Creates a
comparator comparing values after the primary comparator defined them equal. It uses the [selector] function to
transform values and then compares them with the given [comparator].
@sample
samples.comparisons.Comparisons.thenByWithComparator
*/kotlin.internal.InlineOnly
public inline fun <T,
K> Comparator<T>.thenBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenBy.compare(a, b)
        if (previousCompare != 0)
previousCompare else compareValuesBy(a, b, comparator, selector)
    }
*/
*/ Creates a descending
comparator using the primary comparator and the function to transform value to a [Comparable] instance for
comparison.
@sample samples.comparisons.Comparisons.thenByDescending
*/kotlin.internal.InlineOnly
public inline fun <T> Comparator<T>.thenByDescending(crossinline selector: (T)
-> Comparable<*>?): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenByDescending.compare(a, b)
        if (previousCompare != 0)
previousCompare else compareValuesBy(b, a, selector)
    }
*/
*/ Creates a descending comparator
comparing values after the primary comparator defined them equal. It uses the [selector] function to transform
values and then compares them with the given [comparator].
@sample
samples.comparisons.Comparisons.thenByDescendingWithComparator
*/kotlin.internal.InlineOnly
public
inline fun <T, K> Comparator<T>.thenByDescending(comparator: Comparator<in K>, crossinline selector: (T) ->
K): Comparator<T> =
    Comparator { a, b ->
        val previousCompare = this@thenByDescending.compare(a,
b)
        if (previousCompare != 0) previousCompare else compareValuesBy(b, a, comparator, selector)
    }
*/
*/ Creates a comparator using the primary comparator and function to calculate a result of comparison.
@sample samples.comparisons.Comparisons.thenComparator
*/kotlin.internal.InlineOnly
public inline fun <T> Comparator<T>.thenComparator(crossinline comparison:
(a: T, b: T) -> Int): Comparator<T> =
    Comparator { a, b ->
        val previousCompare =
this@thenComparator.compare(a, b)
        if (previousCompare != 0) previousCompare else comparison(a, b)
    }
*/
*/ Combines this comparator and the given [comparator] such that the latter is applied only when the
former considered values equal.
@sample samples.comparisons.Comparisons.then
*/kotlin.internal.InlineOnly
public infix fun
<T> Comparator<T>.then(comparator: Comparator<in T>): Comparator<T> =
    Comparator { a, b ->
        val
previousCompare = this@then.compare(a, b)
        if (previousCompare != 0) previousCompare else
comparator.compare(a, b)
    }
*/
*/ Combines this comparator and the given [comparator] such that the latter
is applied only when the former considered values equal.
@sample
samples.comparisons.Comparisons.thenDescending
*/kotlin.internal.InlineOnly
public
infix fun <T> Comparator<T>.thenDescending(comparator: Comparator<in T>): Comparator<T> =
    Comparator<T> { a, b ->
        val previousCompare = this@thenDescending.compare(a, b)
        if
(previousCompare != 0) previousCompare else comparator.compare(b, a)
    }
*/
*/ Not so useful without type
inference for receiver of expression
@sample samples.comparisons.Comparisons.nullsFirstLastWithComparator
*/kotlin.internal.InlineOnly
public fun <T : Any>
nullsFirst(comparator: Comparator<in T>): Comparator<T?> =
    Comparator { a, b ->
        when {
            a

```

```

=== b -> 0\n      a == null -> -1\n      b == null -> 1\n      else -> comparator.compare(a, b)\n    }\n\n}\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value less than any other\n value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n *\n @kotlin.internal.InlineOnly\n public inline fun <T : Comparable<T>> nullsFirst(): Comparator<T?> =\n nullsFirst(naturalOrder())\n\n/**\n * Extends the given [comparator] of non-nullable values to a comparator of\n nullable values\n * considering `null` value greater than any other value.\n *\n * @sample\n samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\n public fun <T : Any>\n nullsLast(comparator: Comparator<in T>): Comparator<T?> =\n Comparator { a, b ->\n     when {\n         a\n         === b -> 0\n         a == null -> 1\n         b == null -> -1\n         else -> comparator.compare(a, b)\n     }\n }\n\n}\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value greater than any\n other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n *\n @kotlin.internal.InlineOnly\n public inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> =\n nullsLast(naturalOrder())\n\n/**\n * Returns a comparator that compares [Comparable] objects in natural order.\n *\n * @sample\n samples.comparisons.Comparisons.naturalOrderComparator\n *\n public fun <T : Comparable<T>> naturalOrder():\n Comparator<T> = @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as Comparator<T>)\n\n/**\n * Returns a comparator that compares [Comparable] objects in reversed natural order.\n *\n * @sample\n samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\n public fun <T : Comparable<T>>\n reverseOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST") (ReverseOrderComparator as\n Comparator<T>)\n\n/**\n * Returns a comparator that imposes the reverse ordering of this comparator.\n *\n * @sample samples.comparisons.Comparisons.reversed\n *\n @Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n public fun <T> Comparator<T>.reversed():\n Comparator<T> = when (this) {\n     is ReversedComparator -> this.comparator\n     NaturalOrderComparator ->\n     @Suppress("UNCHECKED_CAST") (ReverseOrderComparator\n     as Comparator<T>)\n     ReverseOrderComparator -> @Suppress("UNCHECKED_CAST")\n     (NaturalOrderComparator as Comparator<T>)\n     else -> ReversedComparator(this)\n }\n\n\nprivate class\n ReversedComparator<T>(public val comparator: Comparator<T>) : Comparator<T> {\n     override fun compare(a:\n T, b: T): Int = comparator.compare(b, a)\n     @Suppress("VIRTUAL_MEMBER_HIDDEN")\n     fun reversed():\n Comparator<T> = comparator\n }\n\nprivate object NaturalOrderComparator : Comparator<Comparable<Any>> {\n     override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)\n     @Suppress("VIRTUAL_MEMBER_HIDDEN")\n     fun reversed(): Comparator<Comparable<Any>> =\n ReverseOrderComparator\n }\n\nprivate object ReverseOrderComparator : Comparator<Comparable<Any>> {\n     override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)\n     @Suppress("VIRTUAL_MEMBER_HIDDEN")\n     fun reversed(): Comparator<Comparable<Any>> =\n NaturalOrderComparator\n }\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code\n is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n *\n @file:kotlin.jvm.JvmMultifileClass\n @file:kotlin.jvm.JvmName("StandardKt")\n package kotlin\n\n import\n kotlin.contracts.*\n\n /**\n * An exception is thrown to indicate that a method body remains to be implemented.\n *\n public class NotImplementedError(message: String = "An operation is not implemented.") :\n Error(message)\n\n /**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n *\n @kotlin.internal.InlineOnly\n public inline fun TODO(): Nothing = throw NotImplementedError()\n\n /**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n *\n * @param reason a string\n explaining why the implementation is missing.\n *\n @kotlin.internal.InlineOnly\n public inline fun TODO(reason:\n String): Nothing = throw NotImplementedError("An\n operation is not implemented: $reason")\n\n /**\n * Calls the specified function [block] and returns its result.\n *\n * For detailed usage information see the documentation for [scope\n functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n\n

```

```

*@\n@kotlin.internal.InlineOnly\npublic inline fun <R> run(block: () -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return block()\n}\n\n*\n * Calls the specified function [block] with `this` value as its receiver and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n
*@\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return block()\n}\n\n*\n * Calls the specified function [block] with the given [receiver] as its receiver and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#with).\n
*@\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return receiver.block()\n}\n\n*\n * Calls the specified function [block] with `this` value as its receiver and returns `this` value.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#apply).\n
*@\n@kotlin.internal.InlineOnly\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  block()\n  return this\n}\n\n*\n * Calls the specified function [block] with `this` value as its argument and returns `this` value.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#also).\n
*@\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.also(block: (T) -> Unit): T {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  block(this)\n  return this\n}\n\n*\n * Calls the specified function [block] with `this` value as its argument and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#let).\n
*@\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.let(block: (T) -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return block(this)\n}\n\n*\n * Returns `this` value if it satisfies the given [predicate] or `null`, if it doesn't.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-takeunless).\n
*@\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.takeIf(predicate: (T) -> Boolean): T? {\n  contract {\n    callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n  }\n  return if (predicate(this)) this else null\n}\n\n*\n * Returns `this` value if it _does not_ satisfy the given [predicate] or `null`, if it does.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-takeunless).\n
*@\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.takeUnless(predicate: (T) -> Boolean): T? {\n  contract {\n    callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n  }\n  return if (!predicate(this)) this else null\n}\n\n*\n * Executes the given function [action] specified number of [times].\n *\n * A zero-based index of current iteration is passed as a parameter to [action].\n *\n * @sample samples.misc.ControlFlow.repeat\n
*@\n@kotlin.internal.InlineOnly\npublic inline fun repeat(times: Int, action: (Int) -> Unit) {\n  contract { callsInPlace(action) }\n  for (index in 0 until times) {\n    action(index)\n  }\n}\n\n"/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.comparisons\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\n\n*\n * Returns the greater of two values.\n *\n * If values are equal, returns the first one.\n *\n@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T): T {\n  return if (a >= b) a else b\n}\n\n*\n * Returns the greater of two values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Byte, b: Byte): Byte {\n  return maxOf(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n*\n * Returns the greater of two values.\n

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*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun maxOf(a: Short, b: Short): Short
{\/n  return maxOf(a.toInt(), b.toInt()).unsafeCast<Short>()\/n}\/n\/n**\/n * Returns the greater of two values.\/n
*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun maxOf(a: Int, b: Int): Int {\/n
return JsMath.max(a, b)\/n}\/n\/n**\/n * Returns the greater of two values.\/n
*\/n@SinceKotlin("1.1")\/n@Suppress("NOTHING_TO_INLINE")\/npublic actual inline fun maxOf(a: Long, b:
Long): Long {\/n  return if (a >= b) a else b\/n}\/n\/n**\/n * Returns the greater of two values.\/n *\/n * If either value
is `NaN`, returns `NaN`.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun
maxOf(a: Float, b: Float): Float {\/n  return JsMath.max(a, b)\/n}\/n\/n**\/n
* Returns the greater of two values.\/n *\/n * If either value is `NaN`, returns `NaN`.\/n
*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun maxOf(a: Double, b: Double):
Double {\/n  return JsMath.max(a, b)\/n}\/n\/n**\/n * Returns the greater of three values.\/n *\/n * If there are multiple
equal maximal values, returns the first of them.\/n *\/n@SinceKotlin("1.1")\/npublic actual fun <T :
Comparable<T>> maxOf(a: T, b: T, c: T): T {\/n  return maxOf(a, maxOf(b, c))\/n}\/n\/n**\/n * Returns the greater
of three values.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun maxOf(a: Byte,
b: Byte, c: Byte): Byte {\/n  return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()\/n}\/n\/n**\/n *
Returns the greater of three values.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline
fun maxOf(a: Short, b: Short, c: Short): Short {\/n  return JsMath.max(a.toInt(), b.toInt(),
c.toInt()).unsafeCast<Short>()\/n}\/n\/n**\/n
* Returns the greater of three values.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual
inline fun maxOf(a: Int, b: Int, c: Int): Int {\/n  return JsMath.max(a, b, c)\/n}\/n\/n**\/n * Returns the greater of three
values.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun maxOf(a: Long, b: Long,
c: Long): Long {\/n  return maxOf(a, maxOf(b, c))\/n}\/n\/n**\/n * Returns the greater of three values.\/n *\/n * If any
value is `NaN`, returns `NaN`.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun
maxOf(a: Float, b: Float, c: Float): Float {\/n  return JsMath.max(a, b, c)\/n}\/n\/n**\/n * Returns the greater of three
values.\/n *\/n * If any value is `NaN`, returns `NaN`.\/n
*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun maxOf(a: Double, b: Double, c:
Double): Double {\/n  return JsMath.max(a, b, c)\/n}\/n\/n**\/n * Returns the greater of the given values.\/n *
\/n * If there are multiple equal maximal values, returns the first of them.\/n *\/n@SinceKotlin("1.4")\/npublic actual
fun <T : Comparable<T>> maxOf(a: T, vararg other: T): T {\/n  var max = a\/n  for (e in other) max = maxOf(max,
e)\/n  return max\/n}\/n\/n**\/n * Returns the greater of the given values.\/n *\/n@SinceKotlin("1.4")\/npublic actual
fun maxOf(a: Byte, vararg other: Byte): Byte {\/n  var max = a\/n  for (e in other) max = maxOf(max, e)\/n  return
max\/n}\/n\/n**\/n * Returns the greater of the given values.\/n *\/n@SinceKotlin("1.4")\/npublic actual fun maxOf(a:
Short, vararg other: Short): Short {\/n  var max = a\/n  for (e in other) max = maxOf(max, e)\/n  return
max\/n}\/n\/n**\/n * Returns the greater of the given values.\/n *\/n@SinceKotlin("1.4")\/npublic actual fun maxOf(a:
Int, vararg other: Int): Int {\/n  var max = a\/n  for (e in other) max = maxOf(max, e)\/n  return max\/n}\/n\/n**\/n *
Returns the greater of the given values.\/n *\/n@SinceKotlin("1.4")\/npublic
actual fun maxOf(a: Long, vararg other: Long): Long {\/n  var max = a\/n  for (e in other) max = maxOf(max, e)\/n
return max\/n}\/n\/n**\/n * Returns the greater of the given values.\/n *\/n * If any value is `NaN`, returns `NaN`.\/n
*\/n@SinceKotlin("1.4")\/npublic actual fun maxOf(a: Float, vararg other: Float): Float {\/n  var max = a\/n  for (e
in other) max = maxOf(max, e)\/n  return max\/n}\/n\/n**\/n * Returns the greater of the given values.\/n *\/n * If any
value is `NaN`, returns `NaN`.\/n *\/n@SinceKotlin("1.4")\/npublic actual fun maxOf(a: Double, vararg other:
Double): Double {\/n  var max = a\/n  for (e in other) max = maxOf(max, e)\/n  return max\/n}\/n\/n**\/n * Returns
the smaller of two values.\/n *\/n * If values are equal, returns the first one.\/n *\/n@SinceKotlin("1.1")\/npublic
actual fun <T : Comparable<T>> minOf(a: T, b: T): T {\/n  return if (a <= b) a else b\/n}\/n\/n**\/n * Returns the
smaller of two values.\/n *\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic
actual inline fun minOf(a: Byte, b: Byte): Byte {\/n  return minOf(a.toInt(),
b.toInt()).unsafeCast<Byte>()\/n}\/n\/n**\/n * Returns the smaller of two values.\/n
*\/n@SinceKotlin("1.1")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun minOf(a: Short, b: Short): Short

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{\n    return minOf(a.toInt(), b.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the smaller of two values.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Int, b: Int): Int {\n\n    return JsMath.min(a, b)\n}\n\n/**\n * Returns the smaller of two values.\n *\n * @SinceKotlin("1.1")\n * @Suppress("NOTHING_TO_INLINE")\n * public actual inline fun minOf(a: Long, b: Long): Long {\n\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Float, b: Float): Float {\n\n    return JsMath.min(a, b)\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Double, b: Double): Double {\n\n    return JsMath.min(a, b)\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n *\n * @SinceKotlin("1.1")\n * public actual fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {\n\n    return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Byte, b: Byte, c: Byte): Byte {\n\n    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the smaller of three values.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Short, b: Short, c: Short): Short {\n\n    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the smaller of three values.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Int, b: Int, c: Int): Int {\n\n    return JsMath.min(a, b, c)\n}\n\n/**\n * Returns the smaller of three values.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Long, b: Long, c: Long): Long {\n\n    return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Float, b: Float, c: Float): Float {\n\n    return JsMath.min(a, b, c)\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public actual inline fun minOf(a: Double, b: Double, c: Double): Double {\n\n    return JsMath.min(a, b, c)\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n *\n * @SinceKotlin("1.4")\n * public actual fun <T : Comparable<T>> minOf(a: T, vararg other: T): T {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n *\n * @SinceKotlin("1.4")\n * public actual fun minOf(a: Byte, vararg other: Byte): Byte {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n *\n * @SinceKotlin("1.4")\n * public actual fun minOf(a: Short, vararg other: Short): Short {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n *\n * @SinceKotlin("1.4")\n * public actual fun minOf(a: Int, vararg other: Int): Int {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n *\n * @SinceKotlin("1.4")\n * public actual fun minOf(a: Long, vararg other: Long): Long {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n * @SinceKotlin("1.4")\n * public actual fun minOf(a: Float, vararg other: Float): Float {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n * @SinceKotlin("1.4")\n * public actual fun minOf(a: Double, vararg other: Double): Double {\n\n    var min = a\n    for (e in other) min = minOf(min, e)\n\n    return min\n}\n\n"/>\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n * @n\n * // Auto-generated file. DO NOT EDIT!\n *\n * package kotlin\n *\n * import kotlin.experimental.*\n *\n * import kotlin.jvm.*\n *\n * @SinceKotlin("1.5")\n * @WasExperimental(ExperimentalUnsignedTypes::class)\n * @JvmInline\n * public value class ULong @PublishedApi internal constructor(@PublishedApi internal val data: Long) : Comparable<ULong> {\n\n    companion object {\n\n        /**\n         * A constant holding the minimum value an

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instance of ULong can have.\n    *\n    public const val MIN_VALUE: ULong = ULong(0)\n\n    /**\n    * A constant holding the maximum value an instance of ULong can have.\n    *\n    public const val\n    MAX_VALUE: ULong = ULong(-1)\n\n    /**\n    * The number of bytes used to represent an instance of\n    ULong in a binary form.\n    *\n    public const val SIZE_BYTES: Int = 8\n\n    /**\n    * The number of\n    bits used to represent an instance of ULong in a binary form.\n    *\n    public const val SIZE_BITS: Int = 64\n    }\n\n    /**\n    * Compares this value with the specified value for order.\n    * Returns zero if this value\n    is equal to the specified other value, a negative number if it's less than other,\n    * or a positive number if it's\n    greater than other.\n    *\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UByte):\n    Int = this.compareTo(other.toULong())\n\n    /**\n    * Compares this value with the specified value for order.\n    * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n    * or a\n    positive number if it's greater than other.\n    *\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    compareTo(other: UShort): Int = this.compareTo(other.toULong())\n\n    /**\n    * Compares this value with the\n    specified value for order.\n    * Returns zero if this value is equal to the specified other value, a negative number if\n    it's less than other,\n    * or a positive number if it's greater than other.\n    *\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other:\n    UInt): Int = this.compareTo(other.toULong())\n\n    /**\n    * Compares this value with the specified value for\n    order.\n    * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n    * or a\n    positive number if it's greater than other.\n    *\n    @kotlin.internal.InlineOnly\n    @Suppress(\"OVERRIDE_BY_INLINE\")\n    public override inline operator fun compareTo(other: ULong): Int =\n    ulongCompare(this.data, other.data)\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): ULong = this.plus(other.toULong())\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:\n    UShort): ULong = this.plus(other.toULong())\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:\n    UInt): ULong = this.plus(other.toULong())\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:\n    ULong): ULong = ULong(this.data.plus(other.data))\n\n    /** Subtracts the other value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UByte): ULong =\n    this.minus(other.toULong())\n\n    /** Subtracts the other value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())\n\n    /** Subtracts the other\n    value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UInt): ULong =\n    this.minus(other.toULong())\n\n    /** Subtracts the other value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))\n\n    /** Multiplies\n    this value by the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator\n    fun times(other: UByte): ULong = this.times(other.toULong())\n\n    /** Multiplies this value by the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UShort): ULong =\n    this.times(other.toULong())\n\n    /** Multiplies this value by the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UInt): ULong = this.times(other.toULong())\n\n    /** Multiplies this value by\n    the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: ULong): ULong =\n    ULong(this.data.times(other.data))\n\n    /** Divides this value by the other value, truncating the result to an integer\n    that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UByte): ULong =\n    this.div(other.toULong())\n\n    /** Divides this value by the other value, truncating the result to an integer that is\n    closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator\n    fun div(other: UShort): ULong = this.div(other.toULong())\n\n    /** Divides this value by the other value, truncating\n    the result to an integer that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    div(other: UInt): ULong = this.div(other.toULong())\n\n    /** Divides this value by the other value, truncating the\n    result to an integer that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other:\n    ULong): ULong = ulongDivide(this, other)\n\n    /**\n    * Calculates the remainder of truncating division of this\n    value by the other value.\n    * \n    * The result is always less than the divisor.\n    *\n    */

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@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): ULong = this.rem(other.toULong())\n
/**\n * Calculates the remainder of truncating division of this value by the other value.\n * \n * The result is
always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n
public inline operator fun rem(other: UShort): ULong = this.rem(other.toULong())\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): ULong =
this.rem(other.toULong())\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = ulongRemainder(this, other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): ULong
= this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the result to an
integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and
truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other:
UShort): ULong = this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the
result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring
division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun
floorDiv(other: UInt): ULong = this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results
of flooring division and truncating division are the same.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: ULong): ULong = div(other)\n\n /**\n
* Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always
less than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division
are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.mod(other.toULong()).toUByte()\n /**\n * Calculates the remainder of flooring division of this value by
the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.mod(other.toULong()).toUShort()\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n
* \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders of flooring
division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun
mod(other: UInt): UInt = this.mod(other.toULong()).toUInt()\n /**\n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For
unsigned types, the remainders of flooring division and truncating division are the same.\n */\n
@kotlin.internal.InlineOnly\n public inline fun mod(other: ULong): ULong = rem(other)\n\n /**\n * Returns
this value incremented by one.\n * \n * @sample samples.misc.Builtins.inc\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun inc(): ULong = ULong(data.inc())\n\n /**\n * Returns
this value decremented by one.\n * \n * @sample samples.misc.Builtins.dec\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun dec(): ULong = ULong(data.dec())\n\n /**\n * Creates a
range from this value to the specified [other] value.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
rangeTo(other: ULong): ULongRange = ULongRange(this, other)\n\n /**\n * Shifts this value left by the
[bitCount] number of bits.\n * \n * Note that only the six lowest-order bits of the [bitCount] are used as the
shift distance.\n * \n * The shift distance actually used is therefore always in the range `0..63`.\n */\n
@kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): ULong = ULong(data shl bitCount)\n\n
/**\n * Shifts this value right by the [bitCount] number of bits, filling the leftmost bits with zeros.\n * \n *
Note that only the six lowest-order bits of the [bitCount] are used as the shift distance.\n * \n * The shift
distance actually used is therefore always in the range `0..63`.\n

```

```

    @kotlin.internal.InlineOnly public inline infix fun shr(bitCount: Int): ULong = ULong(data ushr
bitCount)
    /** Performs a bitwise AND operation between the two values.
    @kotlin.internal.InlineOnly public inline infix fun and(other: ULong): ULong = ULong(this.data and other.data)
    /** Performs a bitwise OR
operation between the two values.
    @kotlin.internal.InlineOnly public inline infix fun or(other: ULong):
ULong = ULong(this.data or other.data)
    /** Performs a bitwise XOR operation between the two values.
    @kotlin.internal.InlineOnly public inline infix fun xor(other: ULong): ULong = ULong(this.data xor
other.data)
    /** Inverts the bits in this value.
    @kotlin.internal.InlineOnly public inline fun inv():
ULong = ULong(data.inv())
    /**
    * Converts this [ULong] value to [Byte].
    *
    * If this value is less
than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents
    * the same numerical value as this `ULong`.
    *
    * The resulting `Byte` value is represented by the least
significant 8 bits of this `ULong` value.
    * Note that the resulting `Byte` value may be negative.
    @kotlin.internal.InlineOnly public inline fun toByte(): Byte = data.toByte()
    /**
    * Converts this [ULong]
value to [Short].
    *
    * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents
    * the same numerical value as this `ULong`.
    *
    * The resulting `Short` value is represented
by the least significant 16 bits of this `ULong` value.
    * Note that the resulting `Short` value may be negative.
    @kotlin.internal.InlineOnly public inline fun toShort(): Short = data.toShort()
    /**
    * Converts this
[ULong] value to [Int].
    *
    * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int`
value represents
    * the same numerical
value as this `ULong`.
    *
    * The resulting `Int` value is represented by the least significant 32 bits of this
`ULong` value.
    * Note that the resulting `Int` value may be negative.
    @kotlin.internal.InlineOnly public inline fun toInt(): Int = data.toInt()
    /**
    * Converts this [ULong] value to [Long].
    *
    * If this
value is less than or equals to [Long.MAX_VALUE], the resulting `Long` value represents
    * the same
numerical value as this `ULong`. Otherwise the result is negative.
    *
    * The resulting `Long` value has the
same binary representation as this `ULong` value.
    @kotlin.internal.InlineOnly public inline fun
toLong(): Long = data
    /**
    * Converts this [ULong] value to [UByte].
    *
    * If this value is less than
or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents
    * the same numerical value as this
`ULong`.
    *
    * The resulting `UByte` value
is represented by the least significant 8 bits of this `ULong` value.
    @kotlin.internal.InlineOnly public
inline fun toUByte(): UByte = data.toUByte()
    /**
    * Converts this [ULong] value to [UShort].
    *
    * If
this value is less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents
    * the same
numerical value as this `ULong`.
    *
    * The resulting `UShort` value is represented by the least significant 16
bits of this `ULong` value.
    @kotlin.internal.InlineOnly public inline fun toUShort(): UShort =
data.toUShort()
    /**
    * Converts this [ULong] value to [UInt].
    *
    * If this value is less than or equals
to [UInt.MAX_VALUE], the resulting `UInt` value represents
    * the same numerical value as this `ULong`.
    *
    * The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.
    @kotlin.internal.InlineOnly public inline
fun toUInt(): UInt = data.toUInt()
    /** Returns this value.
    @kotlin.internal.InlineOnly public inline
fun toULong(): ULong = this
    /**
    * Converts this [ULong] value to [Float].
    *
    * The resulting
value is the closest `Float` to this `ULong` value.
    * In case when this `ULong` value is exactly between two
`Float`s,
    * the one with zero at least significant bit of mantissa is selected.
    @kotlin.internal.InlineOnly public inline fun toFloat(): Float = this.toDouble().toFloat()
    /**
    * Converts
this [ULong] value to [Double].
    *
    * The resulting value is the closest `Double` to this `ULong` value.
    *
    In case when this `ULong` value is exactly between two `Double`s,
    * the one with zero at least significant bit of
mantissa is selected.
    @kotlin.internal.InlineOnly public inline fun toDouble(): Double =
ulongToDouble(data)
    public override fun toString(): String = ulongToString(data)
    /**
    * Converts this [Byte] value to [ULong].
    *
    * If this value is positive, the resulting `ULong` value represents the
same numerical value as this `Byte`.
    *
    * The least significant 8 bits of the resulting `ULong` value are the same
as the bits of this `Byte` value,
    * whereas the most significant 56 bits are filled with the sign bit of this value.

```



```

*  

@SinceKotlin("1.5")  

@WasExperimental(ExperimentalUnsignedTypes::class)  

@kotlin.internal.InlineOnly  

public inline fun Byte.toULong(): ULong = ULong(this.toLong())  

*  

* Converts this [Short] value to [ULong].  

* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Short`.  

* The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short` value,  

* whereas the most significant 48 bits are filled with the sign bit of this value.  

*  

@SinceKotlin("1.5")  

@WasExperimental(ExperimentalUnsignedTypes::class)  

@kotlin.internal.InlineOnly  

public inline fun Short.toULong(): ULong = ULong(this.toLong())  

*  

* Converts this [Int] value to [ULong].  

* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.  

* The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value,  

* whereas the most significant 32 bits are filled with the sign bit of this value.  

*  

@SinceKotlin("1.5")  

@WasExperimental(ExperimentalUnsignedTypes::class)  

@kotlin.internal.InlineOnly  

public inline fun Int.toULong(): ULong = ULong(this.toLong())  

*  

* Converts this [Long] value to [ULong].  

* If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.  

* The resulting `ULong` value has the same binary representation as this `Long` value.  

*  

@SinceKotlin("1.5")  

@WasExperimental(ExperimentalUnsignedTypes::class)  

@kotlin.internal.InlineOnly  

public inline fun Long.toULong(): ULong = ULong(this)  

*  

* Converts this [Float] value to [ULong].  

* The fractional part, if any, is rounded down towards zero.  

* Returns zero if this `Float` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.  

*  

@SinceKotlin("1.5")  

@WasExperimental(ExperimentalUnsignedTypes::class)  

@kotlin.internal.InlineOnly  

public inline fun Float.toULong(): ULong = doubleToULong(this.toDouble())  

*  

* Converts this [Double] value to [ULong].  

* The fractional part, if any, is rounded down towards zero.  

* Returns zero if this `Double` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.  

*  

@SinceKotlin("1.5")  

@WasExperimental(ExperimentalUnsignedTypes::class)  

@kotlin.internal.InlineOnly  

public inline fun Double.toULong(): ULong = doubleToULong(this)  

*  

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*  

@file:kotlin.jvm.JvmMultifileClass  

@file:kotlin.jvm.JvmName("CollectionsKt")  

package kotlin.collections  

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt  

// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib  

import kotlin.random.*  

import kotlin.ranges.contains  

import kotlin.ranges.reversed  

*  

* Returns 1st *element* from the list.  

* Throws an [IndexOutOfBoundsException] if the size of this list is less than 1.  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <T> List<T>.component1(): T {  

    return get(0)  

}  

*  

* Returns 2nd *element* from the list.  

* Throws an [IndexOutOfBoundsException] if the size of this list is less than 2.  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <T> List<T>.component2(): T {  

    return get(1)  

}  

*  

* Returns 3rd *element* from the list.  

* Throws an [IndexOutOfBoundsException] if the size of this list is less than 3.  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <T> List<T>.component3(): T {  

    return get(2)  

}  

*  

* Returns 4th *element* from the list.  

* Throws an [IndexOutOfBoundsException] if the size of this list is less than 4.  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <T> List<T>.component4(): T {  

    return get(3)  

}  

*  

* Returns 5th *element* from the list.  

* Throws an [IndexOutOfBoundsException] if the size of this list is less than 5.  

*  

@kotlin.internal.InlineOnly  

public inline operator fun <T> List<T>.component5(): T {  

    return get(4)  

}  

*  

* Returns `true` if [element] is found in the collection.  

*  

public operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains(element: T): Boolean {  

    if (this is Collection) return contains(element)  

    return indexOf(element) >= 0  

}  

*  

* Returns an element

```

at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this collection.

```

@sample samples.collections.Collections.Elements.elementAt
public fun <T>
Iterable<T>.elementAt(index: Int): T {
    if (this is List)
        return get(index)
    return
    elementAtOrElse(index) { throw IndexOutOfBoundsException("Collection doesn't contain element at index
$index.") }
}

```

* Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this list.

```

@sample samples.collections.Collections.Elements.elementAt
@kotlin.internal.InlineOnly
public inline fun <T> List<T>.elementAt(index: Int): T {
    return
    get(index)
}

```

* Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this collection.

```

@sample
samples.collections.Collections.Elements.elementAtOrElse
public fun
<T> Iterable<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {
    if (this is List)
        return
        this.getOrElse(index, defaultValue)
    if (index < 0)
        return defaultValue(index)
    val iterator = iterator()
    var count = 0
    while (iterator.hasNext()) {
        val element = iterator.next()
        if (index == count++)
            return element
    }
    return defaultValue(index)
}

```

* Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list.

```

@sample
samples.collections.Collections.Elements.elementAtOrElse
@kotlin.internal.InlineOnly
public inline fun
<T> List<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {
    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)
}

```

* Returns an element at the given [index] or `null` if the [index] is out of bounds of this collection.

```

@sample
samples.collections.Collections.Elements.elementAtOrNull
public fun <T> Iterable<T>.elementOrNull(index: Int): T? {
    if (this is List)
        return
        this.getOrElse(index)
    if (index < 0)
        return null
    val iterator = iterator()
    var count = 0
    while (iterator.hasNext()) {
        val element = iterator.next()
        if (index == count++)
            return element
    }
    return null
}

```

* Returns an element at the given [index] or `null` if the [index] is out of bounds of this list.

```

@sample samples.collections.Collections.Elements.elementAtOrNull
@kotlin.internal.InlineOnly
public inline fun <T> List<T>.elementOrNull(index: Int): T? {
    return
    this.getOrElse(index)
}

```

* Returns the first element matching the given [predicate], or `null` if no such element was found.

```

@sample samples.collections.Collections.Elements.find
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.find(predicate:
(T) -> Boolean): T? {
    return firstOrNull(predicate)
}

```

* Returns the last element matching the given [predicate], or `null` if no such element was found.

```

@sample
samples.collections.Collections.Elements.find
@kotlin.internal.InlineOnly
public inline fun <T>
Iterable<T>.findLast(predicate: (T) -> Boolean): T? {
    return lastOrNull(predicate)
}

```

* Returns the last element matching the given [predicate], or `null` if no such element was found.

```

@sample
samples.collections.Collections.Elements.find
@kotlin.internal.InlineOnly
public inline fun <T>
List<T>.findLast(predicate: (T) -> Boolean): T? {
    return lastOrNull(predicate)
}

```

* Returns the first element.

```

@throws NoSuchElementException if the collection is empty.
public fun <T>
Iterable<T>.first(): T {
    when (this) {
        is List -> return this.first()
        else -> {
            val iterator =
            iterator()
            if (!iterator.hasNext())
                throw NoSuchElementException("Collection is empty.")
            return iterator.next()
        }
    }
}

```

* Returns the first element.

```

@throws NoSuchElementException if the list is empty.
public fun <T> List<T>.first(): T {
    if (isEmpty())
        throw NoSuchElementException("List is
empty.")
    return this[0]
}

```

* Returns the first element matching the given [predicate].

```

@throws
[NoSuchElementException] if no such element is found.
public inline fun <T> Iterable<T>.first(predicate: (T)
-> Boolean): T {
    for (element in this) if (predicate(element)) return element
    throw
    NoSuchElementException("Collection contains no element matching the predicate.")
}

```

* Returns the first non-null value produced by [transform] function being applied to elements of this collection in iteration order, or throws [NoSuchElementException] if no non-null value was produced.

```

@sample

```

```

samples.collections.Collections.Transformations.firstNotNullOf
*/@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any>
Iterable<T>.firstNotNullOf(transform: (T) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw
NoSuchElementException("No element of the collection was transformed to a non-null value.")\n}\n\n/**\n *
Returns the first non-null value produced by [transform] function being applied to elements of this collection in
iteration order.\n * or `null` if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf
*/@SinceKotlin("1.5")@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any>
Iterable<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n    for (element in this) {\n        val result =
transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n/**\n *
Returns the first element, or `null` if the collection is
empty.\n */\npublic fun <T> Iterable<T>.firstOrNull(): T? {\n    when (this) {\n        is List -> {\n            if
(isEmpty())\n                return null\n            else\n                return this[0]\n        }\n        else -> {\n            val iterator
= iterator()\n            if (!iterator.hasNext())\n                return null\n            return iterator.next()\n        }\n    }\n}\n\n/**\n * Returns the first element, or `null` if the list is empty.\n */\npublic fun <T> List<T>.firstOrNull():
T? {\n    return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate],
or `null` if element was not found.\n */\npublic inline fun <T> Iterable<T>.firstOrNull(predicate: (T) -> Boolean):
T? {\n    for (element in this) if (predicate(element)) return element\n    return null\n}\n\n/**\n * Returns an element
at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n
*/\n@kotlin.internal.InlineOnly\npublic
inline fun <T> List<T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n
*/\npublic fun <T> List<T>.getOrNull(index: Int): T? {\n    return if (index >= 0 && index <= lastIndex) get(index)
else null\n}\n\n/**\n * Returns first index of [element], or -1 if the collection does not contain element.\n */\npublic
fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T): Int {\n    if (this is List) return
this.indexOf(element)\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element
== item)\n            return index\n        index++\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1
if the list does not contain
element.\n */\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes
precedence in some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.indexOf(element: T): Int {\n    return
indexOf(element)\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
collection does not contain such element.\n */\npublic inline fun <T> Iterable<T>.indexOfFirst(predicate: (T) ->
Boolean): Int {\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if
(predicate(item))\n            return index\n        index++\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the list does not contain such element.\n */\npublic inline fun <T>
List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    var index = 0\n    for (item in this) {\n        if
(predicate(item))\n            return index\n        index++\n    }\n    return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the collection does not contain such
element.\n */\npublic inline fun <T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    var lastIndex = -
1\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (predicate(item))\n
lastIndex = index\n        index++\n    }\n    return lastIndex\n}\n\n/**\n * Returns index of the last element matching
the given [predicate], or -1 if the list does not contain such element.\n */\npublic inline fun <T>
List<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    val iterator = this.listIterator(size)\n    while
(iterator.hasPrevious()) {\n        if (predicate(iterator.previous())) {\n            return iterator.nextIndex()\n        }\n
    }\n    return -1\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the collection
is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n

```

```

*^public fun <T> Iterable<T>.last(): T {
    when (this) {
        is List -> return this.last()
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext())
                throw NoSuchElementException("Collection is empty.")
            var last = iterator.next()
            while (iterator.hasNext())
                last = iterator.next()
            return last
        }
    }
}

/** Returns the last element.
 * @throws NoSuchElementException if the list is empty.
 */
@sample samples.collections.Collections.Elements.last

*^public fun <T> List<T>.last(): T {
    if (isEmpty())
        throw NoSuchElementException("List is empty.")
    return this[lastIndex]
}

/** Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 */
@sample samples.collections.Collections.Elements.last

*^public inline fun <T> Iterable<T>.last(predicate: (T) -> Boolean): T {
    var last: T? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            last = element
            found = true
        }
    }
    if (!found)
        throw NoSuchElementException("Collection contains no element matching the predicate.")
    @Suppress("UNCHECKED_CAST")
    return last as T
}

/** Returns the last element matching the given [predicate].
 * @throws NoSuchElementException if no such element is found.
 */
@sample samples.collections.Collections.Elements.last

*^public inline fun <T> List<T>.last(predicate: (T) -> Boolean): T {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        val element = iterator.previous()
        if (predicate(element))
            return element
    }
    throw NoSuchElementException("List contains no element matching the predicate.")
}

/** Returns last index of [element], or -1 if the collection does not contain element.
 */
*^public fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {
    if (this is List)
        return this.lastIndexOf(element)
    var lastIndex = -1
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (element == item)
            lastIndex = index
        index++
    }
    return lastIndex
}

/** Returns last index of [element], or -1 if the list does not contain element.
 */
*^@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in some cases
public fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {
    return lastIndexOf(element)
}

/** Returns the last element, or `null` if the collection is empty.
 */
@sample samples.collections.Collections.Elements.last

*^public fun <T> Iterable<T>.lastOrNull(): T? {
    when (this) {
        is List -> return if (isEmpty()) null else this[size - 1]
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext())
                return null
            var last = iterator.next()
            while (iterator.hasNext())
                last = iterator.next()
            return last
        }
    }
}

/** Returns the last element, or `null` if the list is empty.
 */
@sample samples.collections.Collections.Elements.last

*^public fun <T> List<T>.lastOrNull(): T? {
    return if (isEmpty()) null else this[size - 1]
}

/** Returns the last element matching the given [predicate], or `null` if no such element was found.
 */
@sample samples.collections.Collections.Elements.last

*^public inline fun <T> Iterable<T>.lastOrNull(predicate: (T) -> Boolean): T? {
    var last: T? = null
    for (element in this) {
        if (predicate(element)) {
            last = element
        }
    }
    return last
}

/** Returns the last element matching the given [predicate], or `null` if no such element was found.
 */
@sample samples.collections.Collections.Elements.last

*^public inline fun <T> List<T>.lastOrNull(predicate: (T) -> Boolean): T? {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        val element = iterator.previous()
        if (predicate(element))
            return element
    }
    return null
}

/** Returns a random element from this collection.
 * @throws NoSuchElementException if this collection is empty.
 */
*^@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <T> Collection<T>.random(): T {
    return random(Random)
}

/** Returns a random element from this collection using the specified source of randomness.
 * @throws NoSuchElementException if this collection is empty.
 */
*^@SinceKotlin("1.3")
public fun <T> Collection<T>.random(random: Random): T {
    if (isEmpty())
        throw NoSuchElementException("Collection is empty.")
    return elementAt(random.nextInt(size))
}

/** Returns a random element from this collection, or `null` if this collection is empty.
 */
*^@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public

```

```

c inline fun <T> Collection<T>.randomOrNull(): T? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this collection using the specified source of randomness, or `null` if this collection is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T>
Collection<T>.randomOrNull(random: Random): T? {\n    if (isEmpty())\n        return null\n    return
elementAt(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the collection is
empty or has more than one element.\n *\npublic fun <T> Iterable<T>.single(): T {\n    when (this) {\n        is List -
> return this.single()\n        else -> {\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                throw NoSuchElementException("Collection is empty.")\n            val single = iterator.next()\n            if
(iterator.hasNext())\n                throw IllegalArgumentException("Collection has more than one element.")\n        }\n    }\n}\n\n/**\n * Returns the single element, or throws an exception if the list is empty or
has more than one element.\n *\npublic fun <T> List<T>.single(): T {\n    return when (size) {\n        0 -> throw
NoSuchElementException("List is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("List has more than one element.")\n    }\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n *\npublic
inline fun <T> Iterable<T>.single(predicate: (T) -> Boolean): T {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("Collection contains more than one matching element.")\n            single
= element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Collection contains
no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as T\n}\n\n/**\n * Returns single element, or `null` if the collection is empty or has more than one element.\n *\npublic fun <T>
Iterable<T>.singleOrNull(): T? {\n    when (this) {\n        is List -> return if (size == 1) this[0] else null\n        else ->
{\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                return null\n            val single =
iterator.next()\n            if (iterator.hasNext())\n                return null\n            return single\n        }\n    }\n}\n\n/**\n * Returns single element, or `null` if the list is empty or has more than one element.\n *\npublic fun <T>
List<T>.singleOrNull(): T?
{\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate],
or `null` if element was not found or more than one element was found.\n *\npublic inline fun <T>
Iterable<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n
found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a list containing all
elements except first [n] elements.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun <T> Iterable<T>.drop(n: Int): List<T> {\n    require(n >= 0) { "Requested element count $n is less than zero." }\n    if (n == 0) return toList()\n    val list:
ArrayList<T>\n    if (this is Collection<*>) {\n        val
resultSize = size - n\n        if (resultSize <= 0)\n            return emptyList()\n        if (resultSize == 1)\n            return
listOf(last())\n        list = ArrayList<T>(resultSize)\n        if (this is List<T>) {\n            if (this is RandomAccess)
{\n                for (index in n until size)\n                    list.add(this[index])\n            } else {\n                for (item in
listIterator(n))\n                    list.add(item)\n            }\n            return list\n        }\n    } else {\n        list =
ArrayList<T>()\n        var count = 0\n        for (item in this) {\n            if (count >= n) list.add(item) else ++count\n
        }\n        return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing all elements except last [n]
elements.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun <T> List<T>.dropLast(n: Int): List<T> {\n    require(n >= 0) {\n
        "Requested element count $n is less than zero." }\n    return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n *\n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T>
List<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n    if (!isEmpty()) {\n        val iterator =
listIterator(size)\n        while (iterator.hasPrevious()) {\n            if (!predicate(iterator.previous())) {\n                return

```

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take(iterator.nextIndex() + 1)\n        }\n        }\n        return emptyList()\n}\n\n\n * Returns a list containing
all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n * \n\npublic inline fun <T> Iterable<T>.dropWhile(predicate:
(T) -> Boolean): List<T> {\n    var yielding = false\n    val list = ArrayList<T>()\n    for (item in this)\n        if
(yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n\n * Returns a list containing only elements matching the given [predicate].\n * \n *
@sample samples.collections.Collections.Filtering.filter\n * \n\npublic inline fun <T> Iterable<T>.filter(predicate: (T)
-> Boolean): List<T> {\n    return filterTo(ArrayList<T>(), predicate)\n}\n\n\n * Returns a list containing only
elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n * \n\npublic inline fun <T>
Iterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n    return
filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n\n * Appends all elements matching the given [predicate] to
the given
[destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n * \n\npublic inline fun <T, C : MutableCollection<in T>>
Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n    forEachIndexed { index,
element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return destination\n}\n\n\n *
Returns a list containing all elements that are instances of specified type parameter R.\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstance\n * \n\npublic inline fun <reified R>
Iterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n    return
filterIsInstanceTo(ArrayList<R>())\n}\n\n\n * Appends all elements that are instances of specified type
parameter R to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstanceTo\n
 * \n\npublic inline fun <reified R, C : MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination: C): C
{\n    for (element in this) if (element is R) destination.add(element)\n    return destination\n}\n\n\n * Returns a
list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n * \n\npublic inline fun <T> Iterable<T>.filterNot(predicate: (T) ->
Boolean): List<T> {\n    return filterNotTo(ArrayList<T>(), predicate)\n}\n\n\n * Returns a list containing all
elements that are not `null`.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n * \n\npublic
fun <T : Any> Iterable<T?>.filterNotNull(): List<T> {\n    return filterNotNullTo(ArrayList<T>())\n}\n\n\n *
Appends all elements that are not `null` to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterNotNullTo\n * \n\npublic fun <C : MutableCollection<in
T>, T : Any> Iterable<T?>.filterNotNullTo(destination: C): C {\n    for (element in this) if (element != null)
destination.add(element)\n    return destination\n}\n\n\n * Appends all elements not matching the given
[predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n * \n\npublic
inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterNotTo(destination: C, predicate: (T) ->
Boolean): C {\n    for (element in this) if (!predicate(element)) destination.add(element)\n    return
destination\n}\n\n\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n * \n\npublic inline fun <T, C : MutableCollection<in
T>> Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n    for (element in this) if
(predicate(element)) destination.add(element)\n    return destination\n}\n\n\n * Returns a list containing elements
at indices in the specified [indices] range.\n * \n\npublic fun <T> List<T>.slice(indices: IntRange): List<T> {\n    if
(indices.isEmpty()) return listOf()\n    return this.subList(indices.start, indices.endInclusive + 1).toList()\n}\n\n\n\n * Returns a list containing elements at specified [indices].\n * \n\npublic fun <T> List<T>.slice(indices:
Iterable<Int>): List<T> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<T>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n\n\n *

```

Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> Iterable<T>.take(n: Int): List<T> {\n require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n if (n == 0) return emptyList()\n if (this is Collection<T>) {\n if (n >= size) return toList()\n if (n == 1) return listOf(first())\n } \n var count = 0\n val list = ArrayList<T>(n)\n for (item in this) {\n list.add(item)\n if (++count == n)\n break\n }\n return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> List<T>.takeLast(n: Int): List<T> {\n require(n >= 0) { \"Requested element count \$n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(last())\n val list = ArrayList<T>(n)\n if (this is RandomAccess) {\n for (index in size - n until size)\n list.add(this[index])\n } else {\n for (item in listIterator(size - n))\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> List<T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n if (isEmpty())\n return emptyList()\n val iterator = listIterator(size)\n while (iterator.hasPrevious()) {\n if (!predicate(iterator.previous())) {\n iterator.next()\n val expectedSize = size - iterator.nextIndex()\n if (expectedSize == 0) return emptyList()\n return ArrayList<T>(expectedSize).apply {\n while (iterator.hasNext())\n add(iterator.next())\n }\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> Iterable<T>.takeWhile(predicate: (T) -> Boolean): List<T> {\n val list = ArrayList<T>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Reverses elements in the list in-place.\n * \n * @public expect fun <T> MutableList<T>.reverse(): Unit\n */\n\n/**\n * Returns a list with elements in reversed order.\n * \n * @public fun <T> Iterable<T>.reversed(): List<T> {\n if (this is Collection && size <= 1) return toList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Randomly shuffles elements in this list in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm\n * \n * @SinceKotlin(\"1.3\")\n */\npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n this[j] = this.set(i, this[j])\n }\n}\n\n/**\n * Sorts elements in the list in-place according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @public inline fun <T, R : Comparable<R>> MutableList<T>.sortBy(crossinline selector: (T) -> R?): Unit {\n if (size > 1)\n sortBy(compareBy(selector))\n }\n\n/**\n * Sorts elements in the list in-place descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @public inline fun <T, R : Comparable<R>> MutableList<T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n if (size > 1)\n sortByDescending(compareByDescending(selector))\n }\n\n/**\n * Sorts elements in the list in-place descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @public fun <T : Comparable<T>> MutableList<T>.sortDescending(): Unit {\n sortDescending()\n }\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @public fun <T : Comparable<T>> Iterable<T>.sorted(): List<T> {\n if (this is Collection) {\n if (size <= 1)\n return this.toList()\n @SuppressWarnings(\"UNCHECKED_CAST\")\n return (toArray<Comparable<T>>())\n as Array<T>).apply { sort() }.asList()\n }\n return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of

all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n *

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@sample samples.collections.Collections.Sorting.sortedBy\n * \n public inline fun
<T, R : Comparable<R>> Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n * \n public inline fun <T, R : Comparable<R>>
Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n * \n public fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T>
{\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n
* \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n
* \n public fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n if (this is Collection)
{\n if (size <= 1) return this.toList()\n @SuppressWarnings("UNCHECKED_CAST")\n return
(toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n }\n return
toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the
elements of this collection.\n * \n public fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n val result
= BooleanArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n * \n public fun
Collection<Byte>.toByteArray(): ByteArray {\n val result = ByteArray(size)\n var index = 0\n for (element
in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Char containing all of
the elements of this collection.\n * \n public fun Collection<Char>.toCharArray(): CharArray {\n val result =
CharArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n * \n public fun
Collection<Double>.toDoubleArray(): DoubleArray {\n val result = DoubleArray(size)\n var index = 0\n for
(element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array of Float containing
all of the elements of this collection.\n * \n public fun Collection<Float>.toFloatArray(): FloatArray {\n val result
= FloatArray(size)\n var index = 0\n for (element in this)\n result[index++] = element\n return
result\n}\n\n/**\n * Returns an array of Int containing all of the elements
of this collection.\n * \n public fun Collection<Int>.toIntArray(): IntArray {\n val result = IntArray(size)\n var
index = 0\n for (element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns an array
of Long containing all of the elements of this collection.\n * \n public fun Collection<Long>.toLongArray():
LongArray {\n val result = LongArray(size)\n var index = 0\n for (element in this)\n result[index++] =
element\n return result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n
* \n public fun Collection<Short>.toShortArray(): ShortArray {\n val result = ShortArray(size)\n var index = 0\n
for (element in this)\n result[index++] = element\n return result\n}\n\n/**\n * Returns a [Map] containing
key-value pairs provided by [transform] function\n * applied to elements of the given collection.\n * \n * If any of
two pairs would have the same key the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n *
@sample samples.collections.Collections.Transformations.associate\n * \n public inline fun <T, K, V>
Iterable<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n return associateTo(LinkedHashMap<K,
V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given collection indexed
by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original collection.\n * \n * @sample
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samples.collections.Collections.Transformations.associateBy\n *\npublic inline fun <T, K>
Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n  val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n
  return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing
the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given
collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added
to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n *\npublic inline fun <T, K, V>
Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n  val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with
key-value pairs,\n * where key is provided by the [keySelector]
function applied to each element of the given collection\n * and value is the element itself.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateByTo\n *\npublic inline fun <T, K, M : MutableMap<in
K, in T>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n  for (element in this) {\n
destination.put(keySelector(element), element)\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n *
and value is provided by the [valueTransform] function applied to elements of the given collection.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n
*\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M,
keySelector: (T) -> K, valueTransform: (T) -> V): M {\n  for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n  }\n  return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given collection.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Collections.Transformations.associateTo\n *\npublic inline fun <T, K,
V, M : MutableMap<in K, in V>> Iterable<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n
for (element in this) {\n  destination += transform(element)\n  }\n  return destination\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given collection and values are\n * produced by the [valueSelector]
function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n *\n@SinceKotlin("1.3")\npublic inline fun <K,
V> Iterable<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n  val result = LinkedHashMap<K,
V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))\n  return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given collection,\n * where key is the element itself and value is provided by the [valueSelector]
function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the
map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.3")\npublic inline
fun <K, V, M : MutableMap<in K, in V>> Iterable<K>.associateWithTo(destination: M, valueSelector: (K) -> V):
M {\n  for (element in this) {\n  destination.put(element, valueSelector(element))\n  }\n  return
destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n *\npublic fun <T, C :
MutableCollection<in T>> Iterable<T>.toCollection(destination: C): C {\n  for (item in this) {\n
destination.add(item)\n  }\n  return destination\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n
*\npublic fun <T> Iterable<T>.toHashSet(): HashSet<T> {\n  return
toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))\n}\n\n/**\n * Returns a [List] containing all

```

```

elements.\n *\npublic fun <T> Iterable<T>.toList(): List<T> {\n    if (this is Collection) {\n        return when (size) {\n            0 -> emptyList()\n            1 -> listOf(if (this is List) get(0) else iterator().next())\n            else -> this.toMutableList()\n        }\n    }\n    return this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Iterable<T>.toMutableList(): MutableList<T> {\n    if (this is Collection<T>)\n        return this.toMutableList()\n    return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Collection<T>.toMutableList(): MutableList<T> {\n    return ArrayList(this)\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toSet(): Set<T> {\n    if (this is Collection) {\n        return when (size) {\n            0 -> emptySet()\n            1 -> setOf(if (this is List) this[0] else iterator().next())\n            else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n        }\n    }\n    return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <T, R> Iterable<T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n\n/**\n * @SinceKotlin("1.4")\n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * @OverloadResolutionByLambdaReturnType\n */\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <T, R> Iterable<T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n\n/**\n * @SinceKotlin("1.4")\n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * @OverloadResolutionByLambdaReturnType\n */\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n    return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n\n/**\n * @SinceKotlin("1.4")\n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * @OverloadResolutionByLambdaReturnType\n */\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n    return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection, to the given [destination].\n */\n\n/**\n * @SinceKotlin("1.4")\n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * @OverloadResolutionByLambdaReturnType\n */\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection, to the given [destination].\n */\n\n/**\n * @SinceKotlin("1.4")\n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * @OverloadResolutionByLambdaReturnType\n */\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform:

```


`mapTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)` Returns a list containing the results of applying the given [transform] function to each element and its index in the original collection.

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

```

public inline fun <T, R> Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)
}

```

`mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)` Returns a list containing only the non-null results of applying the given [transform] function to each element and its index in the original collection.

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

```

public inline fun <T, R : Any> Iterable<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {
    return mapIndexedNotNullTo(ArrayList<R>(), transform)
}

```

`mapIndexedNotNullTo(ArrayList<R>(), transform)` Applies the given [transform] function to each element and its index in the original collection and appends only the non-null results to the given [destination].

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

```

public inline fun <T, R : Any, C : MutableCollection<in R>> Iterable<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {
    for (item in this) {
        destination.add(transform(index, item))
    }
    return destination
}

```

`mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?)` Applies the given [transform] function to each element and its index in the original collection and appends the results to the given [destination].

`@param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.`

```

public inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {
    var index = 0
    for (item in this) {
        destination.add(transform(checkIndexOverflow(index++), item))
    }
    return destination
}

```

`mapIndexedTo(destination: C, transform: (index: Int, T) -> R)` Returns a list containing only the non-null results of applying the given [transform] function to each element in the original collection.

`@sample samples.collections.Collections.Transformations.mapNotNull`

```

public inline fun <T, R : Any> Iterable<T>.mapNotNull(transform: (T) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

```

`mapNotNullTo(ArrayList<R>(), transform)` Applies the given [transform] function to each element in the original collection and appends only the non-null results to the given [destination].

```

public inline fun <T, R : Any, C : MutableCollection<in R>> Iterable<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
    for (item in this) {
        destination.add(transform(item))
    }
    return destination
}

```

`mapNotNullTo(destination: C, transform: (T) -> R?)` Applies the given [transform] function to each element of the original collection and appends the results to the given [destination].

```

public inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapTo(destination: C, transform: (T) -> R): C {
    for (item in this) {
        destination.add(transform(item))
    }
    return destination
}

```

`mapTo(destination: C, transform: (T) -> R)` Returns a lazy [Iterable] that wraps each element of the original collection into an [IndexedValue] containing the index of that element and the element itself.

```

public fun <T> Iterable<T>.withIndex(): Iterable<IndexedValue<T>> {
    return IndexingIterable {
        iterator()
    }
}

```

`withIndex()` Returns a list containing only distinct elements from the given collection.

`@sample samples.collections.Collections.Transformations.distinctAndDistinctBy`

```

public fun <T> Iterable<T>.distinct(): List<T> {
    return this.toMutableSet().toList()
}

```

`distinct()` Returns a list containing only elements from the given collection having distinct keys returned by the given [selector] function.

`@sample samples.collections.Collections.Transformations.distinctAndDistinctBy`

```

public inline fun <T, K> Iterable<T>.distinctBy(selector: (T) -> K): List<T> {
    val set = HashSet<K>()
    val list = ArrayList<T>()
    for (e in this) {
        val key = selector(e)
        if (set.add(key)) {
            list.add(e)
        }
    }
    return list
}

```

`distinctBy(selector: (T) -> K)` Returns a set containing all

elements that are contained by both this collection and the specified collection.

`Iterable<T>.intersect(other: Iterable<T>): Set<T>` {
`val set = this.toMutableSet()`
`set.retainAll(other)`
`return set`
}

The returned set preserves the element iteration order of the original collection.

`Iterable<T>.subtract(other: Iterable<T>): Set<T>` {
`val set = this.toMutableSet()`
`set.removeAll(other)`
`return set`
}

Returns a new [MutableSet] containing all distinct elements from the given collection.

The returned set preserves the element iteration order of the original collection.

`Iterable<T>.toMutableSet(): MutableSet<T>` {
`return when (this) {`
`is Collection<T> -> LinkedHashSet(this)`
`else ->`
`toCollection(LinkedHashSet<T>())`
`}`
}

Returns a set containing all distinct elements from both collections.

The returned set preserves the element iteration order of the original collection.

Those elements of the [other] collection that are unique are iterated in the end in the order of the [other] collection.

To get a set containing all elements that are contained in both collections use [intersect].

`Iterable<T>.union(other: Iterable<T>): Set<T>` {
`val set = this.toMutableSet()`
`set.addAll(other)`
`return set`
}

Returns `true` if all elements match the given [predicate].

@sample samples.collections.Collections.Aggregates.all

`Iterable<T>.all(predicate: (T) -> Boolean): Boolean` {
`if (this is Collection && isEmpty()) return true`
`for (element in this) if (!predicate(element)) return false`
`return true`
}

Returns `true` if collection has at least one element.

@sample samples.collections.Collections.Aggregates.any

`Iterable<T>.any(): Boolean` {
`if (this is Collection) return !isEmpty()`
`return iterator().hasNext()`
}

Returns `true` if at least one element matches the given [predicate].

@sample samples.collections.Collections.Aggregates.anyWithPredicate

`Iterable<T>.any(predicate: (T) -> Boolean): Boolean` {
`if (this is Collection && isEmpty()) return false`
`for (element in this) if (predicate(element)) return true`
`return false`
}

Returns the number of elements in this collection.

`Iterable<T>.count(): Int` {
`if (this is Collection) return size`
`var count = 0`
`for (element in this) checkCountOverflow(++count)`
`return count`
}

Returns the number of elements in this collection.

@kotlin.internal.InlineOnly

`Collection<T>.count(): Int` {
`return size`
}

Returns the number of elements matching the given [predicate].

`Iterable<T>.count(predicate: (T) -> Boolean): Int` {
`if (this is Collection && isEmpty()) return 0`
`var count = 0`
`for (element in this) if (predicate(element)) checkCountOverflow(++count)`
`return count`
}

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

Returns the specified [initial] value if the collection is empty.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

`<T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R` {
`var accumulator = initial`
`for (element in this) accumulator = operation(accumulator, element)`
`return accumulator`
}

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element with its index in the original collection.

Returns the specified [initial] value if the collection is empty.

@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

`<T, R> Iterable<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R` {
`var index = 0`
`var accumulator = initial`
`for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)`
`return accumulator`
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.

Returns the specified [initial] value if the list is empty.

@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator

```

value.\n */\npublic inline fun <T, R> List<T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n  var
accumulator = initial\n  if (!isEmpty()) {\n    val iterator = listIterator(size)\n    while (iterator.hasPrevious())
{\n      accumulator = operation(iterator.previous(), accumulator)\n    }\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original list and current accumulator value.\n
* \n * Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R
{\n  var accumulator = initial\n  if (!isEmpty()) {\n    val iterator = listIterator(size)\n    while
(iterator.hasPrevious()) {\n      val index = iterator.previousIndex()\n      accumulator = operation(index,
iterator.previous(), accumulator)\n    }\n  }\n  return accumulator\n}\n\n/**\n * Performs the given [action] on
each element.\n */\n@kotlin.internal.HidesMembers\npublic inline fun <T> Iterable<T>.forEach(action: (T) ->
Unit): Unit {\n  for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element,
providing sequential index with the element.\n * \n * @param [action] function
that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic
inline fun <T> Iterable<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n  var index = 0\n  for (item in
this) action(checkIndexOverflow(index++), item)\n}\n\n/**\n * Returns the largest element.\n * \n * If any of
elements is `NaN` returns `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n
*/\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
Iterable<Double>.max(): Double {\n  val iterator = iterator()\n  if (!iterator.hasNext()) throw
NoSuchElementException()\n  var max = iterator.next()\n  while (iterator.hasNext()) {\n    val e =
iterator.next()\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element.\n * \n *
If any of elements is `NaN` returns `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n
*/\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
Iterable<Float>.max(): Float {\n  val iterator = iterator()\n  if (!iterator.hasNext()) throw
NoSuchElementException()\n  var max = iterator.next()\n  while (iterator.hasNext()) {\n    val e =
iterator.next()\n    max = maxOf(max, e)\n  }\n  return max\n}\n\n/**\n * Returns the largest element.\n * \n *
@throws NoSuchElementException if the collection is empty.\n
*/\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
<T : Comparable<T>> Iterable<T>.max(): T {\n  val iterator = iterator()\n  if
(iterator.hasNext()) throw NoSuchElementException()\n  var max = iterator.next()\n  while (iterator.hasNext())
{\n    val e = iterator.next()\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function.\n * \n
* \n * @throws NoSuchElementException if the collection is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*/\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun
<T, R : Comparable<R>> Iterable<T>.maxBy(selector: (T) -> R): T {\n  val iterator =
iterator()\n  if (!iterator.hasNext()) throw NoSuchElementException()\n  var maxElem = iterator.next()\n  if
(iterator.hasNext()) return maxElem\n  var maxValue = selector(maxElem)\n  do {\n    val e = iterator.next()\n
    val v = selector(e)\n    if (maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  } while
(iterator.hasNext())\n  return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the
given function or `null` if there are no elements.\n * \n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>>
Iterable<T>.maxByOrNull(selector: (T) -> R): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return
null\n  var maxElem = iterator.next()\n  if (!iterator.hasNext()) return maxElem\n  var maxValue =
selector(maxElem)\n  do {\n    val e = iterator.next()\n    val v = selector(e)\n    if (maxValue < v) {\n
maxElem = e\n    maxValue = v\n    }\n  } while (iterator.hasNext())\n  return maxElem\n}\n\n/**\n *

```

Returns the largest value among all values produced by [selector] function applied to each element in the collection. If any of values produced by [selector] function is NaN, the returned result is NaN. @throws NoSuchElementException if the collection is empty.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOf(selector: (T) -> Double): Double
{
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each element in the collection. If any of values produced by [selector] function is NaN, the returned result is NaN. @throws NoSuchElementException if the collection is empty.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOf(selector: (T) -> Float): Float
{
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each element in the collection. @throws NoSuchElementException if the collection is empty.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>> Iterable<T>.maxOf(selector: (T) -> R): R
{
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each element in the collection or null if there are no elements. If any of values produced by [selector] function is NaN, the returned result is NaN.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOfOrNull(selector: (T) -> Double): Double?
{
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each element in the collection or null if there are no elements. If any of values produced by [selector] function is NaN, the returned result is NaN.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOfOrNull(selector: (T) -> Float): Float?
{
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

```

Returns the largest value among all values produced by [selector] function applied to each element in the collection or null if there are no elements.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>> Iterable<T>.maxOfOrNull(selector: (T) -> R): R?
{
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
    }
}

```

```

        if (maxValue < v) {
            maxValue = v
        }
        return maxValue
    }
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the collection.
@throws NoSuchElementException if the collection is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R>
Iterable<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each element in the collection or `null` if there are no elements.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R>
Iterable<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(maxValue, v) < 0) {
            maxValue = v
        }
    }
    return maxValue
}

Returns the largest element or `null` if there are no elements.
If any of elements is `NaN` returns `NaN`.

@SinceKotlin("1.4")
public fun
Iterable<Double>.maxOrNull(): Double? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        max = maxOf(max, e)
    }
    return max
}

Returns the largest element or `null` if there are no elements.
If any of elements is `NaN` returns `NaN`.

@SinceKotlin("1.4")
public fun
Iterable<Float>.maxOrNull(): Float? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        max = maxOf(max, e)
    }
    return max
}

Returns the largest element or `null` if there are no elements.

@SinceKotlin("1.4")
public fun <T : Comparable<T>> Iterable<T>.maxOrNull(): T? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        if (max < e) max = e
    }
    return max
}

Returns the first element having the largest value according to the provided [comparator].
@throws NoSuchElementException if the collection is empty.

@SinceKotlin("1.7")
@kotlin.jvm.JvmName("maxWithOrThrow")
@Suppress("CONFLICTING_OVERLOADS")
public fun <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

@SinceKotlin("1.4")
public fun <T>
Iterable<T>.maxWithOrNull(comparator: Comparator<in T>): T? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

Returns the smallest element.
If any of elements is `NaN` returns `NaN`.
@throws NoSuchElementException if the collection is empty.

@SinceKotlin("1.7")
@kotlin.jvm.JvmName("minOrThrow")
@Suppress("CONFLICTING_OVERLOADS")
public fun Iterable<Double>.min(): Double {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var min = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        min = minOf(min, e)
    }
    return min
}

Returns the smallest element.
If any of elements is `NaN` returns `NaN`.
@throws NoSuchElementException if the collection is empty.

@SinceKotlin("1.7")
@kotlin.jvm.JvmName("minOrThrow")
@Suppress("CONFLICTING_OVERLOADS")
public fun Iterable<Float>.min(): Float {
    val iterator = iterator()

```



```

    if (!iterator.hasNext()) throw NoSuchElementException()\n    var min = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun <T : Comparable<T>> Iterable<T>.min(): T {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var min = iterator.next()\n    while (iterator.hasNext())
{\n        val e = iterator.next()\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element
yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the collection is
empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic
inline fun <T, R : Comparable<R>> Iterable<T>.minBy(selector: (T) -> R): T {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var minElem = iterator.next()\n    if (!iterator.hasNext())
return minElem\n    var minValue = selector(minElem)\n    do {\n        val e = iterator.next()\n        val v =
selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    } while
(iterator.hasNext())\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Iterable<T>.minByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minElem = iterator.next()\n    if (!iterator.hasNext()) return minElem\n    var
minValue = selector(minElem)\n    do {\n        val e =
iterator.next()\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n           
minValue = v\n        }\n    } while (iterator.hasNext())\n    return minElem\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the
collection is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext())\n        {\n            val v = selector(iterator.next())\n           
minValue = minOf(minValue, v)\n        }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result
is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n       
minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by
[selector] function\n * applied to each element in the collection.\n * \n * @throws NoSuchElementException if the
collection is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to

```

each element in the collection or `null` if there are no elements.
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Iterable<T>.minOrNull(selector: (T) -> Double): Double? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n
val v = selector(iterator.next())\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n**\n*
Returns the smallest value among all values produced by [selector] function\n* applied to each element in the
collection or `null` if there are no elements.\n* If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOrNull(selector: (T)
-> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n**\n*
Returns the smallest value among all values produced by [selector] function\n* applied to each element in the
collection or `null` if there are no elements.
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =
selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n**\n* Returns the smallest value according to
the provided [comparator]\n* among all values produced by [selector] function applied to each element in the
collection.\n* @throws NoSuchElementException if the collection is empty.
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.minOfWith(comparator:
Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n**\n* Returns the smallest value according to the provided [comparator]\n* among all
values produced by [selector] function applied to each element in the collection or `null` if there are no elements.
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Iterable<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val
iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n**\n* Returns the smallest element or `null` if there are
no elements.\n* If any of elements is `NaN` returns `NaN`.
```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic fun
Iterable<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var
min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return
min\n}\n\n**\n* Returns the smallest element or `null` if there are no elements.\n* If any of elements is
`NaN` returns `NaN`.
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic fun
Iterable<Float>.minOrNull(): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var
min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n**\n* Returns the smallest element or
`null` if there are no elements.
```

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic fun <T : Comparable<T>>
Iterable<T>.minOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min =
```

```

iterator.next()\n while (iterator.hasNext()) {\n     val e = iterator.next()\n     if (min > e) min = e\n } return
min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator].\n * \n
* @throws NoSuchElementException if the collection is
empty.\n
*\n*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVER
LOADS")\npublic fun <T> Iterable<T>.minWith(comparator: Comparator<in T>): T {\n     val iterator = iterator()\n
if (!iterator.hasNext()) throw NoSuchElementException()\n     var min = iterator.next()\n     while
(iterator.hasNext()) {\n         val e = iterator.next()\n         if (comparator.compare(min, e) > 0) min = e\n     }\n     return
min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or
`null` if there are no elements.\n * \n*\n*\n@SinceKotlin("1.4")\npublic fun <T>
Iterable<T>.minWithOrNull(comparator: Comparator<in T>): T? {\n     val iterator = iterator()\n     if
(!iterator.hasNext()) return null\n     var min = iterator.next()\n     while (iterator.hasNext()) {\n         val e =
iterator.next()\n         if (comparator.compare(min, e) > 0) min = e\n     }\n     return min\n}\n\n/**\n * Returns `true` if
the collection has no
elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n * \n*\n*\npublic fun <T>
Iterable<T>.none(): Boolean {\n     if (this is Collection) return isEmpty()\n     return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \n*\n*\npublic inline fun <T>
Iterable<T>.none(predicate: (T) -> Boolean): Boolean {\n     if (this is Collection && isEmpty()) return true\n     for
(element in this) if (predicate(element)) return false\n     return true\n}\n\n/**\n * Performs the given [action] on each
element and returns the collection itself afterwards.\n * \n*\n*\n@SinceKotlin("1.1")\npublic inline fun <T, C :
Iterable<T>> C.onEach(action: (T) -> Unit): C {\n     return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and
returns the collection itself afterwards.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on
the element.\n * \n*\n*\n@SinceKotlin("1.4")\npublic inline fun <T, C : Iterable<T>> C.onEachIndexed(action: (index:
Int, T) -> Unit): C {\n     return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the
first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n *
Throws an exception if this collection is empty. If the collection can be empty in an expected way,\n * please use
[reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n * \n*\n*\npublic inline fun <S, T : S> Iterable<T>.reduce(operation:
(acc: S, T) -> S): S {\n     val iterator = this.iterator()\n     if (!iterator.hasNext())
throw UnsupportedOperationException("Empty collection can't be reduced.")\n     var accumulator: S =
iterator.next()\n     while (iterator.hasNext()) {\n         accumulator = operation(accumulator, iterator.next())\n     }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from
left to right\n * to current accumulator value and each element with its index in the original collection.\n * \n *
Throws an exception if this collection is empty. If the collection can be empty in an expected way,\n * please use
[reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function
that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n*\n*\npublic inline fun <S,
T : S> Iterable<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n
     val iterator = this.iterator()\n     if (!iterator.hasNext()) throw UnsupportedOperationException("Empty collection
can't be reduced.")\n     var index = 1\n     var accumulator: S = iterator.next()\n     while (iterator.hasNext()) {\n
         accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n     }\n     return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Returns
`null` if the collection is empty.\n * \n * @param [operation] function that takes the index of an element, current

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accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n *^\n@SinceKotlin("1.4")\npublic inline fun <S, T : S>
Iterable<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n    val iterator
= this.iterator()\n    if (!iterator.hasNext()) return null\n    var index = 1\n    var accumulator: S = iterator.next()\n    while (iterator.hasNext()) {\n        accumulator = operation(checkIndexOverflow(index++), accumulator,
iterator.next())\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and
applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if
the collection is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*^\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Iterable<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n    val iterator = this.iterator()\n    if
(!iterator.hasNext()) return null\n    var accumulator: S = iterator.next()\n    while
(iterator.hasNext()) {\n        accumulator = operation(accumulator, iterator.next())\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this list is empty. If the list
can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates
the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n *^\npublic
inline fun <S, T : S> List<T>.reduceRight(operation: (T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n
        accumulator = operation(iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original list and current accumulator value.\n * \n * Throws an exception if this list is empty. If the
list can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n *^\npublic inline fun <S, T : S>
List<T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var
accumulator:
S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n
accumulator = operation(index, iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original list and current accumulator value.\n * \n * Returns `null` if the list is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n *^\n@SinceKotlin("1.4")\npublic inline fun <S,
T : S> List<T>.reduceRightIndexedOrNull(operation: (index: Int, T, acc: S) -> S): S? {\n    val iterator =
listIterator(size)\n    if (!iterator.hasPrevious())\n        return null\n    var accumulator: S = iterator.previous()\n
while
(iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n        accumulator = operation(index,
iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the list is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n

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*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun <S, T : S>
List<T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {
    val iterator = listIterator(size)
    if (!iterator.hasPrevious())
        return null
    var accumulator: S = iterator.previous()
    while (iterator.hasPrevious()) {
        accumulator = operation(iterator.previous(), accumulator)
    }
    return accumulator
}

/**
 * Returns a list containing successive accumulation values generated by
 * applying [operation] from left to right to each element and current accumulator value that starts with [initial]
 * value.
 * Note that `acc` value passed to [operation] function should not be mutated; otherwise it would
 * affect the previous value in resulting list.
 * @param [operation] function that takes current accumulator value
 * and an element, and calculates the next accumulator value.
 * @sample
 */
samples.collections.Collections.Aggregates.runningFold<T, R>
*^@SinceKotlin("1.4")public inline fun <T, R>
Iterable<T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {
    val estimatedSize =
        collectionSizeOrDefault(9)
    if (estimatedSize == 0) return listOf(initial)
    val result =
        ArrayList<R>(estimatedSize + 1).apply { add(initial) }
    var accumulator = initial
    for (element in this) {
        accumulator = operation(accumulator,
            element)
        result.add(accumulator)
    }
    return result
}

/**
 * Returns a list containing successive
 * accumulation values generated by applying [operation] from left to right to each element, its index in the original
 * collection and current accumulator value that starts with [initial] value.
 * Note that `acc` value passed to
 * [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.
 * @param [operation] function that takes the index of an element, current accumulator value
 * and the element
 * itself, and calculates the next accumulator value.
 * @sample
 */
samples.collections.Collections.Aggregates.runningFold<T, R>
*^@SinceKotlin("1.4")public inline fun <T, R>
Iterable<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {
    val estimatedSize =
        collectionSizeOrDefault(9)
    if (estimatedSize == 0) return listOf(initial)
    val result =
        ArrayList<R>(estimatedSize
            + 1).apply { add(initial) }
    var index = 0
    var accumulator = initial
    for (element in this) {
        accumulator = operation(index++, accumulator, element)
        result.add(accumulator)
    }
    return
        result
}

/**
 * Returns a list containing successive accumulation values generated by applying [operation] from
 * left to right to each element and current accumulator value that starts with the first element of this collection.
 * Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the
 * previous value in resulting list.
 * @param [operation] function that takes current accumulator value and the
 * element, and calculates the next accumulator value.
 * @sample
 */
samples.collections.Collections.Aggregates.runningReduce<T>
*^@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun <S, T : S>
Iterable<T>.runningReduce(operation: (acc: S, T)
    -> S): List<S> {
    val iterator = this.iterator()
    if (!iterator.hasNext()) return emptyList()
    var accumulator:
        S = iterator.next()
    val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }
    while (iterator.hasNext()) {
        accumulator = operation(accumulator, iterator.next())
        result.add(accumulator)
    }
    return result
}

/**
 * Returns a list containing successive accumulation values generated by applying
 * [operation] from left to right to each element, its index in the original collection and current accumulator value
 * that starts with the first element of this collection.
 * Note that `acc` value passed to [operation] function
 * should not be mutated; otherwise it would affect the previous value in resulting list.
 * @param [operation]
 * function that takes the index of an element, current accumulator value
 * and the element itself, and calculates the
 * next accumulator value.
 * @sample
 */
samples.collections.Collections.Aggregates.runningReduce<T>
*^@SinceKotlin("1.4")public inline fun <S, T : S>
Iterable<T>.runningReduceIndexed(operation: (index: Int,
    acc: S, T) -> S): List<S> {
    val iterator = this.iterator()
    if (!iterator.hasNext()) return emptyList()
    var
        accumulator: S = iterator.next()
    val result = ArrayList<S>(collectionSizeOrDefault(10)).apply {
        add(accumulator)
    }
    var index = 1
    while (iterator.hasNext()) {
        accumulator = operation(index++,
            accumulator, iterator.next())
        result.add(accumulator)
    }
    return result
}

/**
 * Returns a list
 */

```

containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param

[operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>  
Iterable<T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n    return runningFold(initial,  
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]  
from left to right\n * to each element, its index in the original collection and current accumulator value that starts  
with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the  
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator  
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>  
Iterable<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    return  
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function  
applied to each element in the collection.\n *\n@Deprecated("Use sumOf instead.")  
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>  
Iterable<T>.sumBy(selector: (T) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=  
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function  
applied to each element in the collection.\n *\n@Deprecated("Use sumOf instead.")  
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>  
Iterable<T>.sumByDouble(selector: (T) -> Double): Double {\n
```

```
    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun  
<T> Iterable<T>.sumOf(selector: (T) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in  
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by  
[selector] function applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>  
Iterable<T>.sumOf(selector: (T) -> Int):
```

```
Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return  
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the  
collection.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun  
<T> Iterable<T>.sumOf(selector: (T) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n  
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]  
function applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution  
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType  
s::class)\n@kotlin.internal.InlineOnly\npublic inline
```

```
fun <T> Iterable<T>.sumOf(selector: (T) -> UInt): UInt {\n    var sum: UInt = 0.toUInt()\n    for (element in this)  
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by  
[selector] function applied to each element in the collection.\n
```

```

*^@SinceKotlin("1.5")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.jvm.JvmName("sumOfULong")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly\npublic inline fun <T>.sumOf(selector: (T) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any>
Iterable<T?>.requireNoNulls(): Iterable<T> {\n    for (element in this) {\n
        if (element == null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n
    }\n    @Suppress("UNCHECKED_CAST")\n    return this as Iterable<T>\n}\n\n/**\n * Returns an original
collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null`
elements.\n */\npublic fun <T : Any> List<T?>.requireNoNulls(): List<T> {\n    for (element in this) {\n        if
(element == null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n    }\n
    @Suppress("UNCHECKED_CAST")\n    return this as List<T>\n}\n\n/**\n * Splits this collection into a list of
lists each not exceeding the given [size].\n * \n * The last list in the resulting list may have fewer elements than the
given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater
than the number of elements in this collection.\n * \n * @sample
samples.collections.Collections.Transformations.chunked\n
*^@SinceKotlin("1.2")\npublic fun <T> Iterable<T>.chunked(size: Int): List<List<T>> {\n    return
windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this collection into several lists each not exceeding
the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return list of results of the
[transform] applied to an each list.\n * \n * Note that the list passed to the [transform] function is ephemeral and is
valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a
snapshot of it.\n * The last list may have fewer elements than the given [size].\n * \n * @param size the number of
elements to take in each list, must be positive and can be greater than the number of elements in this collection.\n *
\n * @sample samples.text.Strings.chunkedTransform\n
*^@SinceKotlin("1.2")\npublic fun <T, R>
Iterable<T>.chunked(size: Int, transform: (List<T>)\n
-> R): List<R> {\n    return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n *
Returns a list containing all elements of the original collection without the first occurrence of the given [element].\n
*/\n\npublic operator fun <T> Iterable<T>.minus(element: T): List<T> {\n    val result =
ArrayList<T>(collectionSizeOrDefault(10))\n    var removed = false\n    return this.filterTo(result) { if (!removed
&& it == element) { removed = true; false } else true }\n}\n\n/**\n * Returns a list containing all elements of the
original collection except the elements contained in the given [elements] array.\n * \n * Before Kotlin 1.6, the
[elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were required
to have\n * a correct and stable implementation of `hashCode()` that didn't change between successive
invocations.\n * On JVM, you can enable this behavior back with the system property
`kotlin.collections.convert_arg_to_set_in_removeAll`
set to `true`.\n */\n\npublic operator fun <T> Iterable<T>.minus(elements: Array<out T>): List<T> {\n    if
(elements.isEmpty()) return this.toList()\n    val other = elements.convertToSetForSetOperation()\n    return
this.filterNot { it in other }\n}\n\n/**\n * Returns a list containing all elements of the original collection except the
elements contained in the given [elements] collection.\n * \n * Before Kotlin 1.6, the [elements] collection may have
been converted to a [HashSet] to speed up the operation, thus the elements were required to have\n * a correct and
stable implementation of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can
enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to
`true`.\n */\n\npublic operator fun <T> Iterable<T>.minus(elements: Iterable<T>): List<T> {\n    val other =
elements.convertToSetForSetOperationWith(this)\n    if (other.isEmpty())\n        return this.toList()\n    return this.filterNot { it in other }\n}\n\n/**\n * Returns a list containing all elements of the
original collection except the elements contained in the given [elements] sequence.\n * \n * Before Kotlin 1.6, the
[elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were

```

required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations. On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.

```

public operator fun <T>
Iterable<T>.minus(elements: Sequence<T>): List<T> {
    val other = elements.convertToSetForSetOperation()
    if (other.isEmpty()) return this.toList()
    return this.filterNot { it in other }
}

```

* Returns a list containing all elements of the original collection without the first occurrence of the given [element].

```

@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.minusElement(element: T): List<T> {
    return minus(element)
}

```

* Splits the original collection into pair of lists, where *first* list contains elements for which [predicate] yielded `true`, while *second* list contains elements for which [predicate] yielded `false`.

```

@sample
samples.collections.Iterables.Operations.partition
public inline fun <T> Iterable<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {
    val first = ArrayList<T>()
    val second = ArrayList<T>()
    for (element in this) {
        if (predicate(element)) first.add(element)
        else second.add(element)
    }
    return Pair(first, second)
}

```

* Returns a list containing all elements of the original collection and then the given [element].

```

public operator fun <T> Iterable<T>.plus(element: T): List<T> {
    if (this is Collection) return this.plus(element)
    val result = ArrayList<T>()
    result.addAll(this)
    result.add(element)
    return result
}

```

* Returns a list containing all elements of the original collection and then the given [element].

```

public operator fun <T> Collection<T>.plus(element: T): List<T> {
    val result = ArrayList<T>(size + 1)
    result.addAll(this)
    result.add(element)
    return result
}

```

* Returns a list containing all elements of the original collection and then all elements of the given [elements] array.

```

public operator fun <T> Iterable<T>.plus(elements: Array<out T>): List<T> {
    if (this is Collection) return this.plus(elements)
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

```

* Returns a list containing all elements of the original collection and then all elements of the given [elements] array.

```

public operator fun <T> Collection<T>.plus(elements: Array<out T>): List<T> {
    val result = ArrayList<T>(this.size + elements.size)
    result.addAll(this)
    result.addAll(elements)
    return result
}

```

* Returns a list containing all elements of the original collection and then all elements of the given [elements] collection.

```

public operator fun <T> Iterable<T>.plus(elements: Iterable<T>): List<T> {
    if (this is Collection) return this.plus(elements)
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

```

* Returns a list containing all elements of the original collection and then all elements of the given [elements] collection.

```

public operator fun <T> Collection<T>.plus(elements: Iterable<T>): List<T> {
    if (elements is Collection) {
        val result = ArrayList<T>(this.size + elements.size)
        result.addAll(this)
        result.addAll(elements)
        return result
    } else {
        val result = ArrayList<T>(this)
        result.addAll(elements)
        return result
    }
}

```

* Returns a list containing all elements of the original collection and then all elements of the given [elements] sequence.

```

public operator fun <T> Iterable<T>.plus(elements: Sequence<T>): List<T> {
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

```

* Returns a list containing all elements of the original collection and then all elements of the given [elements] sequence.

```

public operator fun <T> Collection<T>.plus(elements: Sequence<T>): List<T> {
    val result = ArrayList<T>(this.size + 10)
    result.addAll(this)
    result.addAll(elements)
    return result
}

```

* Returns a list containing all elements of the original collection and then the given [element].

```

@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.plusElement(element: T): List<T> {
    return plus(element)
}

```

* Returns a list containing all elements of the original collection and then the given [element].

```

@kotlin.internal.InlineOnly
public inline fun <T> Collection<T>.plusElement(element: T): List<T> {
    return plus(element)
}

```

* Returns a list of snapshots of the window of the given [size] sliding along this collection with the given [step], where each snapshot is a list. Several last lists may have fewer elements than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this collection.

@param size the

number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n * ^\n@SinceKotlin("1.2")\npublic fun <T> Iterable<T>.windowed(size:

```
Int, step: Int = 1, partialWindows: Boolean = false): List<List<T>> {\n    checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize = this.size\n        val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n        val result = ArrayList<List<T>>(resultCapacity)\n        var index = 0\n        while (index in 0 until thisSize) {\n            val windowSize = size.coerceAtMost(thisSize - index)\n            if (windowSize < size && !partialWindows) break\n            result.add(List(windowSize) { this[it + index] })\n            index += step\n        }\n        return result\n    }\n    val result = ArrayList<List<T>>()\n    windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = false).forEach {\n        result.add(it)\n    }\n    return result\n}\n\n/**\n * Returns a list of results of applying the given [transform] function to\n * an each list representing a view over the window of the given [size]\n
```

```
* sliding along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this collection.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n * ^\n@SinceKotlin("1.2")\npublic fun <T, R> Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>)
```

```
-> R): List<R> {\n    checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize = this.size\n        val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n        val result = ArrayList<R>(resultCapacity)\n        val window = MovingSubList(this)\n        var index = 0\n        while (index in 0 until thisSize) {\n            val windowSize = size.coerceAtMost(thisSize - index)\n            if (!partialWindows && windowSize < size) break\n            window.move(index, index + windowSize)\n            result.add(transform(window))\n            index += step\n        }\n        return result\n    }\n    val result = ArrayList<R>()\n    windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = true).forEach {\n        result.add(transform(it))\n    }\n    return result\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and the [other] array with the same index.\n * The returned
```

```
list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * ^\npublic infix fun <T, R> Iterable<T>.zip(other: Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
```

```
samples.collections.Iterables.Operations.zipIterableWithTransform\n * ^\npublic inline fun <T, R, V> Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n    val arraySize = other.size\n    val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in this) {\n        if (i >= arraySize) break\n        list.add(transform(element, other[i++]))\n    }\n    return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] collection with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * ^\npublic infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
```

```
samples.collections.Iterables.Operations.zipIterableWithTransform\n * ^\npublic inline fun <T, R, V>
```

```

Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n  val first = iterator()\n  val second
= other.iterator()\n  val list = ArrayList<V>(minOf(collectionSizeOrDefault(10),
other.collectionSizeOrDefault(10)))\n  while
(first.hasNext() && second.hasNext()) {\n    list.add(transform(first.next(), second.next()))\n  }\n  return
list}\n\n/**\n * Returns a list of pairs of each two adjacent elements in this collection.\n * \n * The returned list is
empty if this collection contains less than two elements.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNext\n * \n @SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.zipWithNext(): List<Pair<T, T>> {\n  return zipWithNext { a, b -> a to b }\n}\n\n/**\n * Returns a list
containing the results of applying the given [transform] function\n * to an each pair of two adjacent elements in this
collection.\n * \n * The returned list is empty if this collection contains less than two elements.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n * \n @SinceKotlin("1.2")\npublic
inline fun <T, R> Iterable<T>.zipWithNext(transform: (a: T, b: T) -> R): List<R> {\n  val iterator = iterator()\n
if (!iterator.hasNext()) return emptyList()\n  val result = mutableListOf<R>()\n  var current = iterator.next()\n
while (iterator.hasNext()) {\n    val next = iterator.next()\n    result.add(transform(current, next))\n    current
= next\n  }\n  return result}\n\n/**\n * Appends the string from all the elements separated using [separator] and
using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-
negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the
[truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n * \n @SinceKotlin("1.2")\npublic fun <T, A : Appendable>
Iterable<T>.joinTo(buffer: A, separator: CharSequence = '\n', prefix: CharSequence = "\n", postfix: CharSequence
= "\n", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): A {\n
buffer.append(prefix)\n
  var count = 0\n  for (element in this) {\n    if (++count > 1) buffer.append(separator)\n    if (limit < 0 || count
<= limit) {\n      buffer.appendElement(element, transform)\n    } else break\n  }\n  if (limit >= 0 && count
> limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer}\n\n/**\n * Creates a string from all
the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the
collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n *
elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \n @SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.joinToString(separator: CharSequence = '\n', prefix: CharSequence = "\n", postfix: CharSequence =
"\n", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)?
= null): String {\n  return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated,
transform).toString()\n}\n\n/**\n * Returns this collection as an [Iterable].\n * \n @SinceKotlin("1.2")\npublic
inline fun <T> Iterable<T>.asIterable(): Iterable<T> {\n  return this}\n\n/**\n * Creates a [Sequence] instance
that wraps the original collection returning its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromCollection\n * \n @SinceKotlin("1.2")\npublic fun <T> Iterable<T>.asSequence():
Sequence<T> {\n  return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the
collection.\n * \n @SinceKotlin("1.2")\npublic fun Iterable<Byte>.average(): Double {\n  var
sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count}\n\n/**\n * Returns
an average value
of elements in the collection.\n * \n @SinceKotlin("1.2")\npublic fun
Iterable<Short>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count}\n\n/**\n * Returns an average value of elements in the collection.\n
* \n @SinceKotlin("1.2")\npublic fun Iterable<Int>.average(): Double {\n  var sum: Double =
0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    checkCountOverflow(++count)\n
  }\n  return if (count == 0) Double.NaN else sum / count}\n\n/**\n * Returns an average value of elements in the

```

```

collection.\n *\n@kotlin.jvm.JvmName(\averageOfLong)\npublic fun Iterable<Long>.average(): Double {\n
var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n
  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in
the collection.\n *\n@kotlin.jvm.JvmName(\averageOfFloat)\npublic fun Iterable<Float>.average(): Double {\n
var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the collection.\n *\n@kotlin.jvm.JvmName(\averageOfDouble)\npublic fun
Iterable<Double>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName(\sumOfByte)\npublic fun Iterable<Byte>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n
sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName(\sumOfShort)\npublic fun Iterable<Short>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the
collection.\n *\n@kotlin.jvm.JvmName(\sumOfInt)\npublic fun Iterable<Int>.sum(): Int {\n  var sum: Int = 0\n
for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in
the collection.\n *\n@kotlin.jvm.JvmName(\sumOfLong)\npublic fun Iterable<Long>.sum(): Long {\n  var
sum: Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the
sum of all elements in the collection.\n *\n@kotlin.jvm.JvmName(\sumOfFloat)\npublic fun
Iterable<Float>.sum(): Float {\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum +=
element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName(\sumOfDouble)\npublic fun Iterable<Double>.sum(): Double {\n  var sum: Double
= 0.0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n@npackage kotlin.collections\n\nimport
kotlin.comparisons.naturalOrder\n\nimport kotlin.random.Random\n\nimport kotlin.js.arrayBufferIsView\n\n/**\n *
Returns the array if it's not `null`, or an empty array otherwise.\n * @sample
samples.collections.Arrays.Usage.arrayOrEmpty\n *\n@kotlin.internal.InlineOnly\n\npublic actual inline fun <T>
Array<out T>?.orEmpty(): Array<out T> = this ?: emptyArray<T>()\n\n/**\n * Returns a *typed* array containing
all of the elements of this collection.\n *\n * Allocates an array of runtime type `T` having its size equal to the size of this collection\n * and populates the
array with the elements of this collection.\n * @sample
samples.collections.Collections.Collections.collectionToTypedArray\n *\n@kotlin.internal.InlineOnly\n\npublic
actual inline fun <T> Collection<T>.toArray(): Array<T> =
copyToArray(this)\n\n@JsName(\copyToArray)\n\n@PublishedApi\n\ninternal fun <T> copyToArray(collection:
Collection<T>): Array<T> {\n  return if (collection.asDynamic().toArray !== undefined)\n
collection.asDynamic().toArray().unsafeCast<Array<T>>()\n  else\n
copyToArrayImpl(collection).unsafeCast<Array<T>>()\n}\n\n@JsName(\copyToArrayImpl)\n\ninternal actual fun
copyToArrayImpl(collection: Collection<*>): Array<Any?> {\n  val array = emptyArray<Any?>()\n  val iterator
= collection.iterator()\n  while (iterator.hasNext())\n    array.asDynamic().push(iterator.next())\n  return
array\n}\n\n@JsName(\copyToExistingArrayImpl)\n\ninternal
actual fun <T> copyToArrayImpl(collection: Collection<*>, array: Array<T>): Array<T> {\n  if (array.size <
collection.size)\n    return copyToArrayImpl(collection).unsafeCast<Array<T>>()\n  val iterator =
collection.iterator()\n  var index = 0\n  while (iterator.hasNext()) {\n    array[index++] =
iterator.next().unsafeCast<T>()\n  }\n  if (index < array.size) {\n    array[index] = null.unsafeCast<T>()\n  }\n
return array\n}\n\n\n/**\n * Returns an immutable list containing only the specified object [element].\n *\n@npublic

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fun <T> listOf(element: T): List<T> =
arrayListOf(element)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual
inline fun <E> buildListInternal(builderAction: MutableList<E>().->Unit): List<E> {\n  return
ArrayList<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.Inlin
eOnly\ninternal actual inline fun <E> buildListInternal(capacity: Int,
builderAction: MutableList<E>().->Unit): List<E> {\n  checkBuilderCapacity(capacity)\n  return
ArrayList<E>(capacity).apply(builderAction).build()\n}\n\n/n/**\n * Returns an immutable set containing only the
specified object [element].\n * ^\npublic fun <T> setOf(element: T): Set<T> =
hashSetOf(element)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline
fun <E> buildSetInternal(builderAction: MutableSet<E>().->Unit): Set<E> {\n  return
LinkedHashSet<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.
InlineOnly\ninternal actual inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().->Unit):
Set<E> {\n  return LinkedHashSet<E>(capacity).apply(builderAction).build()\n}\n\n/n/**\n * Returns an
immutable map, mapping only the specified key to the\n * specified value.\n * ^\npublic fun <K, V> mapOf(pair:
Pair<K, V>): Map<K, V> =
hashMapOf(pair)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal
actual inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>().->Unit): Map<K, V> {\n  return
LinkedHashMap<K,
V>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninte
rnal actual inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>().->Unit):
Map<K, V> {\n  return LinkedHashMap<K, V>(capacity).apply(builderAction).build()\n}\n\n/n/**\n * Fills the
list with the provided [value].\n * ^\n * Each element in the list gets replaced with the [value].\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.fill(value: T): Unit {\n  for (index in
0..lastIndex) {\n    this[index] = value\n  }\n}\n\n/n/**\n * Randomly shuffles elements in this list.\n * ^\n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/n/**\n
 * Returns a new list with the elements of this list randomly shuffled.\n * ^\n@SinceKotlin("1.2")\npublic actual fun
<T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/n/**\n * Sorts elements in the list in-
place according to their natural sort order.\n * ^\n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n * ^\n * @sample samples.collections.Collections.Sorting.sortMutableList\n
*\npublic actual fun <T : Comparable<T>> MutableList<T>.sort(): Unit {\n  collectionsSort(this,
naturalOrder())\n}\n\n/n/**\n * Sorts elements in the list in-place according to the order specified with [comparator].\n
*\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * ^\n
 * @sample samples.collections.Collections.Sorting.sortMutableListWith\n * ^\npublic actual fun <T>
MutableList<T>.sortWith(comparator: Comparator<in T>): Unit {\n  collectionsSort(this,
comparator)\n}\n\nprivate fun <T> collectionsSort(list: MutableList<T>, comparator: Comparator<in T>) {\n  if
(list.size <= 1) return\n\n  val array = copyToArray(list)\n  sortArrayWith(array, comparator)\n\n  for (i in 0 until
array.size) {\n    list[i] = array[i]\n  }\n}\n\ninternal actual fun <T> arrayOfNulls(reference: Array<T>, size: Int):
Array<T> {\n  return
arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@JsName("arr
ayCopy")\ninternal fun <T> arrayCopy(source: Array<out T>, destination: Array<in T>, destinationOffset: Int,
startIndex: Int, endIndex: Int) {\n  AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n  val
rangeSize = endIndex - startIndex\n  AbstractList.checkRangeIndexes(destinationOffset, destinationOffset +
rangeSize, destination.size)\n\n  if (arrayBufferIsView(destination) && arrayBufferIsView(source)) {\n    val
subrange = source.asDynamic().subarray(startIndex,
endIndex)\n    destination.asDynamic().set(subrange, destinationOffset)\n  } else {\n    if (source !==
destination || destinationOffset <= startIndex) {\n      for (index in 0 until rangeSize) {\n
destination[destinationOffset + index] = source[startIndex + index]\n      }\n    } else {\n      for (index in

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rangeSize - 1 downTo 0) {\n          destination[destinationOffset + index] = source[startIndex + index]\n
}\n    }\n }\n}\n\n// no singleton map implementation in js, return map as
is\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <K, V> Map<K,
V>.toSingletonMapOrSelf(): Map<K, V> = this\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline
fun <K, V> Map<out K, V>.toSingletonMap(): Map<K, V> =
this.toMutableMap()\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <T> Array<out
T>.copyToArrayOfAny(isVarargs: Boolean): Array<out Any?> =\n    if (isVarargs)\n        // no need
to copy vararg array in JS\n        this\n    else\n        this.copyOf()\n\n\n@PublishedApi\ninternal actual fun
checkIndexOverflow(index: Int): Int {\n    if (index < 0) {\n        throwIndexOverflow()\n    }\n    return
index\n}\n\n\n@PublishedApi\ninternal actual fun checkCountOverflow(count: Int): Int {\n    if (count < 0) {\n
throwCountOverflow()\n    }\n    return count\n}\n\n\n**\n * JS map and set implementations do not make use of
capacities or load factors.\n * \n@PublishedApi\ninternal actual fun mapCapacity(expectedSize: Int) =
expectedSize\n\n**\n * Checks a collection builder function capacity argument.\n * In JS no validation is made in
Map/Set constructor yet.\n * \n@SinceKotlin("1.3")\n@PublishedApi\ninternal fun
checkBuilderCapacity(capacity: Int) {\n    require(capacity >= 0) { \"capacity must be non-negative.\"\n
}\n}\n\n\ninternal actual fun brittleContainsOptimizationEnabled(): Boolean = false", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\n**\n * Returns the given iterator itself. This allows to use an instance of iterator in a `for`
loop.\n * @sample samples.collections.Iterators.iterator\n * \n@kotlin.internal.InlineOnly\npublic inline operator
fun <T> Iterator<T>.iterator(): Iterator<T> = this\n\n**\n * Returns an [Iterator] that wraps each element produced
by the original iterator\n * into an [IndexedValue] containing the index of that element and the element itself.\n * \n
*\n * @sample samples.collections.Iterators.withIndexIterator\n * \npublic fun <T> Iterator<T>.withIndex():
Iterator<IndexedValue<T>> = IndexingIterator(this)\n\n**\n * Performs the given [operation] on each element of
this [Iterator].\n * @sample samples.collections.Iterators.forEachIterator\n
*\n\npublic inline fun <T> Iterator<T>.forEach(operation: (T) -> Unit): Unit {\n    for (element in this)\n
operation(element)\n}\n\n**\n * Iterator transforming original `iterator` into iterator of [IndexedValue], counting
index from zero.\n * \n\ninternal class IndexingIterator<out T>(private val iterator: Iterator<T>) :
Iterator<IndexedValue<T>> {\n    private var index = 0\n    final override fun hasNext(): Boolean =
iterator.hasNext()\n    final override fun next(): IndexedValue<T> = IndexedValue(checkIndexOverflow(index++),
iterator.next())\n}\n", /*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n\npackage
kotlin.comparisons\n\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport
kotlin.random.*\n\n**\n * Returns the greater of two values.\n * \n * If values are equal, returns the first one.\n
*\n\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> maxOf(a: T, b: T): T\n\n**\n * Returns the
greater of two values.\n * \n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a:
Byte, b: Byte): Byte\n\n**\n * Returns the greater of two values.\n
*\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short):
Short\n\n**\n * Returns the greater of two values.\n
*\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int): Int\n\n**\n
*\n * Returns the greater of two values.\n * \n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun maxOf(a: Long, b: Long): Long\n\n**\n * Returns the greater of two values.\n * \n * If either value is `NaN`,
returns `NaN`.\n * \n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic

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expect inline fun maxOf(a: Float, b: Float): Float\n\n/**\n * Returns the greater of two values.\n * \n * If either
value is `NaN`, returns `NaN`.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun
maxOf(a: Double, b: Double): Double\n\n/**\n * Returns the greater of three values.\n * \n * If there are multiple
equal maximal values, returns the first of them.\n */\n@SinceKotlin("1.1")\npublic expect fun <T :
Comparable<T>> maxOf(a: T, b: T, c: T): T\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte, c: Byte):
Byte\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int, c: Int): Int\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Long, b: Long, c:
Long): Long\n\n/**\n * Returns the greater of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float, c:
Float): Float\n\n/**\n * Returns the greater of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double, c:
Double): Double\n\n/**\n * Returns the greater of three values according to the order specified by the given
[comparator].\n * \n * If there are multiple equal maximal values, returns the first of them.\n
*/\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {\n    return
maxOf(a, maxOf(b, c, comparator),
comparator)\n}\n\n/**\n * Returns the greater of two values according to the order specified by the given
[comparator].\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin("1.1")\npublic fun <T>
maxOf(a: T, b: T, comparator: Comparator<in T>): T {\n    return if (comparator.compare(a, b) >= 0) a else
b\n}\n\n/**\n * Returns the greater of the given values.\n * \n * If there are multiple equal maximal values, returns
the first of them.\n */\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>> maxOf(a: T, vararg other:
T): T\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin("1.4")\npublic expect fun maxOf(a:
Byte, vararg other: Byte): Byte\n\n/**\n * Returns the greater of the given values.\n
*/\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Short, vararg other: Short): Short\n\n/**\n * Returns the
greater of the given values.\n */\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Int, vararg other: Int):
Int\n\n/**\n * Returns
the greater of the given values.\n */\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Long, vararg other:
Long): Long\n\n/**\n * Returns the greater of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n
*/\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Float, vararg other: Float): Float\n\n/**\n * Returns the
greater of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin("1.4")\npublic
expect fun maxOf(a: Double, vararg other: Double): Double\n\n/**\n * Returns the greater of the given values
according to the order specified by the given [comparator].\n * \n * If there are multiple equal maximal values,
returns the first of them.\n */\n@SinceKotlin("1.4")\npublic fun <T> maxOf(a: T, vararg other: T, comparator:
Comparator<in T>): T {\n    var max = a\n    for (e in other) if (comparator.compare(max, e) < 0) max = e\n    return
max\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If values are equal, returns the first
one.\n */\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T): T\n\n/**\n * Returns
the smaller of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun
minOf(a: Byte, b: Byte): Byte\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short):
Short\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int): Int\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun minOf(a: Long, b: Long): Long\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`,
returns `NaN`.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float,

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b: Float): Float\n\n**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double): Double\n\n**\n * Returns the smaller of three values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T\n\n**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte, c: Byte): Byte\n\n**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short, c: Short): Short\n\n**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int, c: Int): Int\n\n**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Long, b: Long, c: Long): Long\n\n**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float, c: Float): Float\n\n**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double, c: Double): Double\n\n**\n * Returns the smaller of three values according to the order specified by the given [comparator].\n * \n * If there are multiple equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {\n return minOf(a, minOf(b, c, comparator), comparator)\n}\n\n**\n * Returns the smaller of two values according to the order specified by the given [comparator].\n * \n * If values are equal, returns the first one.\n *\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, comparator: Comparator<in T>): T {\n return if (comparator.compare(a, b) <= 0) a else b\n}\n\n**\n * Returns the smaller of the given values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>> minOf(a: T, vararg other: T): T\n\n**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Byte, vararg other: Byte): Byte\n\n**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Short, vararg other: Short): Short\n\n**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Int, vararg other: Int): Int\n\n**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Long, vararg other: Long): Long\n\n**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Float, vararg other: Float): Float\n\n**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Double, vararg other: Double): Double\n\n**\n * Returns the smaller of the given values according to the order specified by the given [comparator].\n * \n * If there are multiple equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.4")\npublic fun <T> minOf(a: T, vararg other: T, comparator: Comparator<in T>): T {\n var min = a\n for (e in other) if (comparator.compare(min, e) > 0) min = e\n return min\n}\n\n**\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n@n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage kotlin.collections\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n\nSee: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n**\n * Returns the first non-null value produced by [transform] function being applied to entries of this map in iteration order,\n * or throws [NoSuchElementException] if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Any> Map<out K, V>.firstNotNullOf(transform: (Map.Entry<K, V>) -> R?): R {\n return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the map was transformed to a non-null value.")\n}\n\n**\n * Returns

the first non-null value produced by [transform] function being applied to entries of this map in iteration order, \n * or `null` if no non-null value was produced. \n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf

```

*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Any> Map<out K, V>.firstNotNullOfOrNull(transform: (Map.Entry<K, V>) -> R?): R? {\n    for (element in this) {\n        val result = transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n*\n * Returns a [List] containing all key-value pairs.\n *\npublic fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>> {\n    if (size == 0)\n        return emptyList()\n    val iterator = entries.iterator()\n    if (!iterator.hasNext())\n        return emptyList()\n    val first = iterator.next()\n    if (!iterator.hasNext())\n        return listOf(first.toPair())\n    val result = ArrayList<Pair<K, V>>(size)\n    result.add(first.toPair())\n    do {\n        result.add(iterator.next().toPair())\n    } while (iterator.hasNext())\n    return result\n}\n\n*\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n*\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Sequence<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n*\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n*\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination].\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Sequence<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n*\n * Returns a list containing the results of applying the given [transform] function to each entry in the original map.\n * \n * @sample samples.collections.Collections.Transformations.mapToList\n *\npublic inline fun <K, V, R> Map<out K, V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {\n    return mapTo(ArrayList<R>(size), transform)\n}\n\n*\n * Returns a list containing only the non-null results of applying the given [transform] function to each entry in the original map.\n * \n * @sample samples.collections.Collections.Transformations.mapNotNull\n *\npublic inline fun <K, V, R : Any> Map<out K, V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {\n    return mapNotNullTo(ArrayList<R>(), transform)\n}\n\n*\n * Applies the given [transform] function to each entry in the original map and appends only the non-null results to the given [destination].\n *\npublic inline fun <K, V, R : Any, C : MutableCollection<in R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>) -> R?): C {\n    forEach { element -> transform(element)?.let { destination.add(it) } }\n    return destination\n}\n\n*\n * Applies the given [transform] function to each entry of the original map and appends the results to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.mapTo(destination: C, transform: (Map.Entry<K, V>) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n*\n * Returns `true` if all entries match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *\npublic inline fun

```



```

<K, V> Map<out K, V>.all(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {
    if (isEmpty()) return true
    for (element in this) if (!predicate(element)) return false
    return true
}
Returns `true` if map has at least one entry.
@sample samples.collections.Collections.Aggregates.any

public fun <K, V> Map<out K, V>.any(): Boolean {
    return !isEmpty()
}
Returns `true` if at least one entry matches the given [predicate].
@sample samples.collections.Collections.Aggregates.anyWithPredicate

public inline fun <K, V> Map<out K, V>.any(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {
    if (isEmpty()) return false
    for (element in this) if (predicate(element)) return true
    return false
}
Returns the number of entries in this map.
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.count(): Int {
    return size
}
Returns the number of entries matching the given [predicate].
public inline fun <K, V> Map<out K, V>.count(predicate: (Map.Entry<K, V>) -> Boolean): Int {
    if (isEmpty()) return 0
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}
Performs the given [action] on each entry.
@kotlin.internal.HidesMembers
public inline fun <K, V> Map<out K, V>.forEach(action: (Map.Entry<K, V>) -> Unit): Unit {
    for (element in this) action(element)
}
Returns the first entry yielding the largest value of the given function.
@throws NoSuchElementException if the map is empty.
@sample samples.collections.Collections.Aggregates.maxBy

@SinceKotlin("1.7")
@kotlin.jvm.JvmName("maxByOrThrow")
@kotlin.internal.InlineOnly
@Suppress("CONFLICTING_OVERLOADS")
public inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V> {
    return entries.maxBy(selector)
}
Returns the first entry yielding the largest value of the given function or `null` if there are no entries.
@sample samples.collections.Collections.Aggregates.maxByOrNull

@SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {
    return entries.maxByOrNull(selector)
}
Returns the largest value among all values produced by [selector] function applied to each entry in the map.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the map is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> Double): Double {
    return entries.maxOf(selector)
}
Returns the largest value among all values produced by [selector] function applied to each entry in the map.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the map is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> Float): Float {
    return entries.maxOf(selector)
}
Returns the largest value among all values produced by [selector] function applied to each entry in the map.
@throws NoSuchElementException if the map is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> R): R {
    return entries.maxOf(selector)
}
Returns the largest value among all values produced by [selector] function applied to each entry in the map or `null` if there are no entries.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {
    return entries.maxOfOrNull(selector)
}
Returns the largest value among all values produced by [selector]

```

function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n    return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n *\n * @since Kotlin("1.4")\n */\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n    return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each entry in the map.\n *\n * @throws NoSuchElementException if the map is empty.\n *\n * @since Kotlin("1.4")\n */\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.maxOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n    return entries.maxOfWith(comparator, selector)\n}\n\n/**\n * Returns the largest value according to the provided [comparator] among all values produced by [selector] function applied to each entry in the map or `null` if there are no entries.\n *\n * @since Kotlin("1.4")\n */\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n    return entries.maxOfWithOrNull(comparator, selector)\n}\n\n/**\n * Returns the first entry having the largest value according to the provided [comparator].\n *\n * @throws NoSuchElementException if the map is empty.\n *\n * @since Kotlin("1.7")\n */\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <K, V> Map<out K, V>.maxWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V> {\n    return entries.maxWith(comparator)\n}\n\n/**\n * Returns the first entry having the largest value according to the provided [comparator] or `null` if there are no entries.\n *\n * @since Kotlin("1.4")\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n    return entries.maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first entry yielding the smallest value of the given function.\n *\n * @throws NoSuchElementException if the map is empty.\n *\n * @sample samples.collections.Collections.Aggregates.minBy\n *\n * @since Kotlin("1.7")\n */\n@kotlin.jvm.JvmName("minByOrThrow")\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V> {\n    return entries.minBy(selector)\n}\n\n/**\n * Returns the first entry yielding the smallest value of the given function or `null` if there are no entries.\n *\n * @sample samples.collections.Collections.Aggregates.minByOrNull\n *\n * @since Kotlin("1.4")\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n    return entries.minByOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException if the map is empty.\n *\n * @since Kotlin("1.4")\n */\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector: (Map.Entry<K, V>) -> Double): Double {\n    return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws NoSuchElementException
```

if the map is empty.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
```

```
inline fun <K, V> Map<out K, V>.minOf(selector: (Map.Entry<K, V>) -> Float): Float {\n    return\n    entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\nV>.minOf(selector: (Map.Entry<K, V>) -> R): R {\n    return entries.minOf(selector)\n}\n\n/**\n * Returns the\n smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if\n there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`,\n the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\nV>.minOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n    return\n    entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]\n function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by\n [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\nV>.minOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n    return\n    entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]\n function\n * applied to each\n entry in the map or `null` if there are no entries.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\nV>.minOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n    return entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,\nV>.minOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n    return\n    entries.minOfWith(comparator, selector)\n}\n\n/**\n * Returns the smallest value according to the provided\n [comparator]\n * \n * among all values produced by [selector] function applied to each entry in the map or `null` if there are no\n entries.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,\nV>.minOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n    return\n    entries.minOfWithOrNull(comparator, selector)\n}\n\n/**\n * Returns the first entry having the smallest value\n according to the provided [comparator].\n * \n * @throws NoSuchElementException if the map is empty.\n
```

```
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <K, V> Map<out K, V>.minWith(comparator:\nComparator<in Map.Entry<K, V>>): Map.Entry<K, V> {\n    return entries.minWith(comparator)\n}\n\n/**\n * Returns the first entry having the smallest value according to\n the provided [comparator] or `null` if there are no entries.\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\nV>.minWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n    return
```

```

entries.minWithOrNull(comparator)\n\n/**\n * Returns `true` if the map has no entries.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n\npublic fun <K, V> Map<out K, V>.none(): Boolean {\n
return isEmpty()\n\n}\n\n/**\n * Returns `true` if no entries match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n\npublic inline fun <K, V> Map<out K,
V>.none(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n
if (isEmpty()) return true\n
for (element in this) if (predicate(element)) return false\n
return true\n\n}\n\n/**\n * Performs the given [action] on each entry and
returns the map itself afterwards.\n * \n\n@SinceKotlin("1.1")\n\npublic inline fun <K, V, M : Map<out
K, V>> M.onEach(action: (Map.Entry<K, V>) -> Unit): M {\n
return apply { for (element in this)
action(element) }\n\n}\n\n/**\n * Performs the given [action] on each entry, providing sequential index with the
entry,\n * and returns the map itself afterwards.\n * @param [action] function that takes the index of an entry and
the entry itself\n * and performs the action on the entry.\n * \n\n@SinceKotlin("1.4")\n\npublic inline fun <K, V, M :
Map<out K, V>> M.onEachIndexed(action: (index: Int, Map.Entry<K, V>) -> Unit): M {\n
return apply {
entries.forEachIndexed(action) }\n\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original map returning
its entries when being iterated.\n * \n\n@kotlin.internal.InlineOnly\n\npublic inline fun <K, V> Map<out K,
V>.asIterable(): Iterable<Map.Entry<K, V>> {\n
return entries\n\n}\n\n/**\n * Creates a [Sequence] instance that
wraps the original map returning its entries when being iterated.\n * \n\npublic fun <K, V> Map<out K,
V>.asSequence():

```

```

Sequence<Map.Entry<K, V>> {\n
return entries.asSequence()\n\n}\n\n", /*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n * \n\npackage kotlin.text\n\n/\n\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateUnicodeData.kt\n\n// See:

```

```

https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\n// 10 mappings totally\n\ninternal fun
Char.titlecaseImpl(): String {\n
val uppercase = uppercase()\n
if (uppercase.length > 1) {\n
return if (this ==
"\u0149") uppercase else uppercase[0] + uppercase.substring(1).lowercase()\n
}\n
return
titlecaseChar().toString()\n\n}\n\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n\npackage kotlin.text\n\n/**\n *

```

```

Converts this character to lower case using Unicode mapping rules of the invariant locale.\n

```

```

*\n\n@Deprecated("Use lowercaseChar() instead.",

```

```

ReplaceWith("lowercaseChar()")\n\n@DeprecatedSinceKotlin(warningSince =

```

```

"1.5")\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun Char.toLowerCase(): Char =

```

```

lowercaseChar()\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the invariant
locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many character
mapping use the [lowercase] function.\n * If this character has no mapping equivalent, the character itself is
returned.\n * \n * @sample samples.text.Chars.lowercase\n

```

```

*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\n@kotlin.internal.InlineOnly\n\npubli
c actual inline fun Char.lowercaseChar(): Char = lowercase()[0]\n\n/**\n * Converts this character to lower case
using Unicode mapping rules of the invariant locale.\n * \n * This function supports one-to-many
character mapping, thus the length of the returned string can be greater than one.\n * For example,
`\u0130'.lowercase()` returns `"\u0069\u0307"`,\n * where `"\u0130` is the LATIN CAPITAL LETTER I WITH
DOT ABOVE character (`\u0130`).\n * If this character has no lower case mapping, the result of `toString()` of this
char is returned.\n * \n * @sample samples.text.Chars.lowercase\n

```

```

*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalStdlibApi::class)\n\n@kotlin.internal.InlineOnly\n\npubli
c actual inline fun Char.lowercase(): String = toString().asDynamic().toLowerCase().unsafeCast<String>()\n\n/**\n *
Converts this character to upper case using Unicode mapping rules of the invariant locale.\n

```

```

*\n\n@Deprecated("Use uppercaseChar() instead.",

```

```

ReplaceWith("uppercaseChar()")\n\n@DeprecatedSinceKotlin(warningSince =

```

```

"1.5")\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun Char.toUpperCase(): Char =

```

```

uppercaseChar()\n\n/**\n * Converts this character to upper case using
Unicode mapping rules of the invariant locale.\n *\n * This function performs one-to-one character mapping.\n * To
support one-to-many character mapping use the [uppercase] function.\n * If this character has no mapping
equivalent, the character itself is returned.\n *\n * @sample samples.text.Chars.uppercase\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Char.uppercaseChar(): Char {\n    val uppercase = uppercase()\n    return if (uppercase.length > 1) this else
uppercase[0]\n}\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the invariant
locale.\n *\n * This function supports one-to-many character mapping, thus the length of the returned string can be
greater than one.\n * For example, `'\uFB00'.uppercase()` returns `'\u0046\u0046'`,\n * where `'\uFB00` is the
LATIN SMALL LIGATURE FF character (`\ufb00`).\n * If this character has no upper case mapping, the result of
`toString()` of this char
is returned.\n *\n * @sample samples.text.Chars.uppercase\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c actual inline fun Char.uppercase(): String = toString().asDynamic().toUpperCase().unsafeCast<String>()\n\n/**\n
 * Converts this character to title case using Unicode mapping rules of the invariant locale.\n *\n * This function
performs one-to-one character mapping.\n * To support one-to-many character mapping use the [titlecase]
function.\n * If this character has no mapping equivalent, the result of calling [uppercaseChar] is returned.\n *\n *
@sample samples.text.Chars.titlecase\n
*/\n@SinceKotlin("1.5")\npublic actual fun Char.titlecaseChar(): Char =
titlecaseCharImpl()\n\n/**\n * Returns `true` if this character is a Unicode high-surrogate code unit (also known as
leading-surrogate code unit).\n */\npublic actual fun Char.isHighSurrogate(): Boolean = this in
Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n/**\n
 * Returns `true` if this character is a Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n
*/\npublic actual fun Char.isLowSurrogate(): Boolean = this in
Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n\n/**\n * Returns the Unicode general
category of this character.\n */\n@SinceKotlin("1.5")\npublic actual val Char.category: CharCategory\n    get() =
CharCategory.valueOf(getCategoryValue())\n\n/**\n * Returns `true` if this character (Unicode code point) is
defined in Unicode.\n *\n * A character is considered to be defined in Unicode if its [category] is not
[CharCategory.UNASSIGNED].\n */\n@SinceKotlin("1.5")\npublic actual fun Char.isDefined(): Boolean {\n    if
(this < "\u0080") {\n        return true\n    }\n    return getCategoryValue() !=
CharCategory.UNASSIGNED.value\n}\n\n/**\n * Returns `true` if this character is a letter.\n *\n * A character is
considered to be a letter if its [category] is [CharCategory.UPPERCASE_LETTER],\n * [CharCategory.LOWERCASE_LETTER],
[CharCategory.TITLECASE_LETTER], [CharCategory.MODIFIER_LETTER], or
[CharCategory.OTHER_LETTER].\n *\n * @sample samples.text.Chars.isLetter\n
*/\n@SinceKotlin("1.5")\npublic actual fun Char.isLetter(): Boolean {\n    if (this in 'a..'z' || this in 'A..'Z') {\n
return true\n    }\n    if (this < "\u0080") {\n        return false\n    }\n    return isLetterImpl()\n}\n\n/**\n
 * Returns `true` if this character is a letter or digit.\n *\n * @see isLetter\n * @see isDigit\n *\n * @sample
samples.text.Chars.isLetterOrDigit\n
*/\n@SinceKotlin("1.5")\npublic actual fun Char.isLetterOrDigit(): Boolean
{\n    if (this in 'a..'z' || this in 'A..'Z' || this in '0'..'9') {\n        return true\n    }\n    if (this < "\u0080") {\n
return false\n    }\n    return isDigitImpl() || isLetterImpl()\n}\n\n/**\n * Returns `true` if this character is a digit.\n *\n *
A character is considered to be a digit if its [category] is [CharCategory.DECIMAL_DIGIT_NUMBER].\n
*/\n * @sample samples.text.Chars.isDigit\n
*/\n@SinceKotlin("1.5")\npublic actual fun Char.isDigit(): Boolean
{\n    if (this in '0'..'9') {\n        return true\n    }\n    if (this < "\u0080") {\n        return false\n    }\n
return isDigitImpl()\n}\n\n/**\n * Returns `true` if this character is upper case.\n *\n * A character is considered to be an
upper case character if its [category] is [CharCategory.UPPERCASE_LETTER],\n * or it has contributory property
`Other_Uppercase` as defined by the Unicode Standard.\n *\n * @sample samples.text.Chars.isUpperCase\n
*/\n@SinceKotlin("1.5")\npublic actual fun Char.isUpperCase(): Boolean {\n    if (this in 'A..'Z') {\n        return
true\n    }\n    if (this < "\u0080") {\n        return false\n    }\n    return isUpperCaseImpl()\n}\n\n/**\n * Returns

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`true` if this character is lower case.\n *\n * A character is considered to be a lower case character if its [category] is
[CharCategory.LOWERCASE_LETTER],\n * or it has contributory
property `Other_Lowercase` as defined by the Unicode Standard.\n *\n * @sample
samples.text.Chars.isLowerCase\n *\n @SinceKotlin("1.5")\n\npublic actual fun Char.isLowerCase(): Boolean {\n
if (this in 'a'..'z') {\n    return true\n } \n if (this < "\u0080") {\n    return false\n } \n return
isLowerCaseImpl()\n}\n\n/**\n * Returns `true` if this character is a title case letter.\n *\n * A character is
considered to be a title case letter if its [category] is [CharCategory.TITLECASE_LETTER].\n *\n * @sample
samples.text.Chars.isTitleCase\n *\n @SinceKotlin("1.5")\n\npublic actual fun Char.isTitleCase(): Boolean {\n if
(this < "\u0080") {\n    return false\n } \n return getCategoryValue() ==
CharCategory.TITLECASE_LETTER.value\n}\n\n/**\n * Returns `true` if this character is an ISO control
character.\n *\n * A character is considered to be an ISO control character if its [category] is
[CharCategory.CONTROL],\n * meaning the Char is in the range
`\u0000'..\u001F` or in the range `\u007F'..\u009F`.\n *\n * @sample samples.text.Chars.isISOControl\n
*\n @SinceKotlin("1.5")\n\npublic actual fun Char.isISOControl(): Boolean {\n    return this <= "\u001F" || this in
"\u007F'..\u009F"\n}\n\n/**\n * Determines whether a character is whitespace according to the Unicode standard.\n
*\n * Returns `true` if the character is whitespace.\n *\n * @sample samples.text.Chars.isWhitespace\n *\n\npublic actual
fun Char.isWhitespace(): Boolean = isWhitespaceImpl()", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n @package kotlin.text\n\nimport kotlin.js.RegExp\n\n/**\n * Converts
the characters in the specified array to a string.\n *\n @SinceKotlin("1.2")\n @Deprecated("Use
CharArray.concatToString() instead",
ReplaceWith("chars.concatToString()"))\n @DeprecatedSinceKotlin(warningSince
= "1.4", errorSince = "1.5")\n\npublic actual fun String(chars: CharArray): String {\n    var result = ""\n    for
(char in chars) {\n        result += char\n    } \n    return result\n}\n\n/**\n * Converts the characters from a portion of
the specified array to a string.\n *\n * @throws IndexOutOfBoundsException if either [offset] or [length] are less
than zero\n * or `offset + length` is out of [chars] array bounds.\n *\n @SinceKotlin("1.2")\n @Deprecated("Use
CharArray.concatToString(startIndex, endIndex) instead", ReplaceWith("chars.concatToString(offset, offset +
length)"))\n @DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5")\n\npublic actual fun String(chars:
CharArray, offset: Int, length: Int): String {\n    if (offset < 0 || length < 0 || chars.size - offset < length)\n        throw
IndexOutOfBoundsException("size: ${chars.size}; offset: $offset; length: $length")\n    var result = ""\n    for
(index in offset until offset + length)\n        {\n            result += chars[index]\n        } \n    return result\n}\n\n/**\n * Concatenates characters in this [CharArray] into
a String.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic actual fun
CharArray.concatToString(): String {\n    var result = ""\n    for (char in this) {\n        result += char\n    } \n
return result\n}\n\n/**\n * Concatenates characters in this [CharArray] or its subrange into a String.\n *\n * @param
startIndex the beginning (inclusive) of the subrange of characters, 0 by default.\n * @param endIndex the end
(exclusive) of the subrange of characters, size of this array by default.\n *\n * @throws
IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.\n
*\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic
actual fun CharArray.concatToString(startIndex: Int = 0, endIndex: Int = this.size): String {\n
AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n    var result = ""\n    for (index in startIndex
until endIndex) {\n        result += this[index]\n    } \n    return result\n}\n\n/**\n * Returns a [CharArray] containing
characters of this string.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic
actual fun String.toCharArray(): CharArray {\n    return CharArray(length) { get(it) } \n}\n\n/**\n * Returns a
[CharArray] containing characters of this string or its substring.\n *\n * @param startIndex the beginning (inclusive)
of the substring, 0 by default.\n * @param endIndex the end (exclusive) of the substring, length of this string by

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default.\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than
the length of this string.\n * @throws IllegalArgumentException if [startIndex] is greater
than [endIndex].\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun String.toCharArray(startIndex: Int = 0, endIndex: Int
= this.length): CharArray {\n    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n    return
CharArray(endIndex - startIndex) { get(startIndex + it) }\n}\n\n/**\n * Decodes a string from the bytes in UTF-8
encoding in this array.\n * \n * Malformed byte sequences are replaced by the replacement char `\\uFFFD`.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
ByteArray.decodeToString(): String {\n    return decodeUtf8(this, 0, size, false)\n}\n\n/**\n * Decodes a string from
the bytes in UTF-8 encoding in this array or its subrange.\n * \n * @param startIndex the beginning (inclusive) of the
subrange to decode, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to decode, size of this
array
by default.\n * @param throwOnInvalidSequence specifies whether to throw an exception on malformed byte
sequence or replace it by the replacement char `\\uFFFD`.\n * \n * @throws IndexOutOfBoundsException if
[startIndex] is less than zero or [endIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [startIndex] is greater than [endIndex].\n * @throws CharacterCodingException if the
byte array contains malformed UTF-8 byte sequence and [throwOnInvalidSequence] is true.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun ByteArray.decodeToString(\n    startIndex: Int = 0,\n    endIndex: Int = this.size,\n    throwOnInvalidSequence: Boolean = false\n): String {\n
    AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n    return decodeUtf8(this, startIndex, endIndex,
throwOnInvalidSequence)\n}\n\n/**\n * Encodes this string to an array of bytes in
UTF-8 encoding.\n * \n * Any malformed char sequence is replaced by the replacement byte sequence.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
String.encodeToByteArray(): ByteArray {\n    return encodeUtf8(this, 0, length, false)\n}\n\n/**\n * Encodes this
string or its substring to an array of bytes in UTF-8 encoding.\n * \n * @param startIndex the beginning (inclusive)
of the substring to encode, 0 by default.\n * @param endIndex the end (exclusive) of the substring to encode, length
of this string by default.\n * @param throwOnInvalidSequence specifies whether to throw an exception on
malformed char sequence or replace.\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero
or [endIndex] is greater than the length of this string.\n * @throws IllegalArgumentException if [startIndex] is
greater than [endIndex].\n * @throws CharacterCodingException if this string contains malformed char sequence
and [throwOnInvalidSequence]
is true.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun String.encodeToByteArray(\n    startIndex: Int = 0,\n    endIndex: Int = this.length,\n    throwOnInvalidSequence: Boolean = false\n): ByteArray {\n
    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n    return encodeUtf8(this, startIndex, endIndex,
throwOnInvalidSequence)\n}\n\n/**\n * Returns a copy of this string converted to upper case using the rules of the
default locale.\n * \n * @Deprecated("Use uppercase() instead.",
ReplaceWith("uppercase()"))\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toUpperCase(): String =
asDynamic().toUpperCase()\n\n/**\n * Returns a copy of this string converted to upper case using Unicode mapping
rules of the invariant locale.\n * \n * This function supports one-to-many and many-to-one character mapping,\n
* thus the length of the returned string can be different from the length of the original string.\n * \n * @sample
samples.text.Strings.uppercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
actual inline fun String.toUpperCase(): String = asDynamic().toUpperCase()\n\n/**\n * Returns a copy of this string

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converted to lower case using the rules of the default locale.\n *\/\n@Deprecated("Use lowercase() instead.\",
ReplaceWith("lowercase()"))\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toLowerCase(): String =
asDynamic().toLowerCase()\n\n/**\n * Returns a copy of this string converted to lower case using Unicode
mapping rules of the invariant locale.\n *\n * This function supports one-to-many and many-to-one character
mapping,\n * thus the length of the returned string can be different from the length of the original string.\n *\n *
@sample samples.text.Strings.lowercase\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c actual inline fun String.lowercase(): String = asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\ninternal
actual inline fun String.nativeIndexOf(str: String, fromIndex: Int): Int = asDynamic().indexOf(str,
fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(str: String,
fromIndex: Int): Int = asDynamic().lastIndexOf(str,
fromIndex)\n\n@kotlin.internal.InlineOnly\n@kotlin.js.JsPolyfill("\"\n\nif (typeof String.prototype.startsWith ===
'undefined') {\n    Object.defineProperty(String.prototype, 'startsWith', {\n        value: function (searchString,
position) {\n            position = position || 0;\n            return this.lastIndexOf(searchString, position) === position;\n
        }\n    });\n}\n\n\"")\n\ninternal inline fun String.nativeStartsWith(s: String, position: Int): Boolean =
asDynamic().startsWith(s,
position)\n\n@kotlin.internal.InlineOnly\n@kotlin.js.JsPolyfill("\"\n\nif (typeof String.prototype.endsWith ===
'undefined') {\n    Object.defineProperty(String.prototype, 'endsWith', {\n        value: function (searchString,
position) {\n            var subjectString = this.toString();\n            if (position === undefined || position >
subjectString.length) {\n                position = subjectString.length;\n            }\n            position -=
searchString.length;\n            var lastIndex = subjectString.indexOf(searchString, position);\n            return lastIndex
!==-1 && lastIndex === position;\n        }\n    });\n}\n\n\"")\n\ninternal inline fun String.nativeEndsWith(s: String):
Boolean = asDynamic().endsWith(s)\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun
String.substring(startIndex: Int): String = asDynamic().substring(startIndex)\n\n@kotlin.internal.InlineOnly\n\npublic
actual inline fun String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex,
endIndex)\n\n@Deprecated("Use String.plus() instead", ReplaceWith("this +
str"))\n\n@DeprecatedSinceKotlin(warningSince = "1.6")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
String.concat(str: String): String = asDynamic().concat(str)\n\n@Deprecated("Use Regex.findAll() instead or
invoke matches() on String dynamically:
this.asDynamic().match(regex)")\n\n@DeprecatedSinceKotlin(warningSince =
"1.6")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun String.match(regex: String): Array<String>? =
asDynamic().match(regex)\n\n\n//native public fun String.trim(): String\n\n//TODO: String.replace to implement
effective trimLeading and trimTrailing\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun
String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern,
replacement)\n\n\n/**\n * Compares two strings lexicographically, optionally ignoring case differences.\n *\n * If
[ignoreCase] is true, the result of `Char.toUpperCaseChar().toLowerCaseChar()`
on each character is compared.\n
*/\n\n@SinceKotlin("1.2")\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic
actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n    if (ignoreCase) {\n        val n1 =
this.length\n        val n2 = other.length\n        val min = minOf(n1, n2)\n        if (min == 0) return n1 - n2\n        for
(index in 0 until min) {\n            var thisChar = this[index]\n            var otherChar = other[index]\n            if
(thisChar != otherChar) {\n                thisChar = thisChar.toUpperCaseChar()\n                otherChar =
otherChar.toUpperCaseChar()\n                if (thisChar != otherChar) {\n                    thisChar =
thisChar.toLowerCaseChar()\n                    otherChar = otherChar.toLowerCaseChar()\n                }\n            }\n
            return thisChar.compareTo(otherChar)\n        }\n    }\n}\n}

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    return n1 - n2\n    } else {\n        return compareTo(other)\n    }\n}\n\n/**\n * Returns `true` if the contents of
this char sequence are equal to the contents of the specified [other],\n * i.e. both char sequences contain the same
number of the same characters in the same order.\n *\n * @sample samples.text.Strings.contentEquals\n
*\n@SinceKotlin("1.5")\npublic actual infix fun CharSequence?.contentEquals(other: CharSequence?): Boolean =
contentEqualsImpl(other)\n\n/**\n * Returns `true` if the contents of this char sequence are equal to the contents of
the specified [other], optionally ignoring case difference.\n *\n * @param ignoreCase `true` to ignore character case
when comparing contents.\n *\n * @sample samples.text.Strings.contentEquals\n *\n@SinceKotlin("1.5")\npublic
actual fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean {\n    return if
(ignoreCase)\n        this.contentEqualsIgnoreCaseImpl(other)\n    else\n
this.contentEqualsImpl(other)\n}\n\nprivate
val STRING_CASE_INSENSITIVE_ORDER = Comparator<String> { a, b -> a.compareTo(b, ignoreCase = true)
}\n\n@SinceKotlin("1.2")\npublic actual val String.Companion.CASE_INSENSITIVE_ORDER:
Comparator<String>\n    get() = STRING_CASE_INSENSITIVE_ORDER\n", /*\n * Copyright 2010-2021
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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CharsKt")\n\npackage kotlin.text\n\n/**\n
* Returns the numeric value of the decimal digit that this Char represents.\n * Throws an exception if this Char is
not a valid decimal digit.\n *\n * A Char is considered to represent a decimal digit if [isDigit] is true for the Char.\n
* In this case, the Unicode decimal digit value of the character is returned.\n *\n * @sample
samples.text.Chars.digitToInt\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
fun Char.digitToInt(): Int {\n    return digitOf(this, 10).also {\n        if (it < 0) throw
IllegalArgumentException("Char $this is not a decimal digit")\n    }\n}\n\n/**\n * Returns the numeric value of the
digit that this Char represents in the specified [radix].\n * Throws an exception if the [radix] is not in the range
`2..36` or if this Char is not a valid digit in the specified [radix].\n *\n * A Char is considered to represent a digit in
the specified [radix] if at least one of the following is true:\n * - [isDigit] is `true` for the Char and the Unicode
decimal digit value of the character is less than the specified [radix]. In this case the decimal digit value is
returned.\n * - The Char is one of the uppercase Latin letters 'A' through 'Z' and its [code] is less than `radix +
'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is returned.\n * - The Char is one of the lowercase Latin
letters 'a' through 'z' and
its [code] is less than `radix + 'a'.code - 10`. In this case, `this.code - 'a'.code + 10` is returned.\n * - The Char is one
of the fullwidth Latin capital letters "\uFF21" through "\uFF3A" and its [code] is less than `radix + 0xFF21 - 10`. In
this case, `this.code - 0xFF21 + 10` is returned.\n * - The Char is one of the fullwidth Latin small letters "\uFF41"
through "\uFF5A" and its [code] is less than `radix + 0xFF41 - 10`. In this case, `this.code - 0xFF41 + 10` is
returned.\n *\n * @sample samples.text.Chars.digitToInt\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Char.digitToInt(radix:
Int): Int {\n    return digitToIntOrNull(radix) ?: throw IllegalArgumentException("Char $this is not a digit in the
given radix=$radix")\n}\n\n/**\n * Returns the numeric value of the decimal digit that this Char represents, or
`null` if this Char is not a valid decimal digit.\n *\n * A Char is considered to represent a decimal digit if [isDigit]
is true for the Char.\n * In this case, the Unicode decimal digit value of the character is returned.\n *\n * @sample
samples.text.Chars.digitToIntOrNull\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(): Int? {\n    return digitOf(this, 10).takeIf { it >= 0 }\n}\n\n/**\n * Returns the numeric
value of the digit that this Char represents in the specified [radix], or `null` if this Char is not a valid digit in the
specified [radix].\n * Throws an exception if the [radix] is not in the range `2..36`.\n *\n * A Char is considered to
represent a digit in the specified [radix] if at least one of the following is true:\n * - [isDigit] is `true` for the Char
and the Unicode decimal digit value of the character is less than the specified [radix]. In this case the decimal digit
value is returned.\n * - The Char is one of the uppercase Latin letters 'A' through 'Z' and its [code] is less than `radix

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+ 'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is returned.

- * - The Char is one of the lowercase Latin letters 'a' through 'z' and its [code] is less than `radix + 'a'.code - 10`. In this case, `this.code - 'a'.code + 10` is returned.
- * - The Char is one of the fullwidth Latin capital letters '\uFF21' through '\uFF3A' and its [code] is less than `radix + 0xFF21 - 10`. In this case, `this.code - 0xFF21 + 10` is returned.
- * - The Char is one of the fullwidth Latin small letters '\uFF41' through '\uFF5A' and its [code] is less than `radix + 0xFF41 - 10`. In this case, `this.code - 0xFF41 + 10` is returned.

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*\n * @sample samples.text.Chars.digitToIntOrNull
*\n *@SinceKotlin("1.5")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun
Char.digitToIntOrNull(radix: Int): Int? {
    \n    checkRadix(radix)\n    return digitOf(this, radix).takeIf { it >= 0
}\n }
*\n * Returns the Char that represents this decimal digit.
*\n * Throws an exception if this value is not in the
range `0..9`.
*\n * If this value is in `0..9`, the decimal digit Char with code `0'.code + this` is returned.
*\n * @sample
samples.text.Chars.digitToChar
*\n *@SinceKotlin("1.5")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun Int.digitToChar(): Char
{
    \n    if (this in 0..9) {
        \n        return '0' + this
    }
    \n    throw IllegalArgumentException("Int $this is not a decimal
digit")
}\n }
*\n * Returns the Char that represents this numeric digit value in the specified [radix].
*\n * Throws
an exception if the [radix] is not in the range `2..36` or if this value is not in the range `0 until radix`.
*\n * If this
value is less than `10`, the decimal digit Char with code `0'.code + this` is returned.
*\n * Otherwise, the uppercase
Latin letter with code `A'.code + this - 10` is returned.
*\n * @sample samples.text.Chars.digitToChar
*\n *@SinceKotlin("1.5")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun Int.digitToChar(radix:
Int): Char {
    \n    if (radix !in 2..36)
    {
        \n        throw IllegalArgumentException("Invalid radix: $radix. Valid radix values are in range 2..36")
    }
    \n    if
(this < 0 || this >= radix) {
        \n        throw IllegalArgumentException("Digit $this does not represent a valid digit in
radix $radix")
    }
    \n    return if (this < 10) {
        \n        '0' + this
    } else {
        \n        'A' + this - 10
    }
}\n }
*\n * Converts this character to lower case using Unicode mapping rules of the invariant locale.
*\n *@Deprecated("Use
lowercaseChar() instead.", ReplaceWith("lowercaseChar()"))
*\n @DeprecatedSinceKotlin(warningSince =
"1.5")\n public expect fun Char.toLowerCase(): Char
*\n * Converts this character to lower case using
Unicode mapping rules of the invariant locale.
*\n * This function performs one-to-one character mapping.
*\n * To
support one-to-many character mapping use the [lowercase] function.
*\n * If this character has no mapping
equivalent, the character itself is returned.
*\n * @sample samples.text.Chars.lowercase
*\n *@SinceKotlin("1.5")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun
Char.lowercaseChar(): Char
*\n * Converts this character to lower case using Unicode mapping rules of the
invariant locale.
*\n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.
*\n * For example, `'\u0130'.lowercase()` returns `'\u0069\u0307'`, where
`'\u0130` is the LATIN CAPITAL LETTER I WITH DOT ABOVE character (`\u0130`).
*\n * If this character has
no lower case mapping, the result of `toString()` of this char is returned.
*\n * @sample
samples.text.Chars.lowercase
*\n *@SinceKotlin("1.5")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun
Char.lowercase(): String
*\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.
*\n *@Deprecated("Use uppercaseChar() instead.",
ReplaceWith("uppercaseChar()"))
*\n @DeprecatedSinceKotlin(warningSince
= "1.5")\n public expect fun Char.toUpperCase(): Char
*\n * Converts this character to upper case using
Unicode mapping rules of the invariant locale.
*\n * This function performs one-to-one character mapping.
*\n * To
support one-to-many character mapping use the [uppercase] function.
*\n * If this character has no mapping
equivalent, the character itself is returned.
*\n * @sample samples.text.Chars.uppercase
*\n *@SinceKotlin("1.5")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun
Char.uppercaseChar(): Char
*\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.
*\n * This function supports one-to-many character mapping, thus the length of the returned

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string can be greater than one.
 * For example, `'\uFB00'.uppercase()` returns `'\u0046\u0046'`, where `'\uFB00'` is the LATIN SMALL LIGATURE FF character (`'\ufb00'`).
 * If this character has no upper case mapping, the result of `toString()` of this char is returned.
 * `@sample samples.text.Chars.uppercase`
`*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Char.uppercase(): String\n/**\n * Converts this character to title case using Unicode mapping rules of the invariant locale.\n * This function performs one-to-one character mapping.\n * To support one-to-many character mapping use the [titlecase] function.\n * If this character has no mapping equivalent, the result of calling [uppercaseChar] is returned.\n * @sample samples.text.Chars.titlecase\n *\n@SinceKotlin("1.5")\npublic expect fun Char.titlecaseChar(): Char\n/**\n * Converts this character to title case using Unicode mapping rules of the invariant locale.\n * This function supports one-to-many character mapping, thus the length of the returned string can be greater than one.\n * For example, '\uFB00'.titlecase() returns '\u0046\u0066', where '\uFB00' is the LATIN SMALL LIGATURE FF character ('\ufb00').
 * If this character has no title case mapping, the result of [uppercase] is returned instead.
 * @sample samples.text.Chars.titlecase
*\n@SinceKotlin("1.5")\npublic fun Char.titlecase(): String = titlecaseImpl()\n/**\n * Concatenates this Char and a String.\n * @sample samples.text.Chars.plus\n *\n@kotlin.internal.InlineOnly\npublic inline operator fun Char.plus(other: String): String = this.toString() + other\n/**\n * Returns `true` if this character is equal to the [other] character, optionally ignoring character case.
 * Two characters are considered equal ignoring case if Char.uppercaseChar().lowercaseChar() on each character produces the same result.
 * @param ignoreCase `true` to ignore character case when comparing characters. By default `false`.
 * @sample samples.text.Chars.equals
*\npublic fun Char.equals(other: Char, ignoreCase: Boolean = false): Boolean {\n if (this == other) return true\n if (!ignoreCase) return false\n\n val thisUpper = this.uppercaseChar()\n val otherUpper = other.uppercaseChar()\n\n return thisUpper == otherUpper || thisUpper.lowercaseChar() == otherUpper.lowercaseChar()}\n/**\n * Returns `true` if this character is a Unicode surrogate code unit.
 * \npublic fun Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE\n/**\n * Returns the Unicode general category of this character.
 * \n@SinceKotlin("1.5")\npublic expect val Char.category: CharCategory\n/**\n * Returns `true` if this character (Unicode code point) is defined in Unicode.
 * A character is considered to be defined in Unicode if its [category] is not [CharCategory.UNASSIGNED].
 * \n@SinceKotlin("1.5")\npublic expect fun Char.isDefined(): Boolean\n/**\n * Returns `true` if this character is a letter.
 * A character is considered to be a letter if its [category] is [CharCategory.UPPERCASE_LETTER], [CharCategory.LOWERCASE_LETTER], [CharCategory.TITLECASE_LETTER], [CharCategory.MODIFIER_LETTER], or [CharCategory.OTHER_LETTER].
 * @sample samples.text.Chars.isLetter
*\n@SinceKotlin("1.5")\npublic expect fun Char.isLetter(): Boolean\n/**\n * Returns `true` if this character is a letter or digit.
 * @see isLetter
 * @see isDigit
 * @sample samples.text.Chars.isLetterOrDigit
*\n@SinceKotlin("1.5")\npublic expect fun Char.isLetterOrDigit(): Boolean\n/**\n * Returns `true` if this character is a digit.
 * A character is considered to be a digit if its [category] is [CharCategory.DECIMAL_DIGIT_NUMBER].
 * @sample samples.text.Chars.isDigit
*\n@SinceKotlin("1.5")\npublic expect fun Char.isDigit(): Boolean\n/**\n * Returns `true` if this character is upper case.
 * A character is considered to be an upper case character if its [category] is [CharCategory.UPPERCASE_LETTER], or it has contributory property Other_Uppercase as defined by the Unicode Standard.
 * @sample samples.text.Chars.isUpperCase
*\n@SinceKotlin("1.5")\npublic expect fun Char.isUpperCase(): Boolean\n/**\n * Returns `true` if this character is lower case.
 * A character is considered to be a lower case character if its [category] is [CharCategory.LOWERCASE_LETTER], or it has contributory property Other_Lowercase as defined by the Unicode Standard.
 * @sample samples.text.Chars.isLowerCase
*\n@SinceKotlin("1.5")\npublic expect fun Char.isLowerCase(): Boolean\n/**\n * Returns `true` if this character is a title case letter.
 * A character is considered to be a title case letter if its [category] is [CharCategory.TITLECASE_LETTER].
 * @sample`

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samples.text.Chars.isTitleCase\n *\n@SinceKotlin("1.5")\npublic expect fun Char.isTitleCase(): Boolean\n\n/**\n * Returns `true` if this character is an ISO control character.\n *\n * A character is considered to be an ISO control character if its [category] is [CharCategory.CONTROL],\n *\n * meaning the Char is in the range ``\u0000..\u001F`` or in the range ``\u007F..\u009F``.\n *\n * @sample
samples.text.Chars.isISOControl\n *\n@SinceKotlin("1.5")\npublic expect fun Char.isISOControl(): Boolean\n\n/**\n * Determines whether a character is whitespace according to the Unicode standard.\n *\n * Returns `true` if the character is whitespace.\n *\n * @sample
samples.text.Chars.isWhitespace\n *\n@SinceKotlin("1.5")\npublic expect fun Char.isWhitespace(): Boolean\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n@package kotlin\n\n/**\n * Creates a Char with the specified [code], or throws an exception if the [code] is out of `Char.MIN_VALUE.code..Char.MAX_VALUE.code`. \n *\n * If the program that calls this function is written in a way that only valid [code] is passed as the argument,\n *\n * using the overload that takes a [UShort] argument is preferable\n *(`Char(intValue.toUShort())`).\n *\n * That overload doesn't check validity of the argument, and may improve program performance when the function is called routinely inside a loop.\n *\n * @sample
samples.text.Chars.charFromCode\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Char(code: Int): Char {\n    if (code < Char.MIN_VALUE.code || code > Char.MAX_VALUE.code) {\n        throw IllegalArgumentException("Invalid Char code: $code")\n    }\n    return code.toChar()\n}\n\n/**\n * Creates a Char with the specified [code].\n *\n * @sample
samples.text.Chars.charFromCode\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun Char(code: UShort): Char\n\n/**\n * Returns the code of this Char.\n *\n * Code of a Char is the value it was constructed with, and the UTF-16 code unit corresponding to this Char.\n *\n * @sample
samples.text.Chars.code\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION")\npublic inline val Char.code: Int get() = this.toInt()\n\n"/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage kotlin.sequences\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns `true` if [element] is found in the sequence.\n *\n * The operation is _terminal_.\n *\n@public operator fun <kotlin.internal.OnlyInputTypes T> Sequence<T>.contains(element: T): Boolean {\n    return indexOf(element) >= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n@public fun <T> Sequence<T>.elementAt(index: Int): T {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("Sequence doesn't contain element at index $index.") }\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@public fun <T> Sequence<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    if (index < 0)\n        return defaultValue(index)\n    val iterator = iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n            return element\n    }\n    return defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@public fun <T> Sequence<T>.elementAtOrNull(index: Int): T? {\n    if (index < 0)\n        return null\n    val iterator =

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iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n            return element\n    }\n    return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.find(predicate: (T) -> Boolean): T? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.findLast(predicate: (T) -> Boolean): T? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the first element.\n * \n * The operation is _terminal_.\n * \n * @throws NoSuchElementException if the sequence is empty.\n */\npublic fun <T> Sequence<T>.first(): T {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n    return iterator.next()\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * \n * @throws [NoSuchElementException] if no such element is found.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.first(predicate: (T) -> Boolean): T {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Sequence contains no element matching the predicate.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this sequence in iteration order,\n * or throws [NoSuchElementException] if no non-null value was produced.\n * \n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Sequence<T>.firstNotNullOf(transform: (T) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the sequence was transformed to a non-null value.")\n}\n\n/**\n * Returns the first non-null value produced by [transform] function being applied to elements of this sequence in iteration order,\n * or `null` if no non-null value was produced.\n * \n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Sequence<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n    for (element in this) {\n        val result = transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n/**\n * Returns the first element, or `null` if the sequence is empty.\n * \n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.firstOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        return null\n    return iterator.next()\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n    for (element in this) if (predicate(element)) return element\n    return null\n}\n\n/**\n * Returns first index of [element], or -1 if the sequence does not contain element.\n * \n * The operation is _terminal_.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.indexOf(element: T): Int {\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element == item)\n            return index\n        index++\n    }\n    return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the sequence does not contain such element.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (predicate(item))\n            return index\n        index++\n    }\n    return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the sequence does not contain such element.\n * \n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n    var lastIndex = -1\n    var index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (predicate(item))\n            lastIndex = index\n        index++\n    }\n    return lastIndex\n}\n\n/**\n * Returns the last element.\n * \n * The operation is _terminal_.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * @sample

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samples.collections.Collections.Elements.last\n */\npublic fun <T> Sequence<T>.last(): T {\n    val iterator =
iterator()\n    if (!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n    var last =
iterator.next()\n    while (iterator.hasNext())\n        last = iterator.next()\n    return last\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n *\n * The operation is _terminal_.\n *\n * @throws
NoSuchElementException if no such element is found.\n *\n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Sequence<T>.last(predicate: (T) ->
Boolean): T {\n    var last: T? = null\n    var found = false\n
    for (element in this) {\n        if (predicate(element)) {\n            last = element\n            found = true\n        }\n    }\n
    if (!found) throw NoSuchElementException("Sequence contains no element matching the predicate.")\n
    @Suppress("UNCHECKED_CAST")\n    return last as T\n}\n\n/**\n * Returns last index of [element], or -1 if the
sequence does not contain element.\n *\n * The operation is _terminal_.\n */\npublic fun
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int {\n    var lastIndex = -1\n    var
index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element == item)\n            lastIndex =
index\n            index++\n    }\n    return lastIndex\n}\n\n/**\n * Returns the last element, or `null` if the sequence is
empty.\n *\n * The operation is _terminal_.\n *\n * @sample samples.collections.Collections.Elements.last\n */\npublic fun <T> Sequence<T>.lastOrNull(): T? {\n    val iterator = iterator()\n
    if (!iterator.hasNext())\n        return null\n    var last = iterator.next()\n    while (iterator.hasNext())\n        last =
iterator.next()\n    return last\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Sequence<T>.lastOrNull(predicate: (T) ->
Boolean): T? {\n    var last: T? = null\n    for (element in this) {\n        if (predicate(element)) {\n            last =
element\n        }\n    }\n    return last\n}\n\n/**\n * Returns the single element, or throws an exception if the
sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\npublic fun <T>
Sequence<T>.single(): T {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        throw
NoSuchElementException("Sequence is empty.")\n    val single = iterator.next()\n    if (iterator.hasNext())\n        throw
IllegalArgumentException("Sequence has more than one element.")\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.single(predicate:
(T) -> Boolean): T {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if
(predicate(element)) {\n            if (found) throw IllegalArgumentException("Sequence contains more than one
matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw
NoSuchElementException("Sequence contains no element matching the predicate.")\n
    @Suppress("UNCHECKED_CAST")\n    return single as T\n}\n\n/**\n * Returns single element, or `null` if the
sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\npublic fun <T>
Sequence<T>.singleOrNull():
T? {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        return null\n    val single = iterator.next()\n    if
(iterator.hasNext())\n        return null\n    return single\n}\n\n/**\n * Returns the single element matching the given
[predicate], or `null` if element was not found or more than one element was found.\n *\n * The operation is
_intermediate_.\n */\npublic inline fun <T> Sequence<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single:
T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return
null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return
single\n}\n\n/**\n * Returns a sequence containing all elements except first [n] elements.\n *\n * The operation is
_intermediate_ and _stateless_.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.drop(n: Int): Sequence<T> {\n    require(n >= 0) { "Requested element count $n
is less than zero." }\n    return when {\n        n == 0 -> this\n        this is DropTakeSequence -> this.drop(n)\n
    else -> DropSequence(this, n)\n    }\n}\n\n/**\n * Returns a sequence containing all elements except first elements
that satisfy the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample

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samples.collections.Collections.Transformations.drop\n *^\\npublic fun <T> Sequence<T>.dropWhile(predicate: (T
-> Boolean): Sequence<T> {\\n    return DropWhileSequence(this, predicate)\\n}\\n\\n/**\\n * Returns a sequence
containing only elements matching the given [predicate].\\n *\\n * The operation is _intermediate_ and _stateless_.\\n
*\\n * @sample samples.collections.Collections.Filtering.filter\\n *^\\npublic fun <T> Sequence<T>.filter(predicate:
(T -> Boolean): Sequence<T> {\\n    return FilteringSequence(this, true, predicate)\\n}\\n\\n/**\\n
* Returns a sequence containing only elements matching the given [predicate].\\n * @param [predicate] function
that takes the index of an element and the element itself\\n * and returns the result of predicate evaluation on the
element.\\n *\\n * The operation is _intermediate_ and _stateless_.\\n *\\n * @sample
samples.collections.Collections.Filtering.filterIndexed\\n *^\\npublic fun <T> Sequence<T>.filterIndexed(predicate:
(index: Int, T) -> Boolean): Sequence<T> {\\n    // TODO: Rewrite with generalized MapFilterIndexingSequence\\n
return TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) })), {
it.value })\\n}\\n\\n/**\\n * Appends all elements matching the given [predicate] to the given [destination].\\n * @param
[predicate] function that takes the index of an element and the element itself\\n * and returns the result of predicate
evaluation on the element.\\n *\\n * The operation is _terminal_.\\n *\\n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\\n
*^\\npublic inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterIndexedTo(destination: C, predicate:
(index: Int, T) -> Boolean): C {\\n    forEachIndexed { index, element ->\\n        if (predicate(index, element))
destination.add(element)\\n    }\\n    return destination\\n}\\n\\n/**\\n * Returns a sequence containing all elements that
are instances of specified type parameter R.\\n *\\n * The operation is _intermediate_ and _stateless_.\\n *\\n *
@sample samples.collections.Collections.Filtering.filterIsInstance\\n *^\\npublic inline fun <reified R>
Sequence<*>.filterIsInstance(): Sequence<@kotlin.internal.NoInfer R> {\\n
@Suppress("\\UNCHECKED_CAST")\\n    return filter { it is R } as Sequence<R>\\n}\\n\\n/**\\n * Appends all
elements that are instances of specified type parameter R to the given [destination].\\n *\\n * The operation is
_terminal_.\\n *\\n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\\n *^\\npublic inline
fun <reified R, C : MutableCollection<in R>> Sequence<*>.filterIsInstanceTo(destination: C): C {\\n    for (element
in this) if (element is R) destination.add(element)\\n    return destination\\n}\\n\\n/**\\n * Returns a sequence containing
all elements not matching the given [predicate].\\n *\\n * The operation is _intermediate_ and _stateless_.\\n *\\n *
@sample samples.collections.Collections.Filtering.filter\\n *^\\npublic fun <T> Sequence<T>.filterNot(predicate: (T)
-> Boolean): Sequence<T> {\\n    return FilteringSequence(this, false, predicate)\\n}\\n\\n/**\\n * Returns a sequence
containing all elements that are not `null`.\\n *\\n * The operation is _intermediate_ and _stateless_.\\n *\\n * @sample
samples.collections.Collections.Filtering.filterNotNull\\n *^\\npublic fun <T : Any> Sequence<T?>.filterNotNull():
Sequence<T> {\\n    @Suppress("\\UNCHECKED_CAST")\\n    return filterNot { it == null } as
Sequence<T>\\n}\\n\\n/**\\n * Appends all elements that are not `null` to the given [destination].\\n *\\n *
* The operation is _terminal_.\\n *\\n * @sample samples.collections.Collections.Filtering.filterNotNullTo\\n
*^\\npublic fun <C : MutableCollection<in T>, T : Any> Sequence<T?>.filterNotNullTo(destination: C): C {\\n    for
(element in this) if (element != null) destination.add(element)\\n    return destination\\n}\\n\\n/**\\n * Appends all
elements not matching the given [predicate] to the given [destination].\\n *\\n * The operation is _terminal_.\\n *\\n *
@sample samples.collections.Collections.Filtering.filterTo\\n *^\\npublic inline fun <T, C : MutableCollection<in
T>> Sequence<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\\n    for (element in this) if
(!predicate(element)) destination.add(element)\\n    return destination\\n}\\n\\n/**\\n * Appends all elements matching
the given [predicate] to the given [destination].\\n *\\n * The operation is _terminal_.\\n *\\n * @sample
samples.collections.Collections.Filtering.filterTo\\n *^\\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\\n    for (element in this) if
(predicate(element)) destination.add(element)\\n    return destination\\n}\\n\\n/**\\n * Returns a sequence containing
first [n] elements.\\n *\\n * The operation is _intermediate_ and _stateless_.\\n *\\n * @throws
IllegalArgumentException if [n] is negative.\\n *\\n * @sample
samples.collections.Collections.Transformations.take\\n *^\\npublic fun <T> Sequence<T>.take(n: Int): Sequence<T>
{\\n    require(n >= 0) { "Requested element count $n is less than zero." }\\n    return when {\\n        n == 0 ->

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emptySequence()\n      this is DropTakeSequence -> this.take(n)\n      else -> TakeSequence(this, n)\n}\n}\n\n/**\n * Returns a sequence containing first elements satisfying the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample samples.collections.Collections.Transformations.take\n *\n */\npublic fun <T> Sequence<T>.takeWhile(predicate: (T) -> Boolean): Sequence<T>\n{\n    return TakeWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence that yields elements of this\n * sequence sorted according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements\n * preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\n */\npublic fun <T : Comparable<T>> Sequence<T>.sorted(): Sequence<T> {\n    return object : Sequence<T> {\n        override fun iterator(): Iterator<T> {\n            val sortedList = this@sorted.toMutableList()\n            sortedList.sort()\n            return sortedList.iterator()\n        }\n    }\n}\n\n/**\n * Returns a sequence that yields\n * elements of this sequence sorted according to natural sort order of the value returned by specified [selector]\n * function.\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after\n * sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\n * @sample samples.collections.Collections.Sorting.sortedBy\n *\n */\npublic inline fun <T, R : Comparable<R>>\nSequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n    return\n    sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted\n * descending according to natural sort order of the value returned by specified [selector] function.\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after\n * sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\n */\npublic inline fun <T, R : Comparable<R>>\nSequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n    return\n    sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence\n * sorted descending according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements\n * preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\n */\npublic fun <T : Comparable<T>>\nSequence<T>.sortedDescending(): Sequence<T> {\n    return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a\n * sequence that yields elements of this sequence sorted according to the specified [comparator].\n *\n * The sort is\n * _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation\n * is _intermediate_ and _stateful_.\n *\n */\npublic fun <T> Sequence<T>.sortedWith(comparator: Comparator<in T>):\nSequence<T> {\n    return object : Sequence<T> {\n        override fun iterator(): Iterator<T> {\n            val\n            sortedList = this@sortedWith.toMutableList()\n            sortedList.sortWith(comparator)\n            return\n            sortedList.iterator()\n        }\n    }\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform]\n * function\n * applied to elements of the given sequence.\n *\n * If any of two pairs would have the same\n * key the last one gets added to the map.\n *\n * The returned map preserves the entry iteration order of the original\n * sequence.\n *\n * The operation is _terminal_.\n *\n * @sample\n * samples.collections.Collections.Transformations.associate\n *\n */\npublic inline fun <T, K, V>\nSequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n    return associateTo(LinkedHashMap<K,\n    V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given sequence indexed by the\n * key\n * returned from [keySelector] function applied to each element.\n *\n * If any two elements would have the\n * same key returned by [keySelector] the last one gets added to the map.\n *\n * The returned map preserves the entry\n * iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample\n * samples.collections.Collections.Transformations.associateBy\n *\n */\npublic inline fun <T, K>\nSequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n    return associateByTo(LinkedHashMap<K,\n    T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed\n * by [keySelector] functions applied to elements of the given sequence.\n *\n * If any two elements would have the\n * same key returned by [keySelector] the last one gets added to the map.\n *\n * The returned map preserves the entry\n * iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample\n * samples.collections.Collections.Transformations.associateByWithValueTransform\n *\n */\npublic inline fun <T, K, V>\nSequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n    return

```



```

associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n\n\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to
each element of the given sequence\n * and value is the element itself.\n * \n * If any two elements would have the
same
key returned by [keySelector] the last one gets added to the map.\n *\n * The operation is _terminal_.\n *\n *
@sample samples.collections.Collections.Transformations.associateByTo\n */\n\n\n public inline fun <T, K, M :
MutableMap<in K, in T>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n   for
(element in this) {\n     destination.put(keySelector(element), element)\n   }\n   return destination\n }\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the
given sequence.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n */\n\n\n public inline fun <T, K,
V, M : MutableMap<in K, in V>> Sequence<T>.associateByTo(destination:
M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n   for (element in this) {\n     destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n }\n\n\n * Populates
and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associateTo\n */\n\n\n public inline fun <T, K, V, M : MutableMap<in
K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n   for (element in this)
{\n     destination += transform(element)\n   }\n   return destination\n }\n\n\n * Returns a [Map] where keys are
elements from the given sequence and values are\n * produced by the [valueSelector] function applied to each
element.\n * \n *
* If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associateWith\n */\n\n\n @SinceKotlin(1.3)\n\n\n public inline fun <K,
V> Sequence<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n   val result = LinkedHashMap<K,
V>()\n   return associateWithTo(result, valueSelector)\n }\n\n\n * Populates and returns the [destination] mutable
map with key-value pairs for each element of the given sequence,\n * where key is the element itself and value is
provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one
overwrites the former value in the map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.associateWithTo\n */\n\n\n @SinceKotlin(1.3)\n\n\n public inline fun
<K, V, M : MutableMap<in
K, in V>> Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n   for (element in this)
{\n     destination.put(element, valueSelector(element))\n   }\n   return destination\n }\n\n\n * Appends all
elements to the given [destination] collection.\n * \n * The operation is _terminal_.\n */\n\n\n\n public fun <T, C :
MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {\n   for (item in this) {\n     destination.add(item)\n   }\n   return destination\n }\n\n\n * Returns a new [HashSet] of all elements.\n * \n * The
operation is _terminal_.\n */\n\n\n\n public fun <T> Sequence<T>.toHashSet(): HashSet<T> {\n   return
toCollection(HashSet<T>())\n }\n\n\n * Returns a [List] containing all elements.\n * \n * The operation is
_terminal_.\n */\n\n\n\n public fun <T> Sequence<T>.toList(): List<T> {\n   return
this.toMutableList().optimizeReadOnlyList()\n }\n\n\n * Returns a new [MutableList] filled with all elements of
this sequence.\n * \n * The operation
is _terminal_.\n */\n\n\n\n public fun <T> Sequence<T>.toMutableList(): MutableList<T> {\n   return
toCollection(ArrayList<T>())\n }\n\n\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the
element iteration order of the original sequence.\n * \n * The operation is _terminal_.\n */\n\n\n\n public fun <T>
Sequence<T>.toSet(): Set<T> {\n   return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n }\n\n\n *

```

Returns a single sequence of all elements from results of [transform] function being invoked on each element of original sequence.

```

samples.collections.Collections.Transformations.flatMap
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.jvm.JvmName("flatMapIterable")npublic fun <T, R>
Sequence<T>.flatMap(transform: (T) -> Iterable<R>): Sequence<R> {n    return FlatteningSequence(this,
transform, Iterable<R>::iterator)n}n/n/**n
* Returns a single sequence of all elements from results of [transform] function being invoked on each element of
original sequence.n * The operation is _intermediate_ and _stateless_.n * @sample
samples.collections.Collections.Transformations.flatMapn */npublic fun <T, R> Sequence<T>.flatMap(transform:
(T) -> Sequence<R>): Sequence<R> {n    return FlatteningSequence(this, transform,
Sequence<R>::iterator)n}n/n/**n * Returns a single sequence of all elements yielded from results of [transform]
function being invoked on each elementn * and its index in the original sequence.n * The operation is
_intermediate_ and _stateless_.n * @sample
samples.collections.Collections.Transformations.flatMapIndexedn
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.jvm.JvmName("flatMapIndexedIterable")npublic fun <T, R>
Sequence<T>.flatMapIndexed(transform:
(index: Int, T) -> Iterable<R>): Sequence<R> {n    return flatMapIndexed(this, transform,
Iterable<R>::iterator)n}n/n/**n * Returns a single sequence of all elements yielded from results of [transform]
function being invoked on each elementn * and its index in the original sequence.n * The operation is
_intermediate_ and _stateless_.n * @sample
samples.collections.Collections.Transformations.flatMapIndexedn
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.jvm.JvmName("flatMapIndexedSequence")npublic fun <T, R>
Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): Sequence<R> {n    return
flatMapIndexed(this, transform, Sequence<R>::iterator)n}n/n/**n * Appends all elements yielded from results of
[transform] function being invoked on each elementn * and its index in the original sequence, to the given
[destination].n * The operation is _terminal_.n
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.jvm.JvmName("flatMapIndexedIterableTo")n@kotlin.internal.InlineOnlynpublic
inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform: (index:
Int, T) -> Iterable<R>): C {n    var index = 0n    for (element in this) {n        val list =
transform(checkIndexOverflow(index++), element)n        destination.addAll(list)n    }n    return
destinationn}n/n/**n * Appends all elements yielded from results of [transform] function being invoked on each
elementn * and its index in the original sequence, to the given [destination].n * The operation is _terminal_.n
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")n@kotlin.internal.InlineOnlynpublic
inline fun <T, R, C : MutableCollection<in
R>> Sequence<T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Sequence<R>): C {n    var
index = 0n    for (element in this) {n        val list = transform(checkIndexOverflow(index++), element)n
destination.addAll(list)n    }n    return destinationn}n/n/**n * Appends all elements yielded from results of
[transform] function being invoked on each element of original sequence, to the given [destination].n * The
operation is _terminal_.n
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.jvm.JvmName("flatMapIterableTo")npublic inline fun <T, R, C :
MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {n    for

```

```

(element in this) {
    val list = transform(element)
    destination.addAll(list)
}
return destination
}

/**
 * Appends all elements yielded from results of [transform] function
 * being invoked on each element of original sequence, to the given [destination].
 * The operation is _terminal_.
 */
public inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C,
transform: (T) -> Sequence<R>): C {
    for (element in this) {
        val list = transform(element)
        destination.addAll(list)
    }
    return destination
}

/**
 * Groups elements of the original sequence by the
 * key returned by the given [keySelector] function
 * applied to each element and returns a map where each group
 * key is associated with a list of corresponding elements.
 * The returned map preserves the entry iteration order
 * of the keys produced from the original sequence.
 * The operation is _terminal_.
 */
@sample
samples.collections.Collections.Transformations.groupBy
public inline fun <T, K>
Sequence<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {
    return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)
}

/**
 * Groups values returned by the [valueTransform] function applied to each element of the original sequence
 * by the key returned by the given [keySelector] function applied to the element
 * and returns a map where each group
 * key is associated with a list of corresponding values.
 * The returned map preserves the entry iteration order of
 * the keys produced from the original sequence.
 * The operation is _terminal_.
 */
@sample
samples.collections.Collections.Transformations.groupByKeysAndValues
public inline fun <T, K, V>
Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {
    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)
}

/**
 * Groups elements
 * of the original sequence by the key returned by the given [keySelector] function
 * applied to each element and
 * puts to the [destination] map each group key associated with a list of corresponding elements.
 * The operation is _terminal_.
 */
@sample
samples.collections.Collections.Transformations.groupBy
public inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<T>() }
        list.add(element)
    }
    return destination
}

/**
 * Groups values returned by the [valueTransform] function
 * applied to each element of the original sequence
 * by the key returned by the given [keySelector] function applied
 * to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 * The operation is _terminal_.
 */
@sample
samples.collections.Collections.Transformations.groupByKeysAndValues
public inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Sequence<T>.groupByTo(destination:
M, keySelector: (T) -> K, valueTransform: (T) -> V): M {
    for (element in this) {
        val key =
keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<V>() }
        list.add(valueTransform(element))
    }
    return destination
}

/**
 * Creates a [Grouping] source from a
 * sequence to be used later with one of group-and-fold operations
 * using the specified [keySelector] function to
 * extract a key from each element.
 * The operation is _intermediate_ and _stateless_.
 */
@sample
samples.collections.Grouping.groupingByEachCount
@SinceKotlin("1.1")
public inline fun <T, K>
Sequence<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {
    return object : Grouping<T,
K> {
        override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()
        override fun
keyOf(element: T): K = keySelector(element)
    }
}

/**
 * Returns a sequence containing the results of
 * applying
 * the given [transform] function
 * to each element in the original sequence.
 * The operation is _intermediate_
 * and _stateless_.
 */
@sample
samples.collections.Collections.Transformations.map
public fun <T, R>
Sequence<T>.map(transform: (T) -> R): Sequence<R> {
    return TransformingSequence(this,
transform)
}

/**
 * Returns a sequence containing the results of applying the given [transform] function
 * to
 * each element and its index in the original sequence.
 * @param [transform] function that takes the index of an
 * element and the element itself
 * and returns the result of the transform applied to the element.
 * The
 * operation is _intermediate_ and _stateless_.
 */
public fun <T, R> Sequence<T>.mapIndexed(transform: (index:

```

Int, T) -> R): Sequence<R> {\n return TransformingIndexedSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each element and its index

in the original sequence.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is `_intermediate_` and `_stateless_`.\n */\npublic fun <T, R : Any> Sequence<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): Sequence<R> {\n return TransformingIndexedSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original sequence\n * and appends only the non-null results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is `_terminal_`.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original sequence\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is `_terminal_`.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(checkIndexOverflow(index++), item))\n return destination\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each element in the original sequence.\n *\n * The operation is `_intermediate_` and `_stateless_`.\n */\n * @sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic fun <T, R : Any> Sequence<T>.mapNotNull(transform: (T) -> R?): Sequence<R> {\n return TransformingSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element in the original sequence\n * and appends only the non-null results to the given [destination].\n *\n * The operation is `_terminal_`.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original sequence\n * and appends the results to the given [destination].\n *\n * The operation is `_terminal_`.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapTo(destination: C, transform: (T) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a sequence that wraps each element of the original sequence\n * into an [IndexedValue] containing the index of that element and the element itself.\n *\n * The operation is `_intermediate_` and `_stateless_`.\n */\npublic fun <T> Sequence<T>.withIndex(): Sequence<IndexedValue<T>> {\n return IndexingSequence(this)\n}\n\n/**\n * Returns a sequence containing only distinct elements from the given sequence.\n *\n * Among equal elements of the given sequence, only the first one will be present in the resulting sequence.\n * The elements in the resulting sequence are in the same order as they were in the source sequence.\n *\n * The operation is `_intermediate_` and `_stateful_`.\n */\n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Sequence<T>.distinct(): Sequence<T> {\n return this.distinctBy { it }\n}\n\n/**\n * Returns a sequence containing only elements from the given sequence\n * having distinct keys returned by the given [selector] function.\n *\n * Among elements of the given sequence with equal keys, only the first one will be present in the resulting sequence.\n * The elements in the resulting sequence are in the same order as they were in the source sequence.\n *\n * The operation is `_intermediate_` and `_stateful_`.\n */\n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T, K> Sequence<T>.distinctBy(selector: (T) -> K): Sequence<T> {\n return DistinctSequence(this, selector)\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given sequence.\n *\n * The returned set preserves the element iteration order of the original sequence.\n *\n * The operation is `_terminal_`.\n */\npublic fun

```

<T> Sequence<T>.toMutableSet(): MutableSet<T> {\n    val set = LinkedHashSet<T>()\n    for (item in this)\n    set.add(item)\n    return set}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n *\n * The operation is _terminal_.\n *\n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T>\nSequence<T>.all(predicate: (T) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return\n    false\n    return true}\n\n/**\n * Returns `true` if sequence has at least one element.\n *\n * The operation is\n _terminal_.\n *\n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <T>\nSequence<T>.any(): Boolean {\n    return iterator().hasNext()}\n\n/**\n * Returns `true` if at least one element\n matches the given [predicate].\n *\n * The operation is _terminal_.\n *\n * @sample\n samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T>\nSequence<T>.any(predicate: (T) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return\n    true\n    return false}\n\n/**\n * Returns the number of elements in this sequence.\n *\n * The operation is\n _terminal_.\n */\npublic fun <T> Sequence<T>.count(): Int {\n    var count = 0\n    for (element in this) checkCountOverflow(++count)\n    return count}\n\n/**\n * Returns the\n number of elements matching the given [predicate].\n *\n * The operation is _terminal_.\n */\npublic inline fun <T>\nSequence<T>.count(predicate: (T) -> Boolean): Int {\n    var count = 0\n    for (element in this) if\n    (predicate(element)) checkCountOverflow(++count)\n    return count}\n\n/**\n * Accumulates value starting with\n [initial] value and applying [operation] from left to right\n *\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the sequence is empty.\n *\n * @param [operation] function that takes current\n accumulator value and an element, and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R> Sequence<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n    var accumulator =\n    initial\n    for (element in this) accumulator = operation(accumulator, element)\n\n    return accumulator}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from\n left to right\n *\n * to current accumulator value and each element with its index in the original sequence.\n *\n * Returns the specified [initial] value if the sequence is empty.\n *\n * @param [operation] function that takes the\n index of an element, current accumulator value\n *\n * and the element itself, and calculates the next accumulator\n value.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R> Sequence<T>.foldIndexed(initial: R,\n    operation: (index: Int, acc: R, T) -> R): R {\n    var index = 0\n    var accumulator = initial\n    for (element in this)\n    accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n    return accumulator}\n\n/**\n * Performs the given [action] on each element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T>\nSequence<T>.forEach(action: (T) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n *\n * @param [action]\n function that takes the index of an element and the element itself\n *\n * and performs the action on the element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.forEachIndexed(action: (index: Int, T) ->\n    Unit): Unit {\n    var index = 0\n    for (item in this) action(checkIndexOverflow(index++), item)\n}\n\n/**\n * Returns the largest element.\n *\n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is\n _terminal_.\n *\n * @throws NoSuchElementException if the sequence is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun Sequence<Double>.max(): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw\n    NoSuchElementException()\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =\n        iterator.next()\n\n        max = maxOf(max, e)\n    }\n    return max}\n\n/**\n * Returns the largest element.\n *\n * If any of elements is\n `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n *\n * @throws NoSuchElementException if the\n sequence is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun Sequence<Float>.max(): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw\n    NoSuchElementException()\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =\n        iterator.next()\n\n        max = maxOf(max, e)\n    }\n    return max}\n\n/**\n * Returns the largest element.\n *\n *

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The operation is _terminal_.\n * \n * @throws NoSuchElementException if the sequence is empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOA
DS")\npublic fun <T : Comparable<T>> Sequence<T>.max(): T {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw
NoSuchElementException()\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element yielding the
largest value of the given function.\n * \n * The operation is _terminal_.\n * \n * @throws NoSuchElementException
if the sequence is empty.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxBy(selector: (T) -> R): T {\n    val iterator
= iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var maxElem = iterator.next()\n    if
(!iterator.hasNext()) return maxElem\n    var maxValue = selector(maxElem)\n    do {\n        val e = iterator.next()\n
        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n
    } while (iterator.hasNext())\n    return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value
of the given function or `null` if there are no elements.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Sequence<T>.maxByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var maxElem = iterator.next()\n    if (!iterator.hasNext()) return maxElem\n    var
maxValue = selector(maxElem)\n    do {\n        val e = iterator.next()\n        val v = selector(e)\n        if (maxValue <
v) {\n            maxElem = e\n            maxValue = v\n        }\n    } while (iterator.hasNext())\n    return
maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the sequence.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n * \n *
@throws NoSuchElementException if the sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * The operation is
_terminal_.\n * \n * @throws NoSuchElementException if the sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.maxOf(selector: (T) -> R): R {\n
    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var maxValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (maxValue <
v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no
elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * The
operation is _terminal_.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOrNull(selector:
(T) -> Double): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var maxV
alue = selector(iterator.next())\n    while (iterator.hasNext())\n    {\n        val v = selector(iterator.next())\n        maxV
alue = maxOf(maxV
alue, v)\n    }\n    return maxV
alue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOrNull(selector:
(T) -> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var maxV
alue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        maxV
alue = maxOf(maxV
alue, v)\n    }\n    return maxV
alue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.maxOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var maxV
alue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =
selector(iterator.next())\n        if (maxV
alue < v) {\n            maxV
alue = v\n        }\n    }\n    return maxV
alue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the sequence.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Sequence<T>.maxWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val
iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var maxV
alue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if
(comparator.compare(maxV
alue, v) < 0) {\n            maxV
alue = v\n        }\n    }\n    return maxV
alue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the sequence or `null` if there are no elements.\n * \n * The operation is
_terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Sequence<T>.maxOrNull(comparator:
Comparator<in R>, selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n
var maxV
alue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if
(comparator.compare(maxV
alue, v) < 0) {\n            maxV
alue = v\n        }\n    }\n    return maxV
alue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *
*\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\npublic fun Sequence<Double>.maxOrNull():
Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *
*\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\npublic
fun Sequence<Float>.maxOrNull(): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n
var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        max = maxOf(max, e)\n
}\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * The operation
is _terminal_.\n
*\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Sequence<T>.maxOrNull(): T? {\n

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val iterator = iterator()\n if (!iterator.hasNext()) return null\n var max = iterator.next()\n while
(iterator.hasNext()) {\n val e = iterator.next()\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator].\n *\n * The operation is _terminal_.\n *\n * @throws NoSuchElementException if the sequence is empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic
fun <T> Sequence<T>.maxWith(comparator: Comparator<in T>): T {\n val iterator = iterator()\n if
(!iterator.hasNext()) throw NoSuchElementException()\n var max = iterator.next()\n while (iterator.hasNext())
{\n val e = iterator.next()\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no
elements.\n *\n * The operation is _terminal_.\n */\n\n@SinceKotlin("1.4")\npublic fun <T>
Sequence<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n val iterator = iterator()\n if
(!iterator.hasNext()) return null\n var max = iterator.next()\n while (iterator.hasNext()) {\n val e =
iterator.next()\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the smallest element.\n *\n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n *\n * @throws NoSuchElementException if the sequence is empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun Sequence<Double>.min(): Double {\n val iterator = iterator()\n if (!iterator.hasNext()) throw
NoSuchElementException()\n var min = iterator.next()\n while (iterator.hasNext()) {\n val e =
iterator.next()\n min = minOf(min, e)\n }\n return min\n}\n\n/**\n * Returns the smallest element.\n *\n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n *\n * @throws
NoSuchElementException if the sequence is empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun Sequence<Float>.min(): Float {\n val iterator = iterator()\n if (!iterator.hasNext()) throw
NoSuchElementException()\n var min = iterator.next()\n while (iterator.hasNext()) {\n
val e = iterator.next()\n min = minOf(min, e)\n }\n return min\n}\n\n/**\n * Returns the smallest
element.\n *\n * The operation is _terminal_.\n *\n * @throws NoSuchElementException if the sequence is
empty.\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun <T : Comparable<T>> Sequence<T>.min(): T {\n val iterator = iterator()\n if
(!iterator.hasNext()) throw NoSuchElementException()\n var min = iterator.next()\n while (iterator.hasNext())
{\n val e = iterator.next()\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the first element
yielding the smallest value of the given function.\n *\n * The operation is _terminal_.\n *\n * @throws
NoSuchElementException if the sequence is empty.\n *\n * @sample
samples.collections.Collections.Aggregates.minBy\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic
inline fun <T, R : Comparable<R>> Sequence<T>.minBy(selector: (T) -> R): T {\n val iterator = iterator()\n if
(!iterator.hasNext()) throw NoSuchElementException()\n var minElem = iterator.next()\n if (!iterator.hasNext())
return minElem\n var minValue = selector(minElem)\n do {\n val e = iterator.next()\n val v =
selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n } while
(iterator.hasNext())\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Sequence<T>.minByOrNull(selector: (T) -> R): T? {\n val iterator = iterator()\n if
(!iterator.hasNext()) return null\n var minElem = iterator.next()\n if (!iterator.hasNext())
return minElem\n var minValue = selector(minElem)\n do {\n val e = iterator.next()\n val v =
selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n } while

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(iterator.hasNext())\n    return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by
[selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n *\n * The operation is _terminal_.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext())\n    {\n        val v = selector(iterator.next())\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result
is `NaN`.\n *\n * The operation is _terminal_.\n * \n * @throws NoSuchElementException if the sequence is
empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the sequence.\n *\n * The operation is _terminal_.\n * \n * @throws NoSuchElementException if the sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`,
the returned result is `NaN`.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOfOrNull(selector:
(T) -> Double): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Sequence<T>.minOfOrNull(selector: (T) -> Float): Float? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n
val v = selector(iterator.next())\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
sequence or `null` if there are no elements.\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.minOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n

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    val v = selector(iterator.next())\n    if (minValue > v) {\n        minValue = v\n    }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the sequence.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Sequence<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) throw NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n
            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the sequence or `null` if there are no elements.\n * \n * The operation is
_terminal_.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Sequence<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val iterator =
iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n
            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are
no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n * The operation is _terminal_.\n
*/\n\n@SinceKotlin("1.4")\npublic
fun Sequence<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n
    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n
    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of
elements is `NaN` returns `NaN`.\n * \n * The operation is _terminal_.\n
*/\n\n@SinceKotlin("1.4")\npublic fun
Sequence<Float>.minOrNull(): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var
min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n
return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * The operation is
_terminal_.\n
*/\n\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Sequence<T>.minOrNull(): T? {\n    val
iterator = iterator()\n
    if (!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator].\n * \n * The operation is _terminal_.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n
*/\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun <T> Sequence<T>.minWith(comparator: Comparator<in T>): T {\n    val iterator =
iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var min = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return
min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or
`null` if there are no elements.\n * \n * The
operation is _terminal_.\n
*/\n\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.minWithOrNull(comparator:
Comparator<in T>): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min =
iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(min, e) >
0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the sequence has no elements.\n * \n * The operation is
_terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*/\n\npublic fun <T>
Sequence<T>.none(): Boolean {\n    return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match
the given [predicate].\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*/\n\npublic inline fun <T>

```

Sequence<T>.none(predicate: (T) -> Boolean): Boolean { \n for (element in this) if (predicate(element)) return false \n return true \n } \n \n * Returns a sequence which performs the given [action] on each element of the original sequence as they pass through it. \n \n * The operation is `_intermediate_` and `_stateless_`. \n \n @SinceKotlin("1.1") \n public fun <T>

Sequence<T>.onEach(action: (T) -> Unit): Sequence<T> { \n return map { \n action(it) \n it \n } \n } \n \n * Returns a sequence which performs the given [action] on each element of the original sequence as they pass through it. \n * @param [action] function that takes the index of an element and the element itself \n * and performs the action on the element. \n * \n * The operation is `_intermediate_` and `_stateless_`. \n \n @SinceKotlin("1.4") \n public fun <T> Sequence<T>.onEachIndexed(action: (index: Int, T) -> Unit): Sequence<T> { \n return mapIndexed { index, element -> \n action(index, element) \n element \n } \n } \n \n * Accumulates value starting with the first element and applying [operation] from left to right \n * to current accumulator value and each element. \n * \n * Throws an exception if this sequence is empty. If the sequence can be empty in an expected way, \n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty. \n * \n * @param [operation] function that takes current accumulator value and an element, \n * and calculates the next accumulator value. \n * \n * The operation is `_terminal_`. \n * \n * @sample samples.collections.Collections.Aggregates.reduce \n * \n public inline fun <S, T : S> Sequence<T>.reduce(operation: (acc: S, T) -> S): S { \n val iterator = this.iterator() \n if (!iterator.hasNext()) throw UnsupportedOperationException("Empty sequence can't be reduced.") \n var accumulator: S = iterator.next() \n while (iterator.hasNext()) { \n accumulator = operation(accumulator, iterator.next()) \n } \n return accumulator \n } \n \n * Accumulates value starting with the first element and applying [operation] from left to right \n * to current accumulator value and each element with its index in the original sequence. \n * \n * Throws an exception if this sequence is empty. If the sequence can be empty in an expected way, \n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n * and calculates the next accumulator value. \n * \n * The operation is `_terminal_`. \n * \n * @sample samples.collections.Collections.Aggregates.reduce \n * \n public inline fun <S, T : S> Sequence<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S { \n val iterator = this.iterator() \n if (!iterator.hasNext()) throw UnsupportedOperationException("Empty sequence can't be reduced.") \n var index = 1 \n var accumulator: S = iterator.next() \n while (iterator.hasNext()) { \n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next()) \n } \n return accumulator \n } \n \n * Accumulates value starting with the first element and applying [operation] from left to right \n * to current accumulator value and each element with its index in the original sequence. \n * \n * Returns `null` if the sequence is empty. \n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n * and calculates the next accumulator value. \n * \n * The operation is `_terminal_`. \n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull \n * \n @SinceKotlin("1.4") \n public inline fun <S, T : S> Sequence<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? { \n val iterator = this.iterator() \n if (!iterator.hasNext()) return null \n var index = 1 \n var accumulator: S = iterator.next() \n while (iterator.hasNext()) { \n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next()) \n } \n return accumulator \n } \n \n * Accumulates value starting with the first element and applying [operation] from left to right \n * to current accumulator value and each element. \n * \n * Returns `null` if the sequence is empty. \n * \n * @param [operation] function that takes current accumulator value and an element, \n * and calculates the next accumulator value. \n * \n * The operation is `_terminal_`. \n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull \n * \n @SinceKotlin("1.4") \n @WasExperimental(ExperimentalStdlibApi::class) \n public inline fun <S, T : S> Sequence<T>.reduceOrNull(operation: (acc: S, T) -> S): S? { \n val iterator = this.iterator() \n if (!iterator.hasNext()) return null \n var accumulator: S = iterator.next() \n while (iterator.hasNext()) { \n accumulator = operation(accumulator, iterator.next()) \n } \n return accumulator \n } \n \n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right \n * to each element

and current accumulator value that

```
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n * \n *@SinceKotlin("1.4")\npublic fun <T, R> Sequence<T>.runningFold(initial: R, operation: (acc: R, T) -> R): Sequence<R> {\n    return sequence {\n        yield(initial)\n        var accumulator = initial\n        for (element in this@runningFold) {\n            accumulator = operation(accumulator, element)\n            yield(accumulator)\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original sequence and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n * \n *@SinceKotlin("1.4")\npublic fun <T, R> Sequence<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n    return sequence {\n        yield(initial)\n        var index = 0\n        var accumulator = initial\n        for (element in this@runningFoldIndexed) {\n            accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n            yield(accumulator)\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * \n * @param [operation] function that takes current accumulator value and the element, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * \n *@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <S, T : S> Sequence<T>.runningReduce(operation: (acc: S, T) -> S): Sequence<S> {\n    return sequence {\n        val iterator = iterator()\n        if (iterator.hasNext()) {\n            var accumulator: S = iterator.next()\n            yield(accumulator)\n            while (iterator.hasNext()) {\n                accumulator = operation(accumulator, iterator.next())\n                yield(accumulator)\n            }\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original sequence and current accumulator value that starts with the first element of this sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * \n *@SinceKotlin("1.4")\npublic fun <S, T : S> Sequence<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {\n    return sequence {\n        val iterator = iterator()\n        if (iterator.hasNext()) {\n            var accumulator: S = iterator.next()\n            yield(accumulator)\n            var index = 1\n            while (iterator.hasNext()) {\n                accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n                yield(accumulator)\n            }\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
```

function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * The operation is `_intermediate_` and `_stateless_`.\n * \n * @sample samples.collections.Collections.Aggregates.scan

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scan(initial: R, operation: (acc: R, T) -> R): Sequence<R> {\n    return runningFold(initial,
operation)\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original sequence and current accumulator value
that starts with [initial] value.\n * \n
\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n *
as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Aggregates.scan
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n    return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n * \n * The operation is _terminal_.\n
\n * \n * @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Sequence<T>.sumBy(selector: (T) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n * \n * The operation is _terminal_.\n * \n * @Deprecated("Use sumOf
instead.", ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline
fun <T> Sequence<T>.sumByDouble(selector: (T) -> Double): Double {\n    var sum: Double = 0.0\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n
\n * \n * @SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic
inline fun <T> Sequence<T>.sumOf(selector: (T) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n
\n * \n * @SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Sequence<T>.sumOf(selector: (T) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n       
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the sequence.\n * \n * The operation
is _terminal_.\n
\n * \n * @SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Sequence<T>.sumOf(selector: (T) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n
\n * \n * @SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> UInt): UInt {\n
```

```

var sum: UInt = 0.toUInt()\n for (element in this) {\n     sum += selector(element)\n }\n return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n * The operation is _terminal_.\n *\n * Since Kotlin 1.5\n * OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * OverloadResolutionByLambdaReturnType\n * kotlin.jvm.JvmName("sumOfULong")\n * WasExperimental(ExperimentalUnsignedTypes::class)\n * kotlin.internal.InlineOnly\n * public inline fun <T> Sequence<T>.sumOf(selector: (T) -> ULong): ULong {\n     var sum: ULong = 0.toULong()\n     for (element in this) {\n         sum += selector(element)\n     }\n     return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n * The operation is _intermediate_ and _stateless_.\n *\n * public fun <T : Any> Sequence<T?>.requireNonNulls(): Sequence<T> {\n     return map { it ?: throw IllegalArgumentException("null element found in $this.") }\n}\n\n/**\n * Splits this sequence into a sequence of lists each not exceeding the given [size].\n * The last list in the resulting sequence may have fewer elements than the given [size].\n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n * The operation is _intermediate_ and _stateful_.\n * @sample samples.collections.Collections.Transformations.chunked\n *\n * Since Kotlin 1.2\n * public fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {\n     return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this sequence into several lists each not exceeding the given [size] and applies the given [transform] function to an each.\n * @return sequence of results of the [transform] applied to an each list.\n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last list may have fewer elements than the given [size].\n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n * The operation is _intermediate_ and _stateful_.\n * @sample samples.text.Strings.chunkedTransform\n *\n * Since Kotlin 1.2\n * public fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R): Sequence<R> {\n     return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].\n * The operation is _intermediate_ and _stateless_.\n *\n * public operator fun <T> Sequence<T>.minus(element: T): Sequence<T> {\n     return object: Sequence<T> {\n         override fun iterator(): Iterator<T> {\n             var removed = false\n             return this@minus.filter { if (!removed && it == element) {\n                 removed = true; false } else true }.iterator()\n         }\n     }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] array.\n * Note that the source sequence and the array being subtracted are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n * Before Kotlin 1.6, the [elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n * The operation is _intermediate_ and _stateful_.\n *\n * public operator fun <T> Sequence<T>.minus(elements: Array<out T>): Sequence<T> {\n     if (elements.isEmpty()) return this\n     return object: Sequence<T> {\n         override fun iterator(): Iterator<T> {\n             val other = elements.convertToSetForSetOperation()\n             return this@minus.filterNot { it in other }\n         }.iterator()\n     }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] collection.\n * Note that the source sequence and the collection being subtracted are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n * Before Kotlin 1.6, the [elements] collection may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.\n * On JVM,

```

you can enable this behavior back with the system property ``kotlin.collections.convert_arg_to_set_in_removeAll`` set to ``true``.

`Sequence<T>.minus(elements: Iterable<T>): Sequence<T>` {
 return object: Sequence<T> {
 override fun iterator(): Iterator<T> {
 val other = elements.convertToSetForSetOperation()
 if (other.isEmpty())
 return this@minus.iterator()
 else
 return this@minus.filterNot { it in other }.iterator()
 }
 }
}

* Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] sequence.
 * Note that the source sequence and the sequence being subtracted are iterated only when an ``iterator`` is requested from the resulting sequence. Changing any of them between successive calls to ``iterator`` may affect the result.
 * The operation is `_intermediate_` for this sequence and `_terminal_` and `_stateful_` for the [elements] sequence.
 * Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of ``hashCode()`` that didn't change between successive invocations.
 * On JVM, you can enable this behavior back with the system property ``kotlin.collections.convert_arg_to_set_in_removeAll`` set to ``true``.

`Sequence<T>.minus(elements: Sequence<T>): Sequence<T>` {
 return object: Sequence<T> {
 override fun iterator(): Iterator<T> {
 val other = elements.convertToSetForSetOperation()
 if (other.isEmpty())
 return this@minus.iterator()
 else
 return this@minus.filterNot { it in other }.iterator()
 }
 }
}

* Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].
 * The operation is `_intermediate_` and `_stateless_`.

`@kotlin.internal.InlineOnly`
`public inline fun <T> Sequence<T>.minusElement(element: T): Sequence<T>` {
 return minus(element)
}

* Splits the original sequence into pair of lists, where `*first*` list contains elements for which [predicate] yielded ``true``, while `*second*` list contains elements for which [predicate] yielded ``false``.
 * The operation is `_terminal_`.
 * @sample samples.collections.Sequences.Transformations.partition

`public inline fun <T> Sequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>>` {
 val first = ArrayList<T>()
 val second = ArrayList<T>()
 for (element in this) {
 if (predicate(element)) {
 first.add(element)
 } else {
 second.add(element)
 }
 }
 return Pair(first, second)
}

* Returns a sequence containing all elements of the original sequence and then the given [element].
 * The operation is `_intermediate_` and `_stateless_`.

`public operator fun <T> Sequence<T>.plus(element: T): Sequence<T>` {
 return sequenceOf(this, sequenceOf(element)).flatten()
}

* Returns a sequence containing all elements of original sequence and then all elements of the given [elements] array.
 * Note that the source sequence and the array being added are iterated only when an ``iterator`` is requested from the resulting sequence. Changing any of them between successive calls to ``iterator`` may affect the result.
 * The operation is `_intermediate_` and `_stateless_`.

`public operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T>` {
 return this.plus(elements.asList())
}

* Returns a sequence containing all elements of original sequence and then all elements of the given [elements] collection.
 * Note that the source sequence and the collection being added are iterated only when an ``iterator`` is requested from the resulting sequence. Changing any of them between successive calls to ``iterator`` may affect the result.
 * The operation is `_intermediate_` and `_stateless_`.

`public operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T>` {
 return sequenceOf(this, elements.asSequence()).flatten()
}

* Returns a sequence containing all elements of original sequence and then all elements of the given [elements] sequence.
 * Note that the source sequence and the sequence being added are iterated only when an ``iterator`` is requested from the resulting sequence. Changing any of them between successive calls to ``iterator`` may affect the result.
 * The operation is `_intermediate_` and `_stateless_`.

`public operator fun <T> Sequence<T>.plus(elements: Sequence<T>): Sequence<T>` {
 return sequenceOf(this, elements).flatten()
}

* Returns a sequence containing all elements of the original sequence and then the given [element].
 * The operation is `_intermediate_` and `_stateless_`.

`@kotlin.internal.InlineOnly`
`public inline fun <T> Sequence<T>.plusElement(element: T): Sequence<T>` {
 return plus(element)
}

* Returns a sequence

of snapshots of the window of the given [size] sliding along this sequence with the given [step], where each snapshot is a list. Several last lists may have fewer elements than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this sequence. @param size the number of elements to take in each window @param step the number of elements to move the window forward by on an each step, by default 1 @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved @sample

```

samples.collections.Sequences.Transformations.takeWindows
*/n@SinceKotlin("1.2")npublic fun <T>
Sequence<T>.windowed(size: Int,
    step: Int = 1, partialWindows: Boolean = false): Sequence<List<T>> {
    return windowedSequence(size, step,
        partialWindows, reuseBuffer = false)
}

```

Returns a sequence of results of applying the given [transform] function to an each list representing a view over the window of the given [size] sliding along this sequence with the given [step]. Note that the list passed to the [transform] function is ephemeral and is valid only inside that function. You should not store it or allow it to escape in some way, unless you made a snapshot of it. Several last lists may have fewer elements than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this sequence. @param size the number of elements to take in each window @param step the number of elements to move the window forward by on an each step, by default 1 @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved @sample

```

samples.collections.Sequences.Transformations.averageWindows
*/n@SinceKotlin("1.2")npublic fun <T, R>
Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
Sequence<R> {
    return windowedSequence(size, step, partialWindows, reuseBuffer =
        true).map(transform)
}

```

Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same index. The resulting sequence ends as soon as the shortest input sequence ends. The operation is `_intermediate_` and `_stateless_`. @sample

```

samples.collections.Sequences.Transformations.zip
*/npublic infix fun <T, R> Sequence<T>.zip(other:
Sequence<R>): Sequence<Pair<T, R>> {
    return MergingSequence(this, other) { t1, t2 -> t1 to t2 }
}

```

Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same index using the provided [transform] function applied to each pair of elements. The resulting sequence ends as soon as the shortest input sequence ends. The operation is `_intermediate_` and `_stateless_`. @sample

```

samples.collections.Sequences.Transformations.zipWithTransform
*/npublic fun <T, R, V>
Sequence<T>.zip(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V> {
    return
MergingSequence(this, other, transform)
}

```

Returns a sequence of pairs of each two adjacent elements in this sequence. The returned sequence is empty if this sequence contains less than two elements. The operation is `_intermediate_` and `_stateless_`. @sample

```

samples.collections.Collections.Transformations.zipWithNext
*/n@SinceKotlin("1.2")npublic fun <T>
Sequence<T>.zipWithNext(): Sequence<Pair<T, T>> {
    return zipWithNext { a, b -> a to b }
}

```

Returns a sequence containing the results of applying the given [transform] function to an each pair of two adjacent elements in this sequence. The returned sequence is empty if this sequence contains less than two elements. The operation is `_intermediate_` and `_stateless_`. @sample

```

samples.collections.Collections.Transformations.zipWithNextToFindDeltas
*/n@SinceKotlin("1.2")npublic fun <T, R>
Sequence<T>.zipWithNext(transform: (a: T, b: T) -> R): Sequence<R> {
    return sequence result@
{
        val iterator = iterator()
        if (!iterator.hasNext()) return@result
        var current = iterator.next()
        while (iterator.hasNext()) {
            val next = iterator.next()
            yield(transform(current, next))
            current = next
        }
    }
}

```

Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied. @sample If the collection could be huge, you can specify a non-negative value

of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

`fun joinTo(buffer: Appendable, separator: CharSequence = ",", prefix: CharSequence = "", postfix: CharSequence = "", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): Appendable {`

```

    buffer.append(prefix)
    var count = 0
    for (element in this) {
        if (++count > 1)
            buffer.append(separator)
        if (limit < 0 || count <= limit)
            buffer.appendElement(element, transform)
        else break
    }
    if (limit >= 0 && count > limit)
        buffer.append(truncated)
    buffer.append(postfix)
}

```

Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.

If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit] elements will be appended, followed by the [truncated] string (which defaults to "...").

`fun joinToString(separator: CharSequence = ",", prefix: CharSequence = "", postfix: CharSequence = "", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): String {`

```

    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()
}

```

Creates an [Iterable] instance that wraps the original sequence returning its elements when being iterated.

`fun asIterable(): Iterable {`

```

    return Iterator {
        this.iterator()
    }
}

```

Returns this sequence as a [Sequence].

`@kotlin.internal.InlineOnly fun asSequence(): Sequence {`

```

    return this
}

```

Returns an average value of elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("averageOfByte") public fun Sequence<Byte>.average(): Double {`

```

    var sum: Double = 0.0
    var count: Int = 0
    for (element in this) {
        sum += element
        checkCountOverflow(++count)
    }
    return if (count == 0) Double.NaN else sum / count
}

```

Returns an average value of elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("averageOfShort") public fun Sequence<Short>.average(): Double {`

```

    var sum: Double = 0.0
    var count: Int = 0
    for (element in this) {
        sum += element
        checkCountOverflow(++count)
    }
    return if (count == 0) Double.NaN else sum / count
}

```

Returns an average value of elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("averageOfInt") public fun Sequence<Int>.average(): Double {`

```

    var sum: Double = 0.0
    var count: Int = 0
    for (element in this) {
        sum += element
        checkCountOverflow(++count)
    }
    return if (count == 0) Double.NaN else sum / count
}

```

Returns an average value of elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("averageOfLong") public fun Sequence<Long>.average(): Double {`

```

    var sum: Double = 0.0
    var count: Int = 0
    for (element in this) {
        sum += element
        checkCountOverflow(++count)
    }
    return if (count == 0) Double.NaN else sum / count
}

```

Returns an average value of elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("averageOfFloat") public fun Sequence<Float>.average(): Double {`

```

    var sum: Double = 0.0
    var count: Int = 0
    for (element in this) {
        sum += element
        checkCountOverflow(++count)
    }
    return if (count == 0) Double.NaN else sum / count
}

```

Returns an average value of elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("averageOfDouble") public fun Sequence<Double>.average(): Double {`

```

    var sum: Double = 0.0
    var count: Int = 0
    for (element in this) {
        sum += element
        checkCountOverflow(++count)
    }
    return if (count == 0) Double.NaN else sum / count
}

```

Returns the sum of all elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("sumOfByte") public fun Sequence<Byte>.sum(): Int {`

```

    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

```

Returns the sum of all elements in the sequence.

The operation is `_terminal_`.

`@kotlin.jvm.JvmName("sumOfShort") public fun Sequence<Short>.sum(): Int {`

```

    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

```



```

*  

@kotlin.internal.InlineOnly  

public  

inline fun <T> Set<T>.minusElement(element: T): Set<T> {  

    return minus(element)  

}
  

/**  

Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.  

The returned set preserves the element iteration order of the original set.  

*/  

public operator fun <T> Set<T>.plus(element: T): Set<T> {  

    val result = LinkedHashSet<T>(mapCapacity(size + 1))  

    result.addAll(this)  

    result.add(element)  

    return result  

}
  

/**  

Returns a set containing all elements of the original set and the given [elements] array, which aren't already in this set.  

The returned set preserves the element iteration order of the original set.  

*/  

public operator fun <T> Set<T>.plus(elements: Array<out T>): Set<T> {  

    val result = LinkedHashSet<T>(mapCapacity(this.size + elements.size))  

    result.addAll(this)  

    result.addAll(elements)  

    return result  

}
  

/**  

Returns a set containing all elements of the original set and the given [elements] collection, which aren't already in this set.  

The returned set preserves the element iteration order of the original set.  

*/  

public operator fun <T> Set<T>.plus(elements: Iterable<T>): Set<T> {  

    val result = LinkedHashSet<T>(mapCapacity(elements.collectionSizeOrNull()?.let { this.size + it } ?: this.size * 2))  

    result.addAll(this)  

    result.addAll(elements)  

    return result  

}
  

/**  

Returns a set containing all elements of the original set and the given [elements] sequence, which aren't already in this set.  

The returned set preserves the element iteration order of the original set.  

*/  

public operator fun <T> Set<T>.plus(elements: Sequence<T>): Set<T> {  

    val result = LinkedHashSet<T>(mapCapacity(this.size * 2))  

    result.addAll(this)  

    result.addAll(elements)  

    return result  

}
  

/**  

Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.  

The returned set preserves the element iteration order of the original set.  

*/  

@kotlin.internal.InlineOnly  

public inline fun <T> Set<T>.plusElement(element: T): Set<T> {  

    return plus(element)  

}
  

/*  

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*/  

  

@file:kotlin.jvm.JvmMultifileClass  

@file:kotlin.jvm.JvmName("StringsKt")  

package kotlin.text  

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt  

// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib  

import kotlin.random.*  

  

/**  

Returns a character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char sequence.  

*/  

@sample samples.collections.Collections.Elements.elementAt  

public expect fun CharSequence.elementAt(index: Int): Char  

  

/**  

Returns a character at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this char sequence.  

*/  

@sample samples.collections.Collections.Elements.elementAtOrElse  

@kotlin.internal.InlineOnly  

public inline fun CharSequence.elementAtOrElse(index: Int, defaultValue: () -> Char): Char {  

    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)  

}
  

/**  

Returns a character at the given [index] or `null` if the [index] is out of bounds of this char sequence.  

*/  

@sample samples.collections.Collections.Elements.elementAtOrNull  

@kotlin.internal.InlineOnly  

public inline fun CharSequence.elementAtOrNull(index: Int): Char? {  

    return this.getOrNull(index)  

}
  

/**  

Returns the first character matching the given [predicate], or `null` if no such character was found.  

*/  

@sample samples.collections.Collections.Elements.find  

@kotlin.internal.InlineOnly  

public inline fun CharSequence.find(predicate: (Char) -> Boolean): Char? {  

    return firstOrNull(predicate)  

}
  

/**  

Returns the last character matching the given [predicate], or `null` if no such character was found.  

*/  

@sample samples.collections.Collections.Elements.findLast  

@kotlin.internal.InlineOnly  

public inline fun CharSequence.findLast(predicate: (Char) -> Boolean): Char? {  

    return lastOrNull(predicate)  

}
  

/**  

Returns the first character.  

*/  

@throws NoSuchElementException if the char sequence is empty.  

public fun CharSequence.first(): Char {  

    if (isEmpty())  

        throw NoSuchElementException("Char sequence is empty.")  

    return this[0]  

}
  

/**  

Returns the first character matching the given [predicate].  

*/  

@throws [NoSuchElementException] if no such character is found.  

public inline fun CharSequence.first(predicate: (Char) -> Boolean): Char {  

    return first(predicate)  

}

```


source of randomness.\n

```
* \n * @throws NoSuchElementException if this char sequence is empty.\n * \n @SinceKotlin("1.3")\npublic fun CharSequence.random(random: Random): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Char sequence is empty.")\n    return get(random.nextInt(length))\n}\n\n/**\n * Returns a random character from this char sequence, or `null` if this char sequence is empty.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n @kotlin.internal.InlineOnly\npublic inline fun CharSequence.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random character from this char sequence using the specified source of randomness, or `null` if this char sequence is empty.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\npublic fun CharSequence.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return get(random.nextInt(length))\n}\n\n/**\n * Returns the single character, or throws an exception if the char sequence is empty or has more than one character.\n *\npublic fun CharSequence.single(): Char {\n    return when (length) {\n        0 -> throw NoSuchElementException("Char sequence is empty.")\n        1 -> this[0]\n        else -> throw IllegalArgumentException("Char sequence has more than one element.")\n    }\n}\n\n/**\n * Returns the single character matching the given [predicate], or throws exception if there is no or more than one matching character.\n *\npublic inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Char sequence contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Char sequence contains no character matching the predicate.")\n\n    @Suppress("UNCHECKED_CAST")\n    return single as Char\n}\n\n/**\n * Returns single character, or `null` if the char sequence is empty or has more than one character.\n *\npublic fun CharSequence.singleOrNull(): Char? {\n    return if (length == 1) this[0] else null\n}\n\n/**\n * Returns the single character matching the given [predicate], or `null` if character was not found or more than one character was found.\n *\npublic inline fun CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a subsequence of this char sequence with the first [n] characters removed.\n *\n @throws\n NoSuchElementException if [n] is negative.\n *\n @sample samples.text.Strings.drop\n\npublic fun CharSequence.drop(n: Int): CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return subSequence(n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string with the first [n] characters removed.\n *\n @throws\n NoSuchElementException if [n] is negative.\n *\n @sample\n samples.text.Strings.drop\n\npublic fun String.drop(n: Int): String {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return substring(n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this char sequence with the last [n] characters removed.\n *\n @throws\n NoSuchElementException if [n] is negative.\n *\n @sample\n samples.text.Strings.drop\n\npublic fun CharSequence.dropLast(n: Int): CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a string with the last [n] characters removed.\n *\n @throws\n NoSuchElementException if [n] is negative.\n *\n @sample\n samples.text.Strings.drop\n\npublic fun String.dropLast(n: Int): String {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a subsequence of this char sequence containing all characters except last characters that satisfy the given [predicate].\n *\n @sample\n samples.text.Strings.drop\n\npublic inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return subSequence(0, index + 1)\n    return ""\n}\n\n/**\n * Returns a string containing all characters except last characters that satisfy the given [predicate].\n *\n @sample\n samples.text.Strings.drop\n\npublic inline fun String.dropLastWhile(predicate: (Char) -> Boolean): String {\n    for (index in lastIndex downTo 0)\n        if (!predicate(this[index]))
```

```

return substring(0, index + 1)\n    return ""\n}\n\n/**\n * Returns a subsequence of this char sequence
containing all characters except first characters that satisfy the given [predicate].\n * \n * @sample
samples.text.Strings.drop\n */\npublic inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean):
CharSequence {\n    for (index in this.indices)\n        if (!predicate(this[index]))\n            return subSequence(index,
length)\n    return ""\n}\n\n/**\n * Returns a string containing all characters except first characters that satisfy the
given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropWhile(predicate:
(Char) -> Boolean): String {\n    for (index in this.indices)\n        if (!predicate(this[index]))\n            return
substring(index)\n    return ""\n}\n\n/**\n * Returns a char sequence containing only those characters from the
original char sequence that match the given [predicate].\n * \n * @sample samples.text.Strings.filter\n */\npublic inline fun CharSequence.filter(predicate: (Char) ->
Boolean): CharSequence {\n    return filterTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing
only those characters from the original string that match the given [predicate].\n * \n * @sample
samples.text.Strings.filter\n */\npublic inline fun String.filter(predicate: (Char) -> Boolean): String {\n    return
filterTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Returns a char sequence containing only those
characters from the original char sequence that match the given [predicate].\n * @param [predicate] function that
takes the index of a character and the character itself\n * and returns the result of predicate evaluation on the
character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun
CharSequence.filterIndexed(predicate: (index: Int, Char) -> Boolean): CharSequence {\n    return
filterIndexedTo(StringBuilder(),
predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that match the
given [predicate].\n * @param [predicate] function that takes the index of a character and the character itself\n * and
returns the result of predicate evaluation on the character.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun String.filterIndexed(predicate: (index:
Int, Char) -> Boolean): String {\n    return filterIndexedTo(StringBuilder(), predicate).toString()\n}\n\n/**\n *
Appends all characters matching the given [predicate] to the given [destination].\n * @param [predicate] function
that takes the index of a character and the character itself\n * and returns the result of predicate evaluation on the
character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C :
Appendable> CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean):
C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element)) destination.append(element)\n
}\n    return destination\n}\n\n/**\n * Returns a char sequence containing only those characters from the original
char sequence that do not match the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic
inline fun CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {\n    return
filterNotTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those characters from the
original string that do not match the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic
inline fun String.filterNot(predicate: (Char) -> Boolean): String {\n    return filterNotTo(StringBuilder(),
predicate).toString()\n}\n\n/**\n * Appends all characters not matching the given [predicate] to the given
[destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun
<C : Appendable> CharSequence.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (element in
this) if (!predicate(element)) destination.append(element)\n    return destination\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : Appendable>
CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (index in 0 until length) {\n        val
element = get(index)\n        if (predicate(element)) destination.append(element)\n    }\n    return
destination\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence at the
specified range of [indices].\n */\npublic fun CharSequence.slice(indices: IntRange): CharSequence {\n    if
(indices.isEmpty()) return ""\n    return subSequence(indices)\n}\n\n/**\n * Returns a string containing characters
of the original string at the specified

```

```

range of [indices].\n *^/npublic fun String.slice(indices: IntRange): String {\n  if (indices.isEmpty()) return ""\n  return substring(indices)\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence
at specified [indices].\n *^/npublic fun CharSequence.slice(indices: Iterable<Int>): CharSequence {\n  val size =
indices.collectionSizeOrDefault(10)\n  if (size == 0) return ""\n  val result = StringBuilder(size)\n  for (i in
indices) {\n    result.append(get(i))\n  }\n  return result\n}\n\n/**\n * Returns a string containing characters of
the original string at specified [indices].\n *^/n@kotlin.internal.InlineOnly\npublic inline fun String.slice(indices:
Iterable<Int>): String {\n  return (this as CharSequence).slice(indices).toString()\n}\n\n/**\n * Returns a
subsequence of this char sequence containing the first [n] characters from this char sequence, or the entire char
sequence if this char sequence is shorter.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n *^/npublic fun
CharSequence.take(n: Int): CharSequence {\n  require(n >= 0) { \"Requested character count $n is less than zero.\" }\n
return subSequence(0, n.coerceAtMost(length))\n}\n\n/**\n * Returns a string containing the first [n]
characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.text.Strings.take\n *^/npublic fun String.take(n: Int): String {\n  require(n
>= 0) { \"Requested character count $n is less than zero.\" }\n  return substring(0,
n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this char sequence containing the last [n]
characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n *^/npublic fun
CharSequence.takeLast(n:
Int): CharSequence {\n  require(n >= 0) { \"Requested character count $n is less than zero.\" }\n  val length =
length\n  return subSequence(length - n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string containing
the last [n] characters from this string, or the entire string if this string is shorter.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n *^/npublic fun
String.takeLast(n: Int): String {\n  require(n >= 0) { \"Requested character count $n is less than zero.\" }\n  val
length = length\n  return substring(length - n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this
char sequence containing last characters that satisfy the given [predicate].\n * \n * @sample
samples.text.Strings.take\n *^/npublic inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean):
CharSequence {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n
return subSequence(index + 1, length)\n    }\n  }\n  return subSequence(0, length)\n}\n\n/**\n * Returns
a string containing last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n
*^/npublic inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String {\n  for (index in lastIndex
downTo 0) {\n    if (!predicate(this[index])) {\n      return substring(index + 1)\n    }\n  }\n  return
this\n}\n\n/**\n * Returns a subsequence of this char sequence containing the first characters that satisfy the given
[predicate].\n * \n * @sample samples.text.Strings.take\n *^/npublic inline fun CharSequence.takeWhile(predicate:
(Char) -> Boolean): CharSequence {\n  for (index in 0 until length)\n    if (!predicate(get(index))) {\n
return subSequence(0, index)\n    }\n  return subSequence(0, length)\n}\n\n/**\n * Returns a string containing
the first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n *^/npublic inline fun String.takeWhile(predicate: (Char) -> Boolean):
String {\n  for (index in 0 until length)\n    if (!predicate(get(index))) {\n      return substring(0, index)\n
}\n  return this\n}\n\n/**\n * Returns a char sequence with characters in reversed order.\n *^/npublic fun
CharSequence.reversed(): CharSequence {\n  return StringBuilder(this).reverse()\n}\n\n/**\n * Returns a string
with characters in reversed order.\n *^/n@kotlin.internal.InlineOnly\npublic inline fun String.reversed(): String {\n
return (this as CharSequence).reversed().toString()\n}\n\n/**\n * Returns a [Map] containing key-value pairs
provided by [transform] function\n * applied to characters of the given char sequence.\n * \n * If any of two pairs
would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original char sequence.\n * \n * @sample samples.text.Strings.associate\n *^/npublic inline fun <K, V>
CharSequence.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n  val
capacity = mapCapacity(length).coerceAtLeast(16)\n  return associateTo(LinkedHashMap<K, V>(capacity),

```

```

transform)\n}\n\n/**\n * Returns a [Map] containing the characters from the given char sequence indexed by the
key\n * returned from [keySelector] function applied to each character.\n * \n * If any two characters would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry
iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateBy\n */\npublic inline
fun <K> CharSequence.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n    val capacity =
mapCapacity(length).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector]
functions applied to characters of the given char sequence.\n * \n * If any two characters would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original char sequence.\n * \n * @sample samples.text.Strings.associateByWithValueTransform\n
*/\npublic inline fun <K, V> CharSequence.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V):
Map<K, V> {\n    val capacity = mapCapacity(length).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function
applied to each character of the given char sequence\n * and value is the character itself.\n * \n * If any two
characters would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.text.Strings.associateByTo\n
*/\npublic inline fun <K, M : MutableMap<in K, in Char>> CharSequence.associateByTo(destination: M,
keySelector: (Char) -> K): M {\n    for (element in this) {\n        destination.put(keySelector(element), element)\n
}\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n *
where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function
applied to characters of the given char sequence.\n * \n * If any two characters would have the same key returned by
[keySelector] the last one gets added to the map.\n * \n * @sample
samples.text.Strings.associateByToWithValueTransform\n
*/\npublic inline fun <K, V, M : MutableMap<in K, in
V>> CharSequence.associateByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n
for (element in this) {\n    destination.put(keySelector(element), valueTransform(element))\n } \n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function
applied to each character of the given char sequence.\n * \n * If any of two pairs would have the same key the last
one gets added to the map.\n * \n * @sample samples.text.Strings.associateTo\n
*/\npublic inline fun <K, V, M :
MutableMap<in K, in V>> CharSequence.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {\n
for (element in this) {\n    destination += transform(element)\n } \n return destination\n}\n\n/**\n * Returns a
[Map] where keys are characters from the given char sequence and values are\n * produced by the [valueSelector]
function applied to each character.\n * \n * If any two characters are equal, the last one gets added to the map.\n * \n
* The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample
samples.text.Strings.associateWith\n
*/\n@SinceKotlin("1.3")\npublic inline
fun <V> CharSequence.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n    val result =
LinkedHashMap<Char, V>(mapCapacity(length).coerceAtMost(128)).coerceAtLeast(16))\n    return
associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-
value pairs for each character of the given char sequence,\n * where key is the character itself and value is provided
by the [valueSelector] function applied to that key.\n * \n * If any two characters are equal, the last one overwrites
the former value in the map.\n * \n * @sample samples.text.Strings.associateWithTo\n
*/\n@SinceKotlin("1.3")\npublic inline fun <V, M : MutableMap<in Char, in V>>
CharSequence.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n    for (element in this) {\n
destination.put(element, valueSelector(element))\n } \n return destination\n}\n\n/**\n * Appends all characters to
the given [destination] collection.\n */\npublic fun

```



```

<C : MutableCollection<in Char>> CharSequence.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

Returns a new [HashSet] of all characters.

public fun CharSequence.toHashSet(): HashSet<Char> {
    return
    toCollection(HashSet<Char>(mapCapacity(length.coerceAtMost(128))))
}

Returns a [List] containing all characters.

public fun CharSequence.toList(): List<Char> {
    return when (length) {
        0 -> emptyList()
        1 -> listOf(this[0])
        else -> this.toMutableList()
    }
}

Returns a new [MutableList] filled with all characters of this char sequence.

public fun CharSequence.toMutableList(): MutableList<Char> {
    return toCollection(ArrayList<Char>(length))
}

Returns a [Set] of all characters.

The returned set preserves the element iteration order of the original char sequence.

public fun CharSequence.toSet(): Set<Char> {
    return when (length) {
        0 -> emptySet()
        1 -> setOf(this[0])
        else ->
        toCollection(LinkedHashSet<Char>(mapCapacity(length.coerceAtMost(128))))
    }
}

Returns a single list of all elements yielded from results of [transform] function being invoked on each character of original char sequence.

@sample samples.collections.Collections.Transformations.flatMap

public inline fun <R> CharSequence.flatMap(transform: (Char) -> Iterable<R>): List<R> {
    return flatMapTo(ArrayList<R>(), transform)
}

Returns a single list of all elements yielded from results of [transform] function being invoked on each character and its index in the original char sequence.

@sample samples.collections.Collections.Transformations.flatMapIndexed

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterable")
@kotlin.internal.InlineOnly
public inline fun <R> CharSequence.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {
    return flatMapIndexedTo(ArrayList<R>(), transform)
}

Appends all elements yielded from results of [transform] function being invoked on each character and its index in the original char sequence, to the given [destination].

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.jvm.JvmName("flatMapIndexedIterableTo")
@kotlin.internal.InlineOnly
public inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapIndexedTo(destination: C, transform: (index: Int, Char) -> Iterable<R>): C {
    var index = 0
    for (element in this) {
        val list = transform(index++, element)
        destination.addAll(list)
    }
    return destination
}

Appends all elements yielded from results of [transform] function being invoked on each character of original char sequence, to the given [destination].

public inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {
    for (element in this) {
        val list = transform(element)
        destination.addAll(list)
    }
    return destination
}

Groups characters of the original char sequence by the key returned by the given [keySelector] function applied to each character and returns a map where each group key is associated with a list of corresponding characters.

The returned map preserves the entry iteration order of the keys produced from the original char sequence.

@sample samples.collections.Collections.Transformations.groupBy

public inline fun <K> CharSequence.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {
    return groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)
}

Groups values returned by the [valueTransform] function applied to each character of the original char sequence by the key returned by the given [keySelector] function applied to the character and returns a map where each group key is associated with a list of corresponding values.

The returned map preserves the entry iteration order of the keys produced from the original char sequence.

@sample samples.collections.Collections.Transformations.groupByKeysAndValues

public inline fun <K, V> CharSequence.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {
    return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)
}

Groups characters of the original char sequence by the key returned by the given [keySelector] function applied to each character and puts to the [destination] map each group key associated

```

with a list of corresponding characters.

```

@return The [destination] map.
@sample
samples.collections.Collections.Transformations.groupBy

```

```

public inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharSequence.groupByTo(destination: M,
keySelector: (Char) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<Char>() }
        list.add(element)
    }
    return destination
}

```

Groups values returned by the [valueTransform] function applied to each character of the original char sequence by the key returned by the given [keySelector] function applied to the character and puts to the [destination] map each group key associated with a list of corresponding values.

```

@return The [destination] map.
@sample
samples.collections.Collections.Transformations.groupByKeysAndValues

```

```

public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K,
valueTransform: (Char) -> V): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<V>() }
        list.add(valueTransform(element))
    }
    return destination
}

```

Creates a [Grouping] source from a char sequence to be used later with one of group-and-fold operations using the specified [keySelector] function to extract a key from each character.

```

@sample
samples.collections.Grouping.groupingByEachCount

```

```

@SinceKotlin("1.1")
public inline fun <K> CharSequence.groupingBy(crossinline keySelector: (Char) -> K):
Grouping<Char, K> {
    return object : Grouping<Char, K> {
        override fun sourceIterator(): Iterator<Char> =
            this@groupingBy.iterator()
        override fun keyOf(element: Char): K = keySelector(element)
    }
}

```

Returns a list containing the results of applying the given [transform] function to each character in the original char sequence.

```

@sample
samples.text.Strings.map

```

```

public inline fun <R>
CharSequence.map(transform:
(Char) -> R): List<R> {
    return mapTo(ArrayList<R>(length), transform)
}

```

Returns a list containing the results of applying the given [transform] function to each character and its index in the original char sequence.

```

@param [transform] function that takes the index of a character and the character itself and returns the result of the transform applied to the character.

```

```

public inline fun <R>
CharSequence.mapIndexed(transform: (index: Int, Char) -> R): List<R> {
    return mapIndexedTo(ArrayList<R>(length), transform)
}

```

Returns a list containing only the non-null results of applying the given [transform] function to each character and its index in the original char sequence.

```

@param [transform] function that takes the index of a character and the character itself and returns the result of the transform applied to the character.

```

```

public inline fun <R : Any>
CharSequence.mapIndexedNotNull(transform: (index: Int, Char)
-> R?): List<R> {
    return mapIndexedNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each character and its index in the original char sequence and appends only the non-null results to the given [destination].

```

@param [transform] function that takes the index of a character and the character itself and returns the result of the transform applied to the character.

```

```

public inline fun <R : Any, C : MutableCollection<in R>>
CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) -> R?): C {
    forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }
    return destination
}

```

Applies the given [transform] function to each character and its index in the original char sequence and appends the results to the given [destination].

```

@param [transform] function that takes the index of a character and the character itself and returns the result of the transform applied to the character.

```

```

public inline fun <R, C : MutableCollection<in R>>
CharSequence.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {
    var index = 0
    for (item in this) {
        destination.add(transform(index++, item))
    }
    return destination
}

```

Returns a list containing only the non-null results of applying the given [transform] function to each character in the original char sequence.

```

@sample
samples.collections.Collections.Transformations.mapNotNull

```

```

public inline fun <R : Any> CharSequence.mapNotNull(transform: (Char) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each character in the original char sequence and appends only the non-null results to the given [destination].

```

public inline

```

```

fun <R : Any, C : MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) ->
R?): C {
    for (element in this) {
        transform(element)?.let { destination.add(it) }
    }
    return destination
}

// Applies the given [transform] function to each character of the original char sequence
// and appends the results to the given [destination].
public inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C,
transform: (Char) -> R): C {
    for (item in this) {
        destination.add(transform(item))
    }
    return destination
}

// Returns a lazy [Iterable] that wraps each character of the original char sequence
// into an [IndexedValue] containing the index of that character and the character itself.
public fun CharSequence.withIndex(): Iterable<IndexedValue<Char>> {
    return IndexingIterable { iterator() }
}

// Returns `true` if all characters match the given [predicate].
@sample
samples.collections.Collections.Aggregates.all {
    public inline fun CharSequence.all(predicate: (Char) ->
Boolean): Boolean {
        for (element in this) {
            if (!predicate(element)) return false
        }
        return true
    }
}

// Returns `true` if char sequence has at least one character.
@sample
samples.collections.Collections.Aggregates.any {
    public fun CharSequence.any(): Boolean {
        return !isEmpty()
    }
}

// Returns `true` if at least one character matches the given [predicate].
@sample
samples.collections.Collections.Aggregates.anyWithPredicate {
    public inline fun CharSequence.any(predicate: (Char) -> Boolean): Boolean {
        for (element in this) {
            if (predicate(element)) return true
        }
        return false
    }
}

// Returns the length of this char sequence.
@kotlinter.internal
public inline fun CharSequence.count(): Int {
    return length
}

// Returns the number of characters matching the given [predicate].
public inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {
    var count = 0
    for (element in this) {
        if (predicate(element)) ++count
    }
    return count
}

// Accumulates value starting with [initial] value and applying [operation] from left to right
// to current accumulator value and each character.
@param [operation] function that takes current accumulator value and a character, and calculates the
// next accumulator value.
public inline fun <R> CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {
    var accumulator = initial
    for (element in this) {
        accumulator = operation(accumulator, element)
    }
    return accumulator
}

// Accumulates value starting with [initial] value and applying [operation] from left to
// right to current accumulator value and each character with its index in the original char sequence.
@param [operation] function that takes the index of a character, current accumulator value
// and the character itself, and calculates the next accumulator value.
public inline fun <R> CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) {
        accumulator = operation(index++, accumulator, element)
    }
    return accumulator
}

// Accumulates value starting with [initial] value and applying [operation] from right to left
// to each character and current accumulator value.
@param [operation] function that takes a character and current accumulator value, and calculates the next accumulator
// value.
public inline fun <R> CharSequence.foldRight(initial: R, operation: (Char, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

// Accumulates value starting with [initial] value and applying [operation] from right to left
// to each character with its index in the original char sequence and current accumulator value.
@param [operation] function that takes the index of a character, the character itself
// and current accumulator value, and calculates the next accumulator value.
public inline fun <R> CharSequence.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {
    var index =
lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
    }
    return accumulator
}

// Performs the given [action] on each character.
public inline fun CharSequence.forEach(action: (Char) -> Unit): Unit {
    for (element in this) {
        action(element)
    }
}

```

```

action(element)\n}\n\n/**\n * Performs the given [action] on each character, providing sequential
index with the character.\n * @param [action] function that takes the index of a character and the character itself\n
* and performs the action on the character.\n */\npublic inline fun CharSequence.forEachIndexed(action: (index: Int,
Char) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Returns the largest
character.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow")\n@Suppress("CONFLICTING_OVERLOA
DS")\npublic fun CharSequence.max(): Char {\n    if (isEmpty()) throw NoSuchElementException()\n    var max =
this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n *
Returns the first character yielding the largest value of the given function.\n * \n * @throws
NoSuchElementException if the char sequence is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*/\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow")\n@Suppress("CONFLICTING_OVERL
OADS")\npublic inline fun <R : Comparable<R>> CharSequence.maxBy(selector: (Char) -> R): Char {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if
(lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e =
this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n
}\n    return maxElem\n}\n\n/**\n * Returns the first character yielding the largest value of the given function or
`null` if there are no characters.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> CharSequence.maxByOrNull(selector: (Char) -
> R): Char? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n
    if (lastIndex == 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e
= this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n
}\n    return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
applied to each character in the char sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the
returned result is `NaN`.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOf(selector: (Char) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue
= maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each character in the char sequence.\n * \n * If any of values produced
by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the char
sequence is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOf(selector: (Char) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i
in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each character in the char sequence.\n * \n * @throws NoSuchElementException
if the char sequence is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.maxOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no
characters.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOrNull(selector:
(Char) -> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each character in the char sequence or `null` if there are no characters.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOrNull(selector:
(Char) -> Float): Float? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value
among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there
are no characters.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.maxOrNull(selector: (Char) -> R): R? {\n if (isEmpty()) return null\n var maxValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each character in the char sequence.\n
*\n * @throws NoSuchElementException if the char sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharSequence.maxOfWith(comparator: Comparator<in R>, selector: (Char) -> R): R {\n if
(isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n
return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each character in the char sequence or `null` if there are no
characters.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharSequence.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n if (isEmpty())
return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n
return maxValue\n}\n\n/**\n * Returns the largest character or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\npublic fun CharSequence.maxOrNull(): Char? {\n if (isEmpty()) return null\n var
max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return
max\n}\n\n/**\n * Returns the first character having the largest value according to the provided [comparator].\n * \n
*\n * @throws NoSuchElementException if the char sequence is empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharSequence.maxWith(comparator: Comparator<in Char>): Char {\n if (isEmpty())
throw NoSuchElementException()\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(max, e) < 0)\n max = e\n }\n return max\n}\n\n/**\n * Returns the first character having the largest value according to the
provided [comparator] or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\npublic fun
CharSequence.maxWithOrNull(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var
max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0)\n max = e\n }\n return max\n}\n\n/**\n * Returns the smallest character.\n * \n * @throws NoSuchElementException if the
char sequence is empty.\n

```

```

*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharSequence.min(): Char {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first character yielding the smallest value of the given function.\n *\n * @throws NoSuchElementException if the char sequence is empty.\n * @sample\n * samples.collections.Collections.Aggregates.minBy\n */
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic inline fun <R : Comparable<R>> CharSequence.minBy(selector: (Char) -> R): Char {\n    if (isEmpty()) throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first character yielding the smallest value of the given function or `null` if there are no characters.\n *\n * @sample\n * samples.collections.Collections.Aggregates.minByOrNull\n */
*\n@SinceKotlin("1.4")\npublic inline fun <R : Comparable<R>> CharSequence.minByOrNull(selector: (Char) -> R): Char? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws\n * NoSuchElementException if the char sequence is empty.\n */
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOf(selector: (Char) -> Double): Double {\n    if (isEmpty()) throw\n    NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * @throws\n * NoSuchElementException if the char sequence is empty.\n */
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOf(selector: (Char) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n *\n * @throws\n * NoSuchElementException if the char sequence is empty.\n */
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> CharSequence.minOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no\n * characters.\n *\n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOfOrNull(selector: (Char) -> Double): Double? {\n    if (isEmpty()) return null\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =\n        minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced

```

by [selector] function\n * applied to each character in the char sequence or `null` if there are no characters.\n * \n *
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOrNull(selector:
(Char) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char
sequence or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.minOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each character in the char sequence.\n
*\n * @throws NoSuchElementException if the
char sequence is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each character in the char sequence or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharSequence.minOfWithOrNull(comparator: Comparator<in
R>, selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(minValue, v) > 0) {\n           
minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest character or `null` if there are no
characters.\n
*\n@SinceKotlin("1.4")\npublic fun CharSequence.minOrNull(): Char? {\n    if (isEmpty()) return
null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return
min\n}\n\n/**\n * Returns the first character having the smallest value according to the provided [comparator].\n *
*\n * @throws NoSuchElementException if the char sequence is empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow")\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun CharSequence.minWith(comparator: Comparator<in Char>): Char {\n    if (isEmpty()) throw
NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first character having the
smallest value according to the provided [comparator] or `null` if there are no characters.\n
*\n@SinceKotlin("1.4")\npublic fun CharSequence.minWithOrNull(comparator: Comparator<in Char>): Char?
{\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the char sequence has
no characters.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.4")\npublic fun CharSequence.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no characters match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.1")\npublic inline fun <S : CharSequence> S.onEach(action: (Char) ->
Unit): S {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on

```

each character, providing sequential index with the character, and returns the char sequence itself afterwards.

`@param [action]` function that takes the index of a character and the character itself and performs the action on the character.

```

@SinceKotlin("1.4")
public inline fun <S : CharSequence> S.onEachIndexed(action: (index: Int, Char) -> Unit): S {
    return apply { forEachIndexed(action) }
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character.

Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes current accumulator value and a character and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun CharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {
    if (isEmpty())
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character with its index in the original char sequence.

Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes the index of a character, current accumulator value and the character itself and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun CharSequence.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {
    if (isEmpty())
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character with its index in the original char sequence.

Returns `null` if the char sequence is empty.

`@param [operation]` function that takes the index of a character, current accumulator value and the character itself and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceOrNull
@SinceKotlin("1.4")
public inline fun CharSequence.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character.

Returns `null` if the char sequence is empty.

`@param [operation]` function that takes current accumulator value and a character and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceOrNull
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun CharSequence.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {
    if (isEmpty())
        return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value.

Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes a character and current accumulator value and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
public inline fun CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
        throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value.

Throws

an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

`fun CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char` {
var index = lastIndex
if (index < 0) throw UnsupportedOperationException("Empty char sequence can't be reduced.")
var accumulator = get(index--)
while (index >= 0) {
accumulator = operation(index, get(index), accumulator)
--index
}
return accumulator
}

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value. Returns `null` if the char sequence is empty.

`fun CharSequence.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char?` {
var index = lastIndex
if (index < 0) return null
var accumulator = get(index--)
while (index >= 0) {
accumulator = operation(get(index--), accumulator)
--index
}
return accumulator
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

`fun CharSequence.runningFold(initial: R, operation: (acc: R, Char) -> R): List<R>` {
if (isEmpty()) return listOf(initial)
val result = ArrayList<R>(length + 1).apply { add(initial) }
var accumulator = initial
for (element in this) {
accumulator = operation(accumulator, element)
result.add(accumulator)
}
return result
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character, its index in the original char sequence and current accumulator value that starts with [initial] value. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

`fun CharSequence.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R>` {
if (isEmpty()) return listOf(initial)
val result = ArrayList<R>(length + 1).apply { add(initial) }
var accumulator = initial
for (index in indices) {
accumulator = operation(index, accumulator, this[index])
result.add(accumulator)
}
return result
}

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with the first character of this char sequence. Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

`fun CharSequence.runningReduce(operation: (acc: Char, Char) -> Char): Char`

```

-> Char): List<Char> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result =
ArrayList<Char>(length).apply { add(accumulator) }\n  for (index in 1 until length) {\n    accumulator =
operation(accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each character,
its index in the original char sequence and current accumulator value that starts with the first character of this char
sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of a character,
current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*/\n@SinceKotlin("1.4")\npublic inline fun CharSequence.runningReduceIndexed(operation: (index: Int, acc:
Char, Char) -> Char): List<Char> {\n  if (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result
= ArrayList<Char>(length).apply { add(accumulator) }\n  for (index in 1 until length) {\n    accumulator =
operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each character and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes current accumulator value and a character, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R>
CharSequence.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n  return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each character, its index in the original char sequence and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R>
CharSequence.scanIndexed(initial: R,
operation: (index: Int, acc: R, Char) -> R): List<R> {\n  return runningFoldIndexed(initial, operation)\n}\n\n/**\n
 * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n
*/\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharSequence.sumBy(selector: (Char) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each character in the char sequence.\n */\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharSequence.sumByDouble(selector: (Char) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each character in the char sequence.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum
+= selector(element)\n  }\n  return

```

```

sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the
char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n
return sum\n}\n\n/**\n * Splits this char sequence into a list of strings each not exceeding the given [size].\n * \n *
The last string in the resulting list may have fewer characters than the given [size].\n * \n * @param size the number
of elements to take in each string, must be positive and can be greater than the number of elements in this char
sequence.\n * \n * @sample
samples.text.Strings.chunked\n *\n@SinceKotlin("1.2")\npublic fun CharSequence.chunked(size: Int):
List<String> {\n    return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this char sequence into
several char sequences each not exceeding the given [size]\n * and applies the given [transform] function to an
each.\n * \n * @return list of results of the [transform] applied to an each char sequence.\n * \n * Note that the char
sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not
store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last char sequence may have
fewer characters than the given [size].\n * \n * @param size the number of elements to take in each char sequence,
must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample
samples.text.Strings.chunkedTransform\n *\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.chunked(size:
Int, transform: (CharSequence) -> R): List<R> {\n    return windowed(size, size, partialWindows = true, transform
= transform)\n}\n\n/**\n * Splits this char sequence into a sequence of strings each not exceeding the given [size].\n
*\n * The last string in the resulting sequence may have fewer characters than the given [size].\n * \n * @param size
the number of elements to take in each string, must be positive and can be greater than the number of elements in
this char sequence.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n
*\n@SinceKotlin("1.2")\npublic fun CharSequence.chunkedSequence(size: Int): Sequence<String> {\n    return
chunkedSequence(size) { it.toString() }\n}\n\n/**\n * Splits this char sequence into several char sequences each not
exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return sequence of
results of the [transform] applied to an each char sequence.\n * \n * Note that the
char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should
not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last char sequence may have
fewer characters than the given [size].\n * \n * @param size the number of elements to take in each char sequence,
must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample
samples.text.Strings.chunkedTransformToSequence\n *\n@SinceKotlin("1.2")\npublic fun <R>
CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -> R): Sequence<R> {\n    return
windowedSequence(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Splits the original char
sequence into pair of char sequences,\n * where *first* char sequence contains characters for which [predicate]
yielded `true`,\n * while *second* char sequence contains characters for which [predicate] yielded `false`.\n * \n *

```

```

@sample samples.text.Strings.partition\n
*/\npublic inline fun CharSequence.partition(predicate: (Char) -> Boolean): Pair<CharSequence, CharSequence>
{\n    val first = StringBuilder()\n    val second = StringBuilder()\n    for (element in this) {\n        if
(predicate(element)) {\n            first.append(element)\n        } else {\n            second.append(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/*\n * Splits the original string into pair of strings,\n * where *first* string
contains characters for which [predicate] yielded `true`,\n * while *second* string contains characters for which
[predicate] yielded `false`.\n * \n * @sample samples.text.Strings.partition\n */\n\npublic inline fun
String.partition(predicate: (Char) -> Boolean): Pair<String, String> {\n    val first = StringBuilder()\n    val second =
StringBuilder()\n    for (element in this) {\n        if (predicate(element)) {\n            first.append(element)\n        } else
{\n            second.append(element)\n        }\n    }\n    return Pair(first.toString(), second.toString())\n}\n\n/*\n * Returns a list of snapshots of the
window of the given [size]\n * sliding along this char sequence with the given [step], where each\n * snapshot is a
string.\n * \n * Several last strings may have fewer characters than the given [size].\n * \n * Both [size] and [step]
must be positive and can be greater than the number of elements in this char sequence.\n * @param size the number
of elements to take in each window\n * @param step the number of elements to move the window forward by on an
each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if
any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.takeWindows\n */\n\n@SinceKotlin("1.2")\npublic fun
CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {\n    return
windowed(size,
step, partialWindows) { it.toString() }\n}\n\n/*\n * Returns a list of results of applying the given [transform]
function to\n * an each char sequence representing a view over the window of the given [size]\n * sliding along this
char sequence with the given [step].\n * \n * Note that the char sequence passed to the [transform] function is
ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way,
unless you made a snapshot of it.\n * Several last char sequences may have fewer characters than the given [size].\n
* \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n
* @param size the number of elements to take in each window\n * @param step the number of elements to move
the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep
partial windows in the end if any,\n * by default `false` which means partial windows
won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.windowed(size: Int, step: Int = 1, partialWindows:
Boolean = false, transform: (CharSequence) -> R): List<R> {\n    checkWindowSizeStep(size, step)\n    val thisSize
= this.length\n    val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n    val result =
ArrayList<R>(resultCapacity)\n    var index = 0\n    while (index in 0 until thisSize) {\n        val end = index + size\n
        val coercedEnd = if (end < 0 || end > thisSize) { if (partialWindows) thisSize else break } else end\n
        result.add(transform(subSequence(index, coercedEnd)))\n        index += step\n    }\n    return result\n}\n\n/*\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding along this char sequence with the
given [step], where each\n * snapshot is a string.\n * \n * Several last strings may have fewer
characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number
of elements in this char sequence.\n * @param size the number of elements to take in each window\n * @param step
the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows
controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial
windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n\n@SinceKotlin("1.2")\npublic fun CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows:
Boolean = false): Sequence<String> {\n    return windowedSequence(size, step, partialWindows) { it.toString()
}\n}\n\n/*\n * Returns a sequence of results of applying the given [transform] function to\n * an each char
sequence representing a view over the window of the given [size]\n * sliding along this char sequence with the given

```

[step].\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last char sequences may have fewer characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n * \n @SinceKotlin("1.2")\n public fun <R> CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): Sequence<R> {\n checkWindowSizeStep(size, step)\n val windows = (if (partialWindows) indices else 0 until length - size + 1) step step\n return windows.asSequence().map { index ->\n val end = index + size\n val coercedEnd = if (end < 0 || end > length) length else end\n transform(subSequence(index, coercedEnd))\n }\n }\n }\n /**\n * Returns a list of pairs built from the characters of `this` and the [other] char sequences with the same index\n * The returned list has length of the shortest char sequence.\n * \n * @sample samples.text.Strings.zip\n * \n public infix fun CharSequence.zip(other: CharSequence): List<Pair<Char, Char>> {\n return zip(other) { c1, c2 -> c1 to c2 }\n }\n }\n /**\n * Returns a list of values built from the characters of `this` and the [other] char sequences with the same index\n * using the provided [transform] function applied to each pair of characters.\n * The returned list has length of the shortest char sequence.\n * \n * @sample samples.text.Strings.zipWithTransform\n * \n public inline fun <V> CharSequence.zip(other: CharSequence, transform: (a: Char, b: Char) -> V): List<V> {\n val length = minOf(this.length, other.length)\n val list = ArrayList<V>(length)\n for (i in 0 until length) {\n list.add(transform(this[i], other[i]))\n }\n return list\n }\n }\n /**\n * Returns a list of pairs of each two adjacent characters in this char sequence.\n * The returned list is empty if this char sequence contains less than two characters.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n * \n @SinceKotlin("1.2")\n public fun CharSequence.zipWithNext(): List<Pair<Char, Char>> {\n return zipWithNext { a, b -> a to b }\n }\n }\n /**\n * Returns a list containing the results of applying the given [transform] function\n * to an each pair of two adjacent characters in this char sequence.\n * The returned list is empty if this char sequence contains less than two characters.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n * \n @SinceKotlin("1.2")\n public inline fun <R> CharSequence.zipWithNext(transform: (a: Char, b: Char) -> R): List<R> {\n val size = length - 1\n if (size < 1) return emptyList()\n val result = ArrayList<R>(size)\n for (index in 0 until size) {\n result.add(transform(this[index], this[index + 1]))\n }\n return result\n }\n }\n /**\n * Creates an [Iterable] instance that wraps the original char sequence returning its characters when being iterated.\n * \n public fun CharSequence.asIterable(): Iterable<Char> {\n if (this is String && isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n }\n }\n /**\n * Creates a [Sequence] instance that wraps the original char sequence returning its characters when being iterated.\n * \n public fun CharSequence.asSequence(): Sequence<Char> {\n if (this is String && isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n }\n }\n /**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n @file:kotlin.jvm.JvmMultifileClass\n @file:kotlin.jvm.JvmName("StringsKt")\n \n package kotlin.text\n \n import kotlin.contracts.contract\n import kotlin.jvm.JvmName\n * Returns a copy of this string converted to upper case using the rules of the default locale.\n * \n @Deprecated("Use uppercase() instead.")\n ReplaceWith("uppercase()")\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public expect fun String.toUpperCase(): String\n * Returns a copy of this string converted to upper case using Unicode mapping rules of the invariant locale.\n * This function supports one-to-many and many-to-one character mapping,\n * thus the length of the returned string can be different from the length of the original string.\n * \n * \n

```

@sample samples.text.Strings.uppercase\n
*^n@SinceKotlin("1.5")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
String.uppercase(): String\n\n/**\n * Returns a copy of this string converted to lower case using the rules of the
default locale.\n *^n@Deprecated("Use lowercase() instead.\n",
ReplaceWith("lowercase()"))n@DeprecatedSinceKotlin(warningSince = "1.5")npublic expect fun
String.toLowerCase(): String\n\n/**\n * Returns a copy of this string converted to lower case using Unicode
mapping rules of the invariant locale.\n *\n * This function supports one-to-many and many-to-one character
mapping,\n * thus the length of the returned string can be different from the length of the original string.\n *\n *
@sample samples.text.Strings.lowercase\n
*^n@SinceKotlin("1.5")n@WasExperimental(ExperimentalStdlibApi::class)npublic expect fun
String.lowercase(): String\n\n/**\n * Returns a copy of this string having its first letter titlecased using the rules of
the default locale,\n
* or the original string if it's empty or already starts with a title case letter.\n *\n * The title case of a character is
usually the same as its upper case with several exceptions.\n * The particular list of characters with the special title
case form depends on the underlying platform.\n *\n * @sample samples.text.Strings.capitalize\n
*^n@Deprecated("Use replaceFirstChar instead.\n", ReplaceWith("replaceFirstChar { if (it.isLowerCase())
it.titlecase() else it.toString() }"))n@DeprecatedSinceKotlin(warningSince = "1.5")npublic expect fun
String.capitalize(): String\n\n/**\n * Returns a copy of this string having its first letter lowercased using the rules of
the default locale,\n * or the original string if it's empty or already starts with a lower case letter.\n *\n * @sample
samples.text.Strings.decapsialize\n
*^n@Deprecated("Use replaceFirstChar instead.\n",
ReplaceWith("replaceFirstChar { it.lowercase() }"))n@DeprecatedSinceKotlin(warningSince = "1.5")npublic
expect fun String.decapsialize(): String\n\n/**\n * Returns a sub sequence of this char sequence having leading and
trailing characters matching the [predicate] removed.\n *\npublic inline fun CharSequence.trim(predicate: (Char) ->
Boolean): CharSequence {\n    var startIndex = 0\n    var endIndex = length - 1\n    var startFound = false\n\n    while (startIndex <= endIndex) {\n        val index = if (!startFound) startIndex else endIndex\n        val match =
predicate(this[index])\n        if (!startFound) {\n            if (!match)\n                startFound = true\n            else\n                startIndex += 1\n        } else {\n            if (!match)\n                break\n            else\n                endIndex -= 1\n        }\n    }\n\n    return subSequence(startIndex, endIndex + 1)\n}\n\n/**\n * Returns a string having leading and
trailing characters matching the [predicate] removed.\n *\npublic inline fun String.trim(predicate: (Char) ->
Boolean): String =\n    (this as CharSequence).trim(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having
leading characters matching the [predicate] removed.\n *\npublic inline fun CharSequence.trimStart(predicate:
(Char) -> Boolean): CharSequence {\n    for (index in this.indices)\n        if (!predicate(this[index]))\n            return
subSequence(index, length)\n    return ""\n}\n\n/**\n * Returns a string having leading characters matching the
[predicate] removed.\n *\npublic inline fun String.trimStart(predicate: (Char) -> Boolean): String =\n    (this as
CharSequence).trimStart(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having
trailing characters matching the [predicate] removed.\n *\npublic inline fun CharSequence.trimEnd(predicate:
(Char) -> Boolean): CharSequence {\n    for (index in this.indices.reversed())\n        if (!predicate(this[index]))\n            return
subSequence(0, index + 1)\n    return ""\n}\n\n/**\n * Returns
a string having trailing characters matching the [predicate] removed.\n *\npublic inline fun
String.trimEnd(predicate: (Char) -> Boolean): String =\n    (this as
CharSequence).trimEnd(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having
leading and trailing characters from the [chars] array removed.\n *\npublic fun CharSequence.trim(vararg chars:
Char): CharSequence = trim { it in chars }\n\n/**\n * Returns a string having leading and trailing characters from
the [chars] array removed.\n *\npublic fun String.trim(vararg chars: Char): String = trim { it in chars }\n\n/**\n *
Returns a sub sequence of this char sequence having leading characters from the [chars] array removed.\n *\npublic
fun CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart { it in chars }\n\n/**\n * Returns a string
having leading characters from the [chars] array removed.\n *\npublic fun String.trimStart(vararg chars: Char):

```

```
String = trimStart { it in chars
}
}

Returns a sub sequence of this char sequence having trailing characters from the [chars] array removed.
public fun CharSequence.trimEnd(vararg chars: Char): CharSequence = trimEnd { it in chars }

Returns a string having trailing characters from the [chars] array removed.
public fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }

Returns a sub sequence of this char sequence having leading and trailing whitespace removed.
public fun CharSequence.trim(): CharSequence = trim(Char::isWhitespace)

Returns a string having leading and trailing whitespace removed.
public inline fun String.trim(): String = (this as CharSequence).trim().toString()

Returns a sub sequence of this char sequence having leading whitespace removed.
public fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)

Returns a string having leading whitespace removed.
public inline fun String.trimStart(): String = (this as CharSequence).trimStart().toString()

Returns a sub sequence of this char sequence having trailing whitespace removed.
public fun CharSequence.trimEnd(): CharSequence = trimEnd(Char::isWhitespace)

Returns a string having trailing whitespace removed.
public inline fun String.trimEnd(): String = (this as CharSequence).trimEnd().toString()

Returns a char sequence with content of this char sequence padded at the beginning
to the specified [length] with the specified character or space.
@param length the desired string length.
@param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
@return Returns a char sequence of length at least [length] consisting of `this` char sequence prepended with [padChar] as many times as are necessary to reach that length.
sample samples.text.Strings.padStart
public fun CharSequence.padStart(length: Int, padChar: Char = ' '): CharSequence {
    if (length < 0) throw IllegalArgumentException("Desired length $length is less than zero.")
    if (length <= this.length) return this.subSequence(0, this.length)
    val sb = StringBuilder(length)
    for (i in 1..(length - this.length)) sb.append(padChar)
    sb.append(this)
    return sb
}

Pads the string to the specified [length] at the beginning with the specified character or space.
@param length the desired string length.
@param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
@return Returns a string of length at least [length] consisting of `this` string prepended with [padChar] as many times as are necessary to reach that length.
sample samples.text.Strings.padStart
public fun String.padStart(length: Int, padChar: Char = ' '): String = (this as CharSequence).padStart(length, padChar).toString()

Returns a char sequence with content of this char sequence padded at the end
to the specified [length] with the specified character or space.
@param length the desired string length.
@param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
@return Returns a char sequence of length at least [length] consisting of `this` char sequence appended with [padChar] as many times as are necessary to reach that length.
sample samples.text.Strings.padEnd
public fun CharSequence.padEnd(length: Int, padChar: Char = ' '): CharSequence {
    if (length < 0) throw IllegalArgumentException("Desired length $length is less than zero.")
    if (length <= this.length) return this.subSequence(0, this.length)
    val sb = StringBuilder(length)
    sb.append(this)
    for (i in 1..(length - this.length)) sb.append(padChar)
    return sb
}

Pads the string to the specified [length] at the end with the specified character or space.
@param length the desired string length.
@param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
@return Returns a string of length at least [length] consisting of `this` string appended with [padChar] as many times as are necessary to reach that length.
sample samples.text.Strings.padEnd
public fun String.padEnd(length: Int, padChar: Char = ' '): String = (this as CharSequence).padEnd(length, padChar).toString()

Returns `true` if this nullable char sequence is either `null` or empty.
sample samples.text.Strings.stringIsNullOrEmpty
public inline fun CharSequence?.isNullOrEmpty(): Boolean {
    contract {

```

```

returns(false)
implies (this@isNullOrEmpty != null)\n } \n return this == null || this.length == 0\n\n/**\n * Returns `true`
if this char sequence is empty (contains no characters).\n *\n * @sample samples.text.Strings.stringIsEmpty\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isEmpty(): Boolean = length == 0\n\n/**\n *
Returns `true` if this char sequence is not empty.\n *\n * @sample samples.text.Strings.stringIsNotEmpty\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isNotEmpty(): Boolean = length > 0\n\n//
implemented differently in JVM and JS\n//public fun String.isBlank(): Boolean = length() == 0 || all {
it.isWhitespace() }\n\n/**\n * Returns `true` if this char sequence is not empty and contains some characters
except of whitespace characters.\n *\n * @sample samples.text.Strings.stringIsNotBlank\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isNotBlank(): Boolean = !isBlank()\n\n/**\n *
Returns `true` if this nullable
char sequence is either `null` or empty or consists solely of whitespace characters.\n *\n * @sample
samples.text.Strings.stringOrNullBlank\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence?.isNullOrBlank(): Boolean {\n contract {\n returns(false) implies (this@isNullOrBlank !=
null)\n } \n return this == null || this.isBlank()\n}\n\n/**\n * Iterator for characters of the given char sequence.\n
*/\npublic operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {\n private var index = 0\n\n
public override fun nextChar(): Char = get(index++)\n\n public override fun hasNext(): Boolean = index <
length\n}\n\n/**\n * Returns the string if it is not `null`, or the empty string otherwise.
*/\n@kotlin.internal.InlineOnly\npublic inline fun String?.orEmpty(): String = this ?: ""\n\n/**\n * Returns this
char sequence if it's not empty\n * or the result of calling [defaultValue] function if the char sequence is empty.\n
*\n * @sample
samples.text.Strings.stringIfEmpty\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C,
R> C.ifEmpty(defaultValue: () -> R): R where C : CharSequence, C : R =\n if (isEmpty()) defaultValue() else
this\n\n/**\n * Returns this char sequence if it is not empty and doesn't consist solely of whitespace characters,\n
* or the result of calling [defaultValue] function otherwise.\n *\n * @sample samples.text.Strings.stringIfBlank\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifBlank(defaultValue: () -> R):
R where C : CharSequence, C : R =\n if (isBlank()) defaultValue() else this\n\n/**\n * Returns the range of valid
character indices for this char sequence.\n */\npublic val CharSequence.indices: IntRange\n get() = 0..length -
1\n\n/**\n * Returns the index of the last character in the char sequence or -1 if it is empty.\n */\npublic val
CharSequence.lastIndex: Int\n get() = this.length - 1\n\n/**\n * Returns `true`
if this CharSequence has Unicode surrogate pair at the specified [index].\n */\npublic fun
CharSequence.hasSurrogatePairAt(index: Int): Boolean {\n return index in 0..length - 2\n &&
this[index].isHighSurrogate()\n && this[index + 1].isLowSurrogate()\n}\n\n/**\n * Returns a substring
specified by the given [range] of indices.\n */\npublic fun String.substring(range: IntRange): String =
substring(range.start, range.endInclusive + 1)\n\n/**\n * Returns a subsequence of this char sequence specified by
the given [range] of indices.\n */\npublic fun CharSequence.subSequence(range: IntRange): CharSequence =
subSequence(range.start, range.endInclusive + 1)\n\n/**\n * Returns a subsequence of this char sequence.\n *\n
This extension is chosen only for invocation with old-named parameters.\n * Replace parameter names with the
same as those of [CharSequence.subSequence].\n
*/\n@kotlin.internal.InlineOnly\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false
warning\n@Deprecated("Use
parameters named startIndex and endIndex.", ReplaceWith("subSequence(startIndex = start, endIndex =
end)"))\npublic inline fun String.subSequence(start: Int, end: Int): CharSequence = subSequence(start,
end)\n\n/**\n * Returns a substring of chars from a range of this char sequence starting at the [startIndex] and
ending right before the [endIndex].\n *\n * @param startIndex the start index (inclusive).\n * @param endIndex the
end index (exclusive). If not specified, the length of the char sequence is used.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.substring(startIndex: Int, endIndex: Int = length):
String = subSequence(startIndex, endIndex).toString()\n\n/**\n * Returns a substring of chars at indices from the

```


specified [range] of this char sequence.

```

public fun CharSequence.substring(range: IntRange): String =
    subSequence(range.start, range.endInclusive + 1).toString()

```

Returns a substring before the first occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringBefore(delimiter: Char, missingDelimiterValue: String = this):
    String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(0, index)
}

```

Returns a substring before the first occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringBefore(delimiter: String, missingDelimiterValue: String = this):
    String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(0, index)
}

```

Returns a substring after the first occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringAfter(delimiter: Char, missingDelimiterValue: String = this):
    String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(index + 1, length)
}

```

Returns a substring after the first occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringAfter(delimiter: String, missingDelimiterValue: String = this):
    String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(index + delimiter.length, length)
}

```

Returns a substring before the last occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this):
    String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(0, index)
}

```

Returns a substring before the last occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringBeforeLast(delimiter: String, missingDelimiterValue: String = this):
    String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(0, index)
}

```

Returns a substring after the last occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringAfterLast(delimiter: Char, missingDelimiterValue: String = this):
    String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(index + 1, length)
}

```

Returns a substring after the last occurrence of [delimiter].

If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this):
    String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(index + delimiter.length, length)
}

```

Returns a char sequence with content of this char sequence where its part at the given range [startIndex, endIndex) is replaced with the [replacement] char sequence.

@param startIndex the index of the first character to be replaced.

@param endIndex the index of the first character after the replacement to keep in the string.

```

public fun CharSequence.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence):
    CharSequence {
    if (endIndex < startIndex)
        throw IndexOutOfBoundsException("End index ($endIndex) is less than start index ($startIndex).")
    val sb = StringBuilder()
    sb.appendRange(this, 0, startIndex)
    sb.append(replacement)
    sb.appendRange(this, endIndex, length)
    return sb
}

```

Replaces the part of the string at the given range with the [replacement] char sequence.

@param startIndex the index of the first character to be replaced.

@param endIndex the index of the first character after the replacement to keep in the string.

```

@kotlin.internal.InlineOnly
public inline fun String.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence):
    String =
    (this as CharSequence).replaceRange(startIndex, endIndex, replacement).toString()

```

Returns a char sequence with content of this char sequence where its part at the given [range] is replaced with the [replacement] char sequence.

The end index of the [range] is included in the part to be replaced.

```

public fun CharSequence.replaceRange(range: IntRange, replacement: CharSequence):
    CharSequence =
    replaceRange(range.start, range.endInclusive + 1, replacement)

```

* Replace the part of string at the given [range] with the [replacement] string.\n * The end index of the [range] is included in the part to be replaced.\n *
`@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(range: IntRange, replacement: CharSequence): String =\n (this as CharSequence).replaceRange(range, replacement).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the given range is removed.\n * @param startIndex the index of the first character to be removed.\n * @param endIndex the index of the first character after the removed part to keep in the string.\n * [endIndex] is not included in the removed part.\n */\npublic fun CharSequence.removeRange(startIndex: Int, endIndex: Int): CharSequence {\n if (endIndex < startIndex)\n throw IndexOutOfBoundsException("\nEnd index ($endIndex) is less than start index ($startIndex).\n")\n if (endIndex == startIndex)\n return this.subSequence(0, length)\n\n val sb = StringBuilder(length - (endIndex - startIndex))\n sb.appendRange(this, 0, startIndex)\n sb.appendRange(this, endIndex, length)\n return sb\n}\n\n/**\n * Removes the part of a string at a given range.\n * @param startIndex the index of the first character to be removed.\n * @param endIndex the index of the first character after the removed part to keep in the string.\n * [endIndex] is not included in the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(startIndex: Int, endIndex: Int): String =\n (this as CharSequence).removeRange(startIndex, endIndex).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the given [range] is removed.\n * The end index of the [range] is included in the removed part.\n */\npublic fun CharSequence.removeRange(range: IntRange): CharSequence = removeRange(range.start, range.endInclusive + 1)\n\n/**\n * Removes the part of a string at the given [range].\n * The end index of the [range] is included in the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(range: IntRange): String =\n (this as CharSequence).removeRange(range).toString()\n\n/**\n * If this char sequence starts with the given [prefix], returns a new char sequence\n * with the prefix removed. Otherwise, returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removePrefix(prefix: CharSequence): CharSequence {\n if (startsWith(prefix)) {\n return subSequence(prefix.length, length)\n }\n return subSequence(0, length)\n}\n\n/**\n * If this string starts with the given [prefix], returns a copy of this string\n * with the prefix removed. Otherwise, returns this string.\n */\npublic fun String.removePrefix(prefix: CharSequence): String {\n if (startsWith(prefix)) {\n return substring(prefix.length)\n }\n return this\n}\n\n/**\n * If this char sequence ends with the given [suffix], returns a new char sequence\n * with the suffix removed. Otherwise, returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSuffix(suffix: CharSequence): CharSequence {\n if (endsWith(suffix)) {\n return subSequence(0, length - suffix.length)\n }\n return subSequence(0, length)\n}\n\n/**\n * If this string ends with the given [suffix], returns a copy of this string\n * with the suffix removed. Otherwise, returns this string.\n */\npublic fun String.removeSuffix(suffix: CharSequence): String {\n if (endsWith(suffix)) {\n return substring(0, length - suffix.length)\n }\n return this\n}\n\n/**\n * When this char sequence starts with the given [prefix] and ends with the given [suffix],\n * returns a new char sequence having both the given [prefix] and [suffix] removed.\n * Otherwise returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {\n if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return subSequence(prefix.length, length - suffix.length)\n }\n return subSequence(0, length)\n}\n\n/**\n * Removes from a string both the given [prefix] and [suffix] if and only if\n * it starts with the [prefix] and ends with the [suffix].\n * Otherwise returns this string unchanged.\n */\npublic fun String.removeSurrounding(prefix: CharSequence, suffix: CharSequence): String {\n if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return substring(prefix.length, length - suffix.length)\n }\n return this\n}\n\n/**\n * When this char sequence starts with and ends with the given [delimiter],\n * returns a new char sequence having this [delimiter] removed both from the start and end.\n * Otherwise returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSurrounding(delimiter: CharSequence): CharSequence = removeSurrounding(delimiter, delimiter)\n\n/**\n * Removes the given [delimiter] string from both the start and the end of this string\n * if and`

only if it starts with and ends with the [delimiter].\n * Otherwise returns this string unchanged.\n */\npublic fun
String.removeSurrounding(delimiter: CharSequence): String = removeSurrounding(delimiter, delimiter)\n\n/**\n * Replace part of string before the first occurrence of given delimiter with the [replacement] string.\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic
fun String.replaceBefore(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val
index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n/**\n * Replace part of string before the first occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter:
String, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n
return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part
of string after the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain
the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceAfter(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val
index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length,
replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given delimiter with
the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which
defaults to the original string.\n */\npublic fun String.replaceAfter(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1)
missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n * Replace part
of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string does not contain
the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceAfterLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n
val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index +
delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence
of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfterLast(delimiter:
Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n
return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n}\n\n/**\n *
Replace part of string before the last occurrence of given delimiter with the [replacement] string.\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic
fun String.replaceBeforeLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n
val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n/**\n * Replace part of string before the last occurrence
of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBeforeLast(delimiter:
String, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n
return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n// public fun
String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean): String // JVM- and JS-specific\n// public fun
String.replace(oldValue: String, newValue: String, ignoreCase: Boolean): String // JVM- and JS-specific\n\n/**\n *
Returns a new string obtained by replacing each substring of this char sequence that matches the given regular
expression\n * with the given [replacement].\n * The [replacement] can consist of any combination of literal text
and \$-substitutions. To treat the replacement string\n * literally escape it with the
[kotlin.text.Regex.Companion.escapeReplacement] method.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.replace(regex: Regex, replacement: String): String = regex.replace(this, replacement)\n\n/**\n *
Returns a new string obtained by replacing each substring of this char sequence that matches the given regular
expression\n * with the result of the given function [transform] that takes [MatchResult] and returns a string to be
used as a\n * replacement for that match.\n */\n@kotlin.internal.InlineOnly\npublic inline fun

```

CharSequence.replace(regex: Regex, noinline transform: (MatchResult) -> CharSequence): String =\n
regex.replace(this, transform)\n\n/**\n * Replaces the first occurrence of the given regular expression [regex] in this\n
char sequence with specified [replacement] expression.\n * \n * @param replacement A replacement expression that\n
can include substitutions. See [Regex.replaceFirst] for details.\n */\n@kotlin.internal.InlineOnly\npublic inline fun\n
CharSequence.replaceFirst(regex:\n
Regex, replacement: String): String = regex.replaceFirst(this, replacement)\n\n/**\n * Returns a copy of this string\n
having its first character replaced with the result of the specified [transform],\n * or the original string if it's empty.\n\n
*\n * @param transform function that takes the first character and returns the result of the transform applied to the\n
character.\n * \n * @sample samples.text.Strings.replaceFirstChar\n\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@OptIn(kotlin.experimental.Exper\n
imentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@JvmName("replaceFirstCharWithC\n
har")\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceFirstChar(transform: (Char) -> Char): String {\n
return if (isEmpty()) transform(this[0]) + substring(1) else this\n}\n\n/**\n * Returns a copy of this string\n
having its first character replaced with the result of the specified [transform],\n * or the original\n
string if it's empty.\n * \n * @param transform function that takes the first character and returns the result of the\n
transform applied to the character.\n * \n * @sample samples.text.Strings.replaceFirstChar\n\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@OptIn(kotlin.experimental.Exper\n
imentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@JvmName("replaceFirstCharWithC\n
harSequence")\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceFirstChar(transform: (Char) ->\n
CharSequence): String {\nreturn if (isEmpty()) transform(this[0]).toString() + substring(1) else\n
this\n}\n\n\n/**\n * Returns `true` if this char sequence matches the given regular expression.\n\n
*/\n@kotlin.internal.InlineOnly\npublic inline infix fun CharSequence.matches(regex: Regex): Boolean =\n
regex.matches(this)\n\n/**\n * Implementation of [regionMatches] for CharSequences.\n * Invoked when it's\n
already known that arguments are not Strings, so that no additional\n
type checks are performed.\n */\ninternal fun CharSequence.regionMatchesImpl(thisOffset: Int, other:\n
CharSequence, otherOffset: Int, length: Int, ignoreCase: Boolean): Boolean {\nif ((otherOffset < 0) || (thisOffset <\n
0) || (thisOffset > this.length - length) || (otherOffset > other.length - length)) {\nreturn false\n}\n\nfor\n
(index in 0 until length) {\nif (!this[thisOffset + index].equals(other[otherOffset + index], ignoreCase))\nreturn false\n}\nreturn true\n}\n\n/**\n * Returns `true` if this char sequence starts with the specified\n
character.\n */\npublic fun CharSequence.startsWith(char: Char, ignoreCase: Boolean = false): Boolean =\nthis.length > 0 && this[0].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence ends with the\n
specified character.\n */\npublic fun CharSequence.endsWith(char: Char, ignoreCase: Boolean = false): Boolean =\nthis.length > 0 && this[lastIndex].equals(char, ignoreCase)\n\n\n*\n * Returns `true` if this char sequence starts with the specified prefix.\n */\npublic fun\n
CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {\nif (!ignoreCase && this is String && prefix is String)\nreturn this.startsWith(prefix)\nelse\nreturn regionMatchesImpl(0,\n
prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this char sequence starting at the\n
specified offset [startIndex] starts with the specified prefix.\n */\npublic fun CharSequence.startsWith(prefix:\n
CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {\nif (!ignoreCase && this is String && prefix is String)\nreturn this.startsWith(prefix, startIndex)\nelse\nreturn regionMatchesImpl(startIndex,\n
prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this char sequence ends with the specified\n
suffix.\n */\npublic fun CharSequence.endsWith(suffix: CharSequence, ignoreCase: Boolean\n
= false): Boolean {\nif (!ignoreCase && this is String && suffix is String)\nreturn this.endsWith(suffix)\nelse\nreturn regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length, ignoreCase)\n}\n\n\n// common\n
prefix and suffix\n\n/**\n * Returns the longest string `prefix` such that this char sequence and [other] char sequence\n
both start with this prefix,\n * taking care not to split surrogate pairs.\n * If this and [other] have no common prefix,\n
returns the empty string.\n * \n * @param ignoreCase `true` to ignore character case when matching a character. By\n
default `false`.\n * \n * @sample samples.text.Strings.commonPrefixWith\n */\npublic fun

```

```

CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {
    val shortestLength = minOf(this.length, other.length)
    var i = 0
    while (i < shortestLength && this[i].equals(other[i], ignoreCase = ignoreCase)) {
        i++
    }
    if (this.hasSurrogatePairAt(i - 1) || other.hasSurrogatePairAt(i - 1)) {
        i--
    }
    return subSequence(0, i).toString()
}

/** Returns the longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix, taking care not to split surrogate pairs. If this and [other] have no common suffix, returns the empty string.
 * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.
 * @sample samples.text.Strings.commonSuffixWith
 */
public fun CharSequence.commonSuffixWith(other: CharSequence, ignoreCase: Boolean = false): String {
    val thisLength = this.length
    val otherLength = other.length
    val shortestLength = minOf(thisLength, otherLength)
    var i = 0
    while (i < shortestLength && this[thisLength - i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {
        i++
    }
    if (this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {
        i--
    }
    return subSequence(thisLength - i, thisLength).toString()
}

/** Finds the index of the first occurrence of any of the specified [chars] in this char sequence, starting from the specified [startIndex] and optionally ignoring the case.
 * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.
 * @return An index of the first occurrence of matched character from [chars] or -1 if none of [chars] are found.
 */
public fun CharSequence.indexOfAny(chars: CharArray, startIndex: Int = 0, ignoreCase: Boolean = false): Int {
    if (!ignoreCase && chars.size == 1 && this is String) {
        val char = chars.single()
        return nativeIndexOf(char, startIndex)
    }
    for (index in startIndex.coerceAtLeast(0)..lastIndex) {
        val charAtIndex = get(index)
        if (chars.any { it.equals(charAtIndex, ignoreCase) }) {
            return index
        }
    }
    return -1
}

/** Finds the index of the last occurrence of any of the specified [chars] in this char sequence, starting from the specified [startIndex] and optionally ignoring the case.
 * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.
 * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.
 * @return An index of the last occurrence of matched character from [chars] or -1 if none of [chars] are found.
 */
public fun CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {
    if (!ignoreCase && chars.size == 1 && this is String) {
        val char = chars.single()
        return nativeLastIndexOf(char, startIndex)
    }
    for (index in startIndex.coerceAtMost(lastIndex) downTo 0) {
        val charAtIndex = get(index)
        if (chars.any { it.equals(charAtIndex, ignoreCase) }) {
            return index
        }
    }
    return -1
}

private fun CharSequence.indexOf(other: CharSequence, startIndex: Int, endIndex: Int, ignoreCase: Boolean, last: Boolean = false): Int {
    val indices = if (!last) startIndex.coerceAtLeast(0)..endIndex.coerceAtMost(length) else startIndex.coerceAtMost(lastIndex) downTo endIndex.coerceAtLeast(0)
    if (this is String && other is String) { // smart cast
        for (index in indices) {
            if (other.regionMatches(0, this, index, other.length, ignoreCase)) {
                return index
            }
        }
    } else {
        for (index in indices) {
            if (other.regionMatchesImpl(0, this, index, other.length, ignoreCase)) {
                return index
            }
        }
    }
    return -1
}

private fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int, ignoreCase: Boolean, last: Boolean): Pair<Int, String>? {
    if (!ignoreCase && strings.size == 1) {
        val string = strings.single()
        val index = if (!last) indexOf(string, startIndex) else lastIndexOf(string, startIndex)
        return if (index < 0) null else index to string
    }
    val indices = if (!last) startIndex.coerceAtLeast(0)..length else startIndex.coerceAtMost(lastIndex) downTo 0
    if (this is String) {
        for (index in indices) {
            val matchingString = strings.firstOrNull { it.regionMatches(0, this, index, it.length, ignoreCase) }
            if (matchingString != null) {
                return index to matchingString
            }
        }
    } else {
        for (index in indices) {
            val matchingString = strings.firstOrNull { it.regionMatchesImpl(0, this, index, it.length, ignoreCase) }
            if (matchingString != null) {
                return index to matchingString
            }
        }
    }
    return null
}

/** Finds the first occurrence of any of the specified [strings] in this char sequence, starting from

```

the specified [startIndex] and

optionally ignoring the case. \n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`. \n * @return A pair of an index of the first occurrence of matched string from [strings] and the string matched \n * or `null` if none of [strings] are found. \n * \n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from \n * the beginning to the end of this string, and finds at each position the first element in [strings] \n * that matches this string at that position. \n */ \n public fun

CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Pair<Int, String>? = \n findAnyOf(strings, startIndex, ignoreCase, last = false) \n \n \n * Finds the last occurrence of any of the specified [strings] in this char sequence, \n * starting from the specified [startIndex] and optionally ignoring the case. \n * \n * @param startIndex The index of character to start searching at.

The search proceeds backward toward the beginning of the string. \n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`. \n * @return A pair of an index of the last occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found. \n * \n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from \n * the end toward the beginning of this string, and finds at each position the first element in [strings] \n * that matches this string at that position. \n */ \n public fun CharSequence.findLastAnyOf(strings: Collection<String>, startIndex: Int = lastIndexOf(), ignoreCase: Boolean = false): Pair<Int, String>? = \n findAnyOf(strings, startIndex, ignoreCase, last = true) \n \n \n * Finds the index of the first occurrence of any of the specified [strings] in this char sequence, \n * starting from the specified [startIndex] and optionally ignoring the case. \n * \n * @param

ignoreCase `true` to ignore character case when matching a string. By default `false`. \n * @return An index of the first occurrence of matched string from [strings] or -1 if none of [strings] are found. \n * \n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from \n * the beginning to the end of this string, and finds at each position the first element in [strings] \n * that matches this string at that position. \n */ \n public fun CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Int = \n findAnyOf(strings, startIndex, ignoreCase, last = false)?.first ?: -1 \n \n \n * Finds the index of the last occurrence of any of the specified [strings] in this char sequence, \n * starting from the specified [startIndex] and optionally ignoring the case. \n * \n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string. \n * @param

ignoreCase `true` to ignore character case when matching a string. By default `false`. \n * @return An index of the last occurrence of matched string from [strings] or -1 if none of [strings] are found. \n * \n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from \n * the end toward the beginning of this string, and finds at each position the first element in [strings] \n * that matches this string at that position. \n */ \n public fun CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int = lastIndexOf(), ignoreCase: Boolean = false): Int = \n findAnyOf(strings, startIndex, ignoreCase, last = true)?.first ?: -1 \n \n \n // \n * Returns the index within this string of the first occurrence of the specified character, starting from the specified [startIndex]. \n * \n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`. \n * @return An index of the first occurrence of [char] or -1 if none is found. \n */ \n public fun CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase: Boolean = false): Int { \n return if (ignoreCase || this !is String) \n indexOfAny(charArrayOf(char), startIndex, ignoreCase) \n else \n nativeIndexOf(char, startIndex) \n } \n \n \n * Returns the index within this char sequence of the first occurrence of the specified [string], \n * starting from the specified [startIndex]. \n * \n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`. \n * @return An index of the first occurrence of [string] or -1 if none is found. \n * @sample samples.text.Strings.indexOf \n */ \n public fun

CharSequence.indexOf(string: String, startIndex: Int = 0, ignoreCase: Boolean = false): Int { \n return if (ignoreCase || this !is String) \n indexOf(string, startIndex, length, ignoreCase) \n else \n nativeIndexOf(string, startIndex) \n } \n \n \n * Returns the index within this char sequence of the last occurrence of the specified character, \n * starting from the specified [startIndex]. \n * \n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the

```

string.\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n *
@return An index of the last occurrence of [char] or -1 if none is found.\n */\npublic fun
CharSequence.lastIndexOf(char: Char, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    return if
(ignoreCase || this !is String)\n        lastIndexOfAny(charArrayOf(char), startIndex, ignoreCase)\n    else\n        nativeLastIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last occurrence
of the specified [string],\n * starting from the specified [startIndex].\n */\n * @param startIndex The index of
character to start searching at. The search proceeds backward toward the beginning of the string.\n *
@param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An
index of the last occurrence of [string] or -1 if none is found.\n */\npublic fun CharSequence.lastIndexOf(string:
String, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    return if (ignoreCase || this !is String)\n
indexOf(string, startIndex, 0, ignoreCase, last = true)\n    else\n        nativeLastIndexOf(string,
startIndex)\n}\n\n/**\n * Returns `true` if this char sequence contains the specified [other] sequence of characters as
a substring.\n */\n * @param ignoreCase `true` to ignore character case when comparing strings. By default `false`.\n
*/\n * @Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun
CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =\n    if (other is String)\n        indexOf(other, ignoreCase) >= 0\n    else\n        indexOf(other, 0, length, ignoreCase) >=
0\n}\n\n/**\n * Returns `true` if this char sequence contains the specified character [char].\n */\n * @param ignoreCase `true` to
ignore character case when comparing characters. By default `false`.\n
*/\n * @Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun CharSequence.contains(char:
Char, ignoreCase: Boolean = false): Boolean =\n    indexOf(char, ignoreCase) >= 0\n}\n\n/**\n * Returns
`true` if this char sequence contains at least one match of the specified regular expression [regex].\n
*/\n * @kotl.in.internal.InlineOnly\npublic inline operator fun CharSequence.contains(regex: Regex): Boolean =
regex.containsMatchIn(this)\n}\n\n// rangesDelimitedBy\n\nprivate class DelimitedRangesSequence(\n    private
val input: CharSequence,\n    private val startIndex: Int,\n    private val limit: Int,\n    private val getNextMatch:
CharSequence.(current: Int) -> Pair<Int, Int>?(): Sequence<IntRange> {\n    override fun iterator():
Iterator<IntRange> = object : Iterator<IntRange>
{\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var currentStartIndex: Int =
startIndex.coerceIn(0, input.length)\n        var nextSearchIndex: Int = currentStartIndex\n        var nextItem:
IntRange? = null\n        var counter: Int = 0\n\n        private fun calcNext() {\n            if (nextSearchIndex < 0) {\n
                nextState = 0\n                nextItem = null\n            } else {\n                if (limit > 0 && ++counter >= limit ||
nextSearchIndex > input.length) {\n                    nextItem = currentStartIndex..input.lastIndex\n
                    nextSearchIndex = -1\n                } else {\n                    val match = input.getNextMatch(nextSearchIndex)\n
                    if (match == null) {\n                        nextItem = currentStartIndex..input.lastIndex\n
                        nextSearchIndex = -1\n                    } else {\n                        val (index, length) = match\n
                        nextItem = currentStartIndex until index\n                        currentStartIndex = index + length\n
                        nextSearchIndex = currentStartIndex + if (length == 0) 1 else 0\n                    }\n                }\n                nextState =
1\n            }\n        }\n\n        override fun next(): IntRange {\n            if (nextState == -1)\n                calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n            val result = nextItem as IntRange\n
            // Clean next to avoid keeping reference on yielded instance\n            nextItem = null\n            nextState = -1\n
            return result\n        }\n\n        override fun hasNext(): Boolean {\n            if (nextState == -1)\n                calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * Returns a sequence of index ranges of
substrings in this char sequence around occurrences of the specified [delimiters].\n */\n * @param
delimiters One or more characters to be used as delimiters.\n * @param startIndex The index to start searching
delimiters from.\n * No range having its start value less than [startIndex] is returned.\n * [startIndex] is coerced to
be non-negative and not greater than length of this string.\n * @param ignoreCase `true` to ignore character case
when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero
by default means no limit is set.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters: CharArray,

```

```

startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {
  requireNonNegativeLimit(limit)
  return DelimitedRangesSequence(this, startIndex, limit, {
    currentIndex -> indexOfAny(delimiters, currentIndex, ignoreCase = ignoreCase).let {
      if (it < 0) null else it to 1
    }
  })
}

/** Returns a sequence of index ranges of substrings in this char sequence around occurrences of
the specified [delimiters].
@param delimiters One or more strings to be used as delimiters.
@param startIndex The index to start searching delimiters from.
  No range having its start value less than [startIndex] is returned.
  [startIndex] is coerced to be non-negative and not greater than length of this string.
@param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
@param limit The maximum number of substrings to return. Zero by default means no limit is set.
  To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from
the beginning to the end of this string, and finds at each position the first element in [delimiters]
that matches this string at that position.
*/
private fun CharSequence.rangesDelimitedBy(delimiters: Array<out String>, startIndex: Int = 0, ignoreCase:
Boolean = false, limit: Int = 0): Sequence<IntRange> {
  requireNonNegativeLimit(limit)
  val delimitersList = delimiters.asList()
  return DelimitedRangesSequence(this, startIndex, limit, {
    currentIndex -> findAnyOf(delimitersList, currentIndex, ignoreCase = ignoreCase, last = false)?.let {
      it.first to it.second.length
    }
  })
}

internal fun requireNonNegativeLimit(limit: Int) = require(limit >= 0) {
  "Limit must be non-negative, but was $limit"
}

/** Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].
@param delimiters One or more strings to be used as delimiters.
@param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
@param limit The maximum number of substrings to return. Zero by default means no limit is set.
  To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from
the beginning to the end of this string, and finds at each position the first element in
[delimiters] that matches this string at that position.
*/
public fun CharSequence.splitToSequence(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =
rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }

/** Splits this char sequence to a list of strings around occurrences of the specified [delimiters].
@param delimiters One or more strings to be used as delimiters.
@param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
@param limit The maximum number of substrings to return. Zero by default means no limit is set.
  To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from
the beginning to the end of this string, and matches at each position the first element in
[delimiters] that is equal to a delimiter in this instance at that position.
*/
public fun CharSequence.split(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): List<String> {
  if (delimiters.size == 1) {
    val delimiter = delimiters[0]
    if (!delimiter.isEmpty())
      return split(delimiter, ignoreCase, limit)
  }
  return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map {
    substring(it)
  }
}

/** Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].
@param delimiters One or more characters to be used as delimiters.
@param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
@param limit The maximum number of substrings to return.
*/
public fun CharSequence.splitToSequence(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =
rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }

/** Splits this char sequence to a list of strings around occurrences of the specified [delimiters].
@param delimiters One or more characters to be used as delimiters.
@param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
@param limit The maximum number of substrings to return.
*/
public fun CharSequence.split(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): List<String> {
  if (delimiters.size == 1)
    return split(delimiters[0].toString(), ignoreCase, limit)
  return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }
}

/** This is specialized
*/

```



```

version of split which receives single non-empty delimiter and offers better performance
String used as delimiter
@param ignoreCase `true` to ignore character case
when matching a delimiter. By default `false`.
@param limit The maximum number of substrings to return.
*/
private fun CharSequence.split(delimiter: String, ignoreCase: Boolean, limit: Int): List<String> {
    requireNonNegativeLimit(limit)
    var currentOffset = 0
    var nextIndex = indexOf(delimiter, currentOffset, ignoreCase)
    if (nextIndex == -1 || limit == 1) {
        return listOf(this.toString())
    }
    val isLimited = limit > 0
    val result = ArrayList<String>(if (isLimited) limit.coerceAtMost(10) else 10)
    do {
        result.add(substring(currentOffset, nextIndex))
        currentOffset = nextIndex + delimiter.length
        // Do not search for next occurrence if we're reaching limit
        if (isLimited && result.size == limit - 1) break
        nextIndex = indexOf(delimiter, currentOffset, ignoreCase)
    } while (nextIndex != -1)
    result.add(substring(currentOffset, length))
    return result
}

/** Splits this char sequence to a list of strings around matches of the given regular expression.
 * @param limit Non-negative value specifying the maximum number of substrings to return.
 * Zero by default means no limit is set.
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> =
    regex.split(this, limit)

/** Splits this char sequence to a sequence of strings around matches of the given regular expression.
 * @param limit Non-negative value specifying the maximum number of substrings to return.
 * Zero by default means no limit is set.
 */
@sample samples.text.Strings.splitToSequence

@SinceKotlin("1.6")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun CharSequence.splitToSequence(regex: Regex, limit: Int = 0): Sequence<String> =
    regex.splitToSequence(this, limit)

/** Splits this char sequence to a sequence of lines delimited by any of the following character sequences:
 * CRLF, LF or CR.
 * The lines returned do not include terminating line separators.
 */
public fun CharSequence.lineSequence(): Sequence<String> = splitToSequence("\\r\\n", "\\n", "\\r")

/** Splits this char sequence to a list of lines delimited by any of the following character sequences: CRLF, LF or CR.
 * The lines returned do not include terminating line separators.
 */
public fun CharSequence.lines(): List<String> = lineSequence().toList()

/** Returns `true` if the contents of this char sequence are equal to the contents of the specified [other],
 * i.e. both char sequences contain the same number of the same characters in the same order.
 */
@sample samples.text.Strings.contentEquals

@SinceKotlin("1.5")
public expect infix fun CharSequence?.contentEquals(other: CharSequence?): Boolean

/** Returns `true` if the contents of this char sequence are equal to the contents of the specified [other], optionally ignoring case difference.
 * @param ignoreCase `true` to ignore character case when comparing contents.
 */
@sample samples.text.Strings.contentEquals

@SinceKotlin("1.5")
public expect fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean

internal fun CharSequence?.contentEqualsIgnoreCaseImpl(other: CharSequence?): Boolean {
    if (this is String && other is String) {
        return this.equals(other, ignoreCase = true)
    }
    if (this === other) return true
    if (this == null || other == null || this.length != other.length) return false
    for (i in 0 until length) {
        if (!this[i].equals(other[i], ignoreCase = true)) {
            return false
        }
    }
    return true
}

internal fun CharSequence?.contentEqualsImpl(other: CharSequence?): Boolean {
    if (this is String && other is String) {
        return this == other
    }
    if (this === other) return true
    if (this == null || other == null || this.length != other.length) return false
    for (i in 0 until length) {
        if (this[i] != other[i]) {
            return false
        }
    }
    return true
}

/** Returns `true` if the content of this string is equal to the word `true`, `false` if it is equal to `false`,
 * and throws an exception otherwise.
 * There is also a lenient version of the function available on nullable String, [String?.toBoolean].
 * Note that this function is case-sensitive.
 */
@sample samples.text.Strings.toBooleanStrict

@SinceKotlin("1.5")
public fun String.toBooleanStrict(): Boolean = when (this) {
    "true" -> true
    "false" -> false
    else -> throw IllegalArgumentException("The string doesn't represent a boolean value: $this")
}

/** Returns `true` if the content of this string is equal to the word `true`, `false` if it is equal to `false`,
 * and `null` otherwise.
 * There is also a lenient version of the function available
 */

```

```

on nullable String, [String?.toBoolean].\n * Note that this function is case-sensitive.\n *\n * @sample
samples.text.Strings.toBooleanStrictOrNull\n *\n@SinceKotlin("1.5")\npublic fun
String.toBooleanStrictOrNull(): Boolean? = when (this) {\n    "true" -> true\n    "false" -> false\n    else ->
null\n},"/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n//
Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic value class
UByteArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ByteArray) :
Collection<UByte> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. *\n
public constructor(size: Int) : this(ByteArray(size))\n\n    /**\n     * Returns the array
element at the given [index]. This method can be called using the index operator.\n     *\n     * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is
unspecified.\n     *\n     public operator fun get(index: Int): UByte = storage[index].toUByte()\n\n     /**\n     * Sets
the element at the given [index] to the given [value]. This method can be called using the index operator.\n     *\n
     * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     *
where the behavior is unspecified.\n     *\n     public operator fun set(index: Int, value: UByte) {\n
storage[index] = value.toByte()\n    }\n\n     /** Returns the number of elements in the array. *\n     public override
val size: Int get() = storage.size\n\n     /** Creates an iterator over the elements of the array. *\n     public override
operator fun iterator(): kotlin.collections.Iterator<UByte>
= Iterator(storage)\n\n     private class Iterator(private val array: ByteArray) : kotlin.collections.Iterator<UByte> {\n
private var index = 0\n     override fun hasNext() = index < array.size\n     override fun next() = if (index <
array.size) array[index++].toUByte() else throw NoSuchElementException(index.toString())\n    }\n\n     override
fun contains(element: UByte): Boolean {\n        // TODO: Eliminate this check after KT-30016 gets fixed.\n        //
Currently JS BE does not generate special bridge method for this method.\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is UByte) return false\n        return
storage.contains(element.toByte())\n    }\n\n     override fun containsAll(elements: Collection<UByte>): Boolean {\n
return (elements as Collection<*>).all { it is UByte && storage.contains(it.toByte()) }\n    }\n\n     override fun
isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size],
where each element is calculated by calling the specified\n * [init] function.\n * *\n * The function [init] is called for
each array element sequentially starting from the first one.\n * *\n * It should return the value for an array element given
its index.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray(size: Int, init: (Int) -> UByte): UByteArray {\n    return UByteArray(ByteArray(size) { index ->
init(index).toByte()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ubyteArrayOf(vararg elements: UByte): UByteArray = elements\n},"/*\n * Copyright 2010-2022 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic
value class UIntArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: IntArray) :
Collection<UInt> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. *\n
public constructor(size: Int) : this(IntArray(size))\n\n    /**\n     * Returns the array element at the given [index].
This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds of this array,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     *\n     public
operator fun get(index: Int): UInt = storage[index].toUInt()\n\n     /**\n     * Sets the element at the given [index] to
the given [value]. This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds
of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n
     *\n     public operator fun

```

```

set(index: Int, value: UInt) {
    storage[index] = value.toInt()
}

/** Returns the number of elements in
the array. */
public override val size: Int get() = storage.size

/** Creates an iterator over the elements of the
array. */
public override operator fun iterator(): kotlin.collections.Iterator<UInt> = Iterator(storage)

private class Iterator(private val array: IntArray) : kotlin.collections.Iterator<UInt> {
    private var index = 0
    override fun hasNext() = index < array.size
    override fun next() = if (index < array.size)
array[index++].toUInt() else throw NoSuchElementException(index.toString())
}

override fun
contains(element: UInt): Boolean {
    // TODO: Eliminate this check after KT-30016 gets fixed.
    // Currently JS BE does not generate special bridge method for this method.
    @Suppress("USELESS_CAST")
    if ((element as Any?) !is UInt) return false
    return
storage.contains(element.toInt())
}

override fun containsAll(elements: Collection<UInt>): Boolean {
    return (elements as
Collection<*>).all { it is UInt && storage.contains(it.toInt()) }
}

override fun isEmpty(): Boolean =
this.storage.size == 0

/** Creates a new array of the specified [size], where each element is calculated by
calling the specified
* [init] function.
* The function [init] is called for each array element sequentially
starting from the first one.
* It should return the value for an array element given its index.
*/
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray(size: Int, init: (Int) -> UInt): UIntArray {
    return UIntArray(IntArray(size) { index ->
init(index).toInt()
})
}

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
uintArrayOf(vararg elements: UInt): UIntArray = elements

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Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.
*/
// Auto-generated file. DO NOT
EDIT!
package kotlin
import
kotlin.jvm.*
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@JvmInline
public value class
ULongArray
@PublishedApi
internal constructor(@PublishedApi internal val storage: LongArray) :
Collection<ULong> {
    /** Creates a new array of the specified [size], with all elements initialized to zero.
    */
    public constructor(size: Int) : this(LongArray(size))
    /** Returns the array element at the given [index].
This method can be called using the index operator.
    * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsException] except in Kotlin/JS
    * where the behavior is unspecified.
    */
    public
operator fun get(index: Int): ULong = storage[index].toULong()

    /** Sets the element at the given [index] to the given [value]. This method can be called using the index
operator.
    * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except
in Kotlin/JS
    * where the behavior is unspecified.
    */
    public operator fun set(index: Int, value: ULong)
{
    storage[index] = value.toLong()
}

/** Returns the number of elements in the array.
*/
public
override val size: Int get() = storage.size

/** Creates an iterator over the elements of the array.
*/
public
override operator fun iterator(): kotlin.collections.Iterator<ULong> = Iterator(storage)

private class
Iterator(private val array: LongArray) : kotlin.collections.Iterator<ULong> {
    private var index = 0
    override fun hasNext() = index < array.size
    override fun next() = if (index < array.size)
array[index++].toULong() else throw NoSuchElementException(index.toString())
}

override fun
contains(element: ULong): Boolean {
    // TODO: Eliminate this check after KT-30016
gets fixed.
    // Currently JS BE does not generate special bridge method for this method.
    @Suppress("USELESS_CAST")
    if ((element as Any?) !is ULong) return false
    return
storage.contains(element.toLong())
}

override fun containsAll(elements: Collection<ULong>): Boolean
{
    return (elements as Collection<*>).all { it is ULong && storage.contains(it.toLong()) }
}

override
fun isEmpty(): Boolean = this.storage.size == 0

/** Creates a new array of the specified [size], where each
element is calculated by calling the specified
* [init] function.
* The function [init] is called for each array
element sequentially starting from the first one.
* It should return the value for an array element given its index.
*/
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public

```

```

inline fun ULongArray(size: Int, init: (Int) -> ULong): ULongArray {
    return ULongArray(LongArray(size) {
        index -> init(index).toLong()
    })
}

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ulongArrayOf(vararg elements: ULong): ULongArray = elements

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 * and Kotlin Programming Language contributors.
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 * that can be found in the license/LICENSE.txt file.
 */
@file:JvmName("UArraysKt")
@file:kotlin.jvm.JvmPackageName("kotlin.collections.unsigned")
package
kotlin.collections

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See:
// https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib

import kotlin.random.*
import kotlin.ranges.contains
import kotlin.ranges.reversed

/**
 * Returns 1st *element* from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS
 * where the behavior is unspecified.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UIntArray.component1(): UInt {
    return get(0)
}

/**
 * Returns 1st *element* from the array.
 * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS
 * where the behavior is unspecified.
 */

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component1():
    ULong {\n    return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is
less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component1(): UByte {\n    return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If
the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component1(): UShort {\n    return get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n *
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun UIntArray.component2(): UInt {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the
array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n
* where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component2(): ULong {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n *
If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component2(): UByte {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n *
If the size of this array is less than 2, throws an [IndexOutOfBoundsException]
except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component2(): UShort {\n    return get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component3(): UInt {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If
the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component3(): ULong {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element*
from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component3(): UByte {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n *
If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component3(): UShort {\n    return get(2)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UIntArray.component4(): UInt {\n    return get(3)\n}\n\n/**\n * Returns 4th *element* from the
array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n
* where the behavior is unspecified.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component4(): ULong {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component4(): UByte {\n return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun UShortArray.component4(): UShort {\n return get(3)\n}\n\n/**\n * Returns 5th *element*
from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component5(): UInt {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the
size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun ULongArray.component5(): ULong {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from
the array.\n * \n * If the size of this array is less than 5, throws an

[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component5(): UByte {\n return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component5(): UShort {\n return get(4)\n}\n\n/**\n * Returns an element at the given [index] or
throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int):
UInt\n\n/**\n * Returns an element at the given [index] or throws
an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int):
ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int):
UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int):
UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n return if (index >= 0 &&

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index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function
if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n    return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result
of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n    return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or
`null` if the [index] is out of bounds of this array.\n
* \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrNull(index: Int): UInt? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrNull(index: Int): ULong? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.elementAtOrNull(index: Int): UByte? {\n    return this.getOrNull(index)\n}\n\n/**\n
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.elementAtOrNull(index: Int): UShort? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n    return
firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such
element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n    return firstOrNull(predicate)\n}\n\n/**\n
* Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n    return firstOrNull(predicate)\n}\n\n/**\n
* Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n    return lastOrNull(predicate)\n}\n\n/**\n
* Returns the

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last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.findLast(predicate: (ULong) -> Boolean): ULong? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns
the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the first element.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(): UInt {\n    return storage.first().toUInt()\n}\n\n/**\n * Returns the first element.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(): ULong {\n    return storage.first().toULong()\n}\n\n/**\n * Returns the first element.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(): UByte {\n    return storage.first().toUByte()\n}\n\n/**\n * Returns the first element.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(): UShort {\n    return storage.first().toUShort()\n}\n\n/**\n * Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(predicate: (UInt) -> Boolean): UInt {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException]
if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(predicate: (ULong) -> Boolean): ULong {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(predicate: (UByte) -> Boolean): UByte {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.first(predicate: (UShort) -> Boolean): UShort {\n    for (element in this) if
(predicate(element)) return element\n    throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.firstOrNull(): UInt? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.firstOrNull(): ULong? {\n

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return if (isEmpty()) null else this[0]\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.firstOrNull(): UByte? {\n
return if (isEmpty()) null else this[0]\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.firstOrNull(): UShort? {\n
return if (isEmpty()) null else this[0]\n\n/**\n * Returns the first element matching the given [predicate], or `null`
if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.firstOrNull(predicate: (UInt) -> Boolean): UInt? {\n  for (element in this) if (predicate(element)) return
element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element
was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.firstOrNull(predicate: (ULong) -> Boolean): ULong? {\n  for (element in this) if
(predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.firstOrNull(predicate: (UByte) -> Boolean): UByte? {\n  for (element in this) if
(predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.firstOrNull(predicate: (UShort) -> Boolean): UShort? {\n  for (element in this) if (predicate(element))
return element\n  return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.getOrNull(index: Int, defaultValue: (Int) -> UInt): UInt {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of
bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.getOrNull(index: Int, defaultValue: (Int) -> ULong): ULong {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of
bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.getOrNull(index: Int, defaultValue: (Int) -> UByte): UByte {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of
bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.getOrNull(index: Int, defaultValue: (Int) -> UShort): UShort {\n  return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or
`null` if the [index] is out of bounds of this array.\n
*\n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.getOrNull(index: Int): UInt? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n
*\n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.getOrNull(index: Int):
ULong? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n
*\n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.getOrNull(index: Int): UByte?

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{\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.getOrNull(index: Int):
UShort? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOf(element: UInt): Int {\n  return storage.indexOf(element.toInt())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.indexOf(element: ULong): Int {\n  return storage.indexOf(element.toLong())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOf(element: UByte): Int {\n  return storage.indexOf(element.toByte())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOf(element: UShort): Int {\n  return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns
index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n  return storage.indexOfFirst {
predicate(it.toInt()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n  return storage.indexOfFirst {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n  return storage.indexOfFirst {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if
the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n  return storage.indexOfFirst {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n  return storage.indexOfLast { predicate(it.toInt())
}\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n  return storage.indexOfLast {
predicate(it.toULong()) }\n}\n\n/**\n * Returns
index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n  return storage.indexOfLast {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n  return storage.indexOfLast {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the

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array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(): UInt {\n    return storage.last().toUInt()\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(): ULong {\n    return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n * \n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(): UByte {\n    return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n * \n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(): UShort {\n    return
storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(predicate: (UInt) -> Boolean): UInt {\n    for (index in this.indices.reversed()) {\n        val element =
this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains
no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * \n *
@throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(predicate: (ULong) -> Boolean): ULong {\n    for (index in this.indices.reversed())
{\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n
* \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(predicate: (UByte) -> Boolean): UByte {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n
* \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.last(predicate: (UShort) -> Boolean): UShort {\n    for (index in this.indices.reversed()) {\n
        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns last index
of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastIndexOf(element: UInt): Int {\n    return storage.lastIndexOf(element.toInt())\n}\n\n/**\n * Returns
last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastIndexOf(element: ULong): Int {\n    return storage.lastIndexOf(element.toLong())\n}\n\n/**\n *
Returns last index of [element],

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or -1 if the array does not contain element.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastIndexOf(element: UByte): Int {\n    return storage.lastIndexOf(element.toByte())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastIndexOf(element: UShort): Int {\n    return storage.lastIndexOf(element.toShort())\n}\n\n/**\n *
Returns the last element, or `null` if the array is empty.\n
*\n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.lastOrNull(): UInt? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n *
Returns the last
element, or `null` if the array is empty.\n
*\n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun ULongArray.lastOrNull(): ULong? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n *
Returns the
last element, or `null` if the array is empty.\n
*\n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.lastOrNull(): UByte? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n *
Returns the last element, or `null` if the array is empty.\n
*\n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.lastOrNull(): UShort? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n *
Returns the last element matching the given [predicate], or
`null` if no such element was found.\n
*\n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastOrNull(predicate:
(UInt) -> Boolean): UInt? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n *
Returns the last element matching the given
[predicate], or `null` if no such element was found.\n
*\n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastOrNull(predicate: (ULong) -> Boolean): ULong? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n *
Returns the
last element matching the given [predicate], or `null` if no such element was found.\n
*\n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastOrNull(predicate:
(UByte) -> Boolean): UByte? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n *
Returns the last element matching the given
[predicate], or `null` if no such element was found.\n
*\n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n *
Returns a
random element from this array.\n
*\n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.random(): UInt {\n    return random(Random)\n}\n\n/**\n *
Returns a random element
from this array.\n
*\n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.random(): ULong {\n    return random(Random)\n}\n\n/**\n *
Returns a random element from this
array.\n
*\n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.random(): UByte {\n    return random(Random)\n}\n\n/**\n *
Returns a random element from this
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array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.random(): UShort {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.random(random: Random): UInt {\n    if (isEmpty())\n        throw NoSuchElementException("Array
is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the
specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random):
ULong {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random):
UByte {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if
this array is empty.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.random(random: Random): UShort {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return get(random.nextInt(size))\n}\n\n/**\n * Returns a random
element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.randomOrNull(): UInt? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.randomOrNull(): ULong? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns
a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.randomOrNull(): UByte? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.randomOrNull(): UShort? {\n    return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun UIntArray.randomOrNull(random: Random): UInt? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns
a random element from this array using the specified source of randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun ULongArray.randomOrNull(random: Random): ULong? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun UByteArray.randomOrNull(random: Random): UByte? {\n    if (isEmpty())\n        return null\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
public fun UShortArray.randomOrNull(random:

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Random): UShort? {\n  if (isEmpty())\n    return null\n  return get(random.nextInt(size))\n}\n\n/**\n * Returns
the single element, or throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(): UInt {\n  return storage.single().toUInt()\n}\n\n/**\n * Returns the single element, or throws an
exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(): ULong {\n  return storage.single().toULong()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(): UByte {\n  return storage.single().toUByte()\n}\n\n/**\n * Returns the single
element, or throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(): UShort {\n  return storage.single().toUShort()\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n  var single: UInt? = null\n  var found = false\n  for
(element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n
return single as UInt\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception
if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(predicate: (ULong) -> Boolean): ULong {\n  var single: ULong? = null\n  var found = false\n
for (element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n
return single as ULong\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.single(predicate: (UByte) -> Boolean): UByte {\n  var single: UByte? = null\n  var found
= false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n      single = element\n
found = true\n    }\n  }\n  if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as UByte\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UShortArray.single(predicate: (UShort) -> Boolean): UShort {\n  var single: UShort? = null\n  var found =
false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) throw
IllegalArgumentException("Array contains more than one matching element.")\n      single
= element\n      found = true\n    }\n  }\n  if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as
UShort\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.singleOrNull(): UInt? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.singleOrNull(): ULong? {\n  return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
  UByteArray.singleOrNull(): UByte? {\n  return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
  element, or `null` if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.singleOrNull(): UShort? {\n
  return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or
  `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
  UIntArray.singleOrNull(predicate: (UInt) -> Boolean): UInt? {\n  var single: UInt? = null\n  var found = false\n
  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single = element\n
      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the single element
  matching the given [predicate], or `null`
  if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
  ULongArray.singleOrNull(predicate: (ULong) -> Boolean): ULong? {\n  var single: ULong? = null\n  var found
  = false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single =
      element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the
  single element matching the given [predicate], or `null` if element was not found or more than one element was
  found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
  fun UByteArray.singleOrNull(predicate: (UByte) -> Boolean): UByte? {\n  var single: UByte? = null\n  var found
  = false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single =
      element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the single
  element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
  UShortArray.singleOrNull(predicate: (UShort) -> Boolean): UShort? {\n  var single: UShort? = null\n  var found
  = false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single =
      element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns a list
  containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n
*\n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.drop(n: Int): List<UInt>
  {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
  n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
  IllegalArgumentException if [n] is negative.\n * \n * @sample
  samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.drop(n: Int): List<ULong> {\n
  require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
  n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
  IllegalArgumentException if [n] is negative.\n * \n * @sample
  samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.drop(n: Int): List<UByte> {\n
  require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
  n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
  IllegalArgumentException if [n] is negative.\n * \n * @sample
  samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.drop(n: Int): List<UShort> {\n
  require(n >= 0) { "Requested element count $n is less than zero." }\n  return takeLast((size -
  n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
  IllegalArgumentException if [n] is negative.\n * \n * @sample

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samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.dropLast(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.dropLast(n: Int):
List<ULong> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.dropLast(n: Int): List<UByte>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int):
List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return take(index + 1)\n } }\n return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n } }\n return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n for (index in lastIndex downTo 0)
{\n if (!predicate(this[index])) {\n return take(index + 1)\n } }\n return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n } }\n return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n var yielding = false\n val list =
ArrayList<UInt>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n
list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n var yielding = false\n val list =

```



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ArrayList<ULong>()\n for (item in this)\n     if (yielding)\n         list.add(item)\n     else if (!predicate(item))\n         list.add(item)\n     yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all\n elements except first elements that satisfy the given [predicate].\n *\n * @sample\n samples.collections.Collections.Transformations.drop\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n     var yielding = false\n     val list =\n ArrayList<UByte>()\n     for (item in this)\n         if (yielding)\n             list.add(item)\n         else if (!predicate(item)) {\n             list.add(item)\n             yielding = true\n         }\n     return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n *\n * @sample\n samples.collections.Collections.Transformations.drop\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n     var yielding = false\n     val list =\n ArrayList<UShort>()\n     for (item in this)\n         if (yielding)\n             list.add(item)\n         else if (!predicate(item))\n             list.add(item)\n         yielding = true\n     }\n     return list\n}\n\n/**\n * Returns a list containing only\n elements matching the given [predicate].\n *\n * @sample\n samples.collections.Collections.Filtering.filter\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UIntArray.filter(predicate:\n (UInt) -> Boolean): List<UInt> {\n     return filterTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list\n containing only elements matching the given [predicate].\n *\n * @sample\n samples.collections.Collections.Filtering.filter\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n     return filterTo(ArrayList<ULong>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @sample\n samples.collections.Collections.Filtering.filter\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n     return filterTo(ArrayList<UByte>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @sample\n samples.collections.Collections.Filtering.filter\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n     return filterTo(ArrayList<UShort>(),\n predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n *\n * @param\n [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate\n evaluation on the element.\n *\n * @sample\n samples.collections.Collections.Filtering.filterIndexed\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UIntArray.filterIndexed(predicate: (index: Int, UInt) -> Boolean): List<UInt> {\n     return\n filterIndexedTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the\n given [predicate].\n *\n * @param\n [predicate] function that takes the index of an element and the element itself\n * and\n returns the result of predicate evaluation\n on the element.\n *\n * @sample\n samples.collections.Collections.Filtering.filterIndexed\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n ULongArray.filterIndexed(predicate: (index: Int, ULong) -> Boolean): List<ULong> {\n     return\n filterIndexedTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the\n given [predicate].\n *\n * @param\n [predicate] function that takes the index of an element and the element itself\n * and\n returns the result of predicate evaluation on the element.\n *\n * @sample\n samples.collections.Collections.Filtering.filterIndexed\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UByteArray.filterIndexed(predicate: (index: Int, UByte) -> Boolean): List<UByte> {\n     return\n filterIndexedTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the

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given [predicate].\n * @param
 [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterIndexed(predicate: (index: Int, UShort) -> Boolean): List<UShort> {\n return
filterIndexedTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n * @param [predicate] function that takes the index of an element and the element
itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterIndexedTo(destination: C, predicate: (index: Int,
UInt) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))
destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterIndexedTo(destination: C, predicate: (index: Int, ULong) ->
Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))
destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of
an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterIndexedTo(destination: C, predicate: (index: Int, UByte) ->
Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element))
destination.add(element)\n }\n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>>
UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) -> Boolean): C {\n forEachIndexed {
index, element ->\n if (predicate(index, element)) destination.add(element)\n }\n return
destination\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {\n return filterNotTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {\n return filterNotTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {\n return filterNotTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample

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samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {\n    return
filterNotTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements not matching the given [predicate]
to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <C : MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean):
C {\n    for (element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n *
Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination: C, predicate: (ULong) -> Boolean): C {\n
for (element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in
UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean): C {\n
for (element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterTo(destination:
C, predicate: (UInt) -> Boolean): C {\n    for (element in this) if (predicate(element)) destination.add(element)\n
return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
\n * @sample samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {\n
for (element in this) if (predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n
for (element in this) if (predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n
for (element in this) if (predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Returns
a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange):
List<UInt> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n

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*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public
fun ULongArray.slice(indices: IntRange): List<ULong> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/**
 * Returns a list containing elements at indices in the specified [indices] range.
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun
UByteArray.slice(indices: IntRange): List<UByte> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/**
 * Returns a list containing elements at indices in the specified [indices] range.
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun
UShortArray.slice(indices: IntRange): List<UShort> {
    if (indices.isEmpty()) return listOf()
    return copyOfRange(indices.start, indices.endInclusive + 1).asList()
}
/**
 * Returns a list containing elements at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public
fun UIntArray.slice(indices: Iterable<Int>): List<UInt> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<UInt>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/**
 * Returns a list containing elements at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun ULongArray.slice(indices: Iterable<Int>):
List<ULong> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<ULong>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/**
 * Returns a list containing elements at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UByteArray.slice(indices: Iterable<Int>):
List<UByte> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<UByte>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/**
 * Returns a list containing elements at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UShortArray.slice(indices: Iterable<Int>):
List<UShort> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<UShort>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}
/**
 * Returns an array containing elements of this array at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UIntArray.sliceArray(indices:
Collection<Int>): UIntArray {
    return UIntArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements of this array at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun ULongArray.sliceArray(indices:
Collection<Int>):
ULongArray {
    return ULongArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements of this array at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UByteArray.sliceArray(indices: Collection<Int>): UByteArray {
    return UByteArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements of this array at specified [indices].
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UShortArray.sliceArray(indices: Collection<Int>): UShortArray {
    return UShortArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements at indices in the specified [indices] range.
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UIntArray.sliceArray(indices: IntRange): UIntArray {
    return UIntArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements at indices in the specified [indices] range.
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public
fun ULongArray.sliceArray(indices: IntRange): ULongArray {
    return ULongArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements at indices in the specified [indices] range.
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UByteArray.sliceArray(indices: IntRange): UByteArray {
    return UByteArray(storage.sliceArray(indices))
}
/**
 * Returns an array containing elements at indices in the specified [indices] range.
 */
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^public fun UShortArray.sliceArray(indices: IntRange): UShortArray {
    return

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UShortArray(storage.sliceArray(indices))\n\n/**\n * Returns a list containing first [n] elements.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.take(n: Int): List<UInt> {\n
    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<UInt>(n)\n    for
(item in this) {\n        list.add(item)\n        if (++count == n)\n            break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.take(n: Int): List<ULong> {\n
    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<ULong>(n)\n    for
(item in this) {\n        list.add(item)\n        if (++count == n)\n            break\n
    }\n    return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws
IllegalArgumentExcep\n
tion if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.take(n: Int): List<UByte> {\n
    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<UByte>(n)\n    for
(item in this) {\n        list.add(item)\n        if (++count == n)\n            break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.take(n: Int): List<UShort> {\n
    require(n
    >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >= size)
return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<UShort>(n)\n    for
(item in this) {\n        list.add(item)\n        if (++count == n)\n            break\n    }\n    return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.takeLast(n: Int): List<UInt> {\n
    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val size =
size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<UInt>(n)\n
    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing
last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.takeLast(n: Int): List<ULong>\n
{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val
size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list =
ArrayList<ULong>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.takeLast(n: Int): List<UByte>\n
{\n    require(n >= 0) { \"Requested element count $n is less than zero.\"
    }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return
listOf(this[size - 1])\n    val list = ArrayList<UByte>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n
    return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgumentExcep\n
tion if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.takeLast(n: Int): List<UShort>
{\n    require(n >= 0) { "\nRequested element count $n is less than zero.\n" }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<UShort>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n    val list = ArrayList<UInt>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n    val list = ArrayList<ULong>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n    val list = ArrayList<UByte>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    val list = ArrayList<UShort>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Reverses elements in the array in-place.\n */
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reverse():

```

```

Unit {
    storage.reverse()
}
/**
 * Reverses elements in the array in-place.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reverse(): Unit {
    storage.reverse()
}
/**
 * Reverses elements in the array in-place.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.reverse(): Unit {
    storage.reverse()
}
/**
 * Reverses elements in the array in-place.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.reverse(): Unit {
    storage.reverse()
}
/**
 * Reverses elements of the array in the specified
 * range in-place.
 * @param fromIndex the start of the range (inclusive) to reverse.
 * @param toIndex the end
 * of the range (exclusive) to reverse.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero
 * or [toIndex] is greater than the size of
 * this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reverse(fromIndex: Int, toIndex: Int): Unit {
    storage.reverse(fromIndex, toIndex)
}
/**
 * Reverses elements of the array in the specified range in-place.
 * @param fromIndex the start of the range
 * (inclusive) to reverse.
 * @param toIndex the end of the range (exclusive) to reverse.
 * @throws
 * IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reverse(fromIndex: Int, toIndex: Int): Unit {
    storage.reverse(fromIndex, toIndex)
}
/**
 * Reverses elements of the array in the specified range in-place.
 * @param fromIndex the start of the range (inclusive) to reverse.
 * @param toIndex the end of the range
 * (exclusive) to reverse.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]
 * is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than
 * [toIndex].
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline
fun UByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {
    storage.reverse(fromIndex, toIndex)
}
/**
 * Reverses elements of the array in the specified range in-place.
 * @param fromIndex the start of the range
 * (inclusive) to reverse.
 * @param toIndex the end of the range (exclusive) to reverse.
 * @throws
 * IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public
inline fun UShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {
    storage.reverse(fromIndex,
toIndex)
}
/**
 * Returns a list with elements in reversed order.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UIntArray.reversed(): List<UInt> {
    if
(isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}
/**
 * Returns a
 * list with elements in reversed order.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
UIntArray.reversed(): List<UInt> {
    if (isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}
/**
 * Returns a list with elements in reversed order.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UByteArray.reversed(): List<UByte> {
    if
(isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}
/**
 * Returns a list with elements in reversed order.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UShortArray.reversed(): List<UShort> {
    if
(isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}
/**
 * Returns
 * an array with elements of this array in reversed order.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reversedArray(): UIntArray {
    return UIntArray(storage.reversedArray())
}
/**
 * Returns an
 * array with elements of this array in reversed order.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reversedArray(): UIntArray {
    return UIntArray(storage.reversedArray())
}

```

Returns an array with elements of this array in reversed order.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.reversedArray():
```

UByteArray {\n return UByteArray(storage.reversedArray())\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.reversedArray(): UShortArray {\n return UShortArray(storage.reversedArray())\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic  
fun UShortArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-  
place using the specified [random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(random: Random): Unit  
{\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] =  
this[j]\n this[j] = copy\n }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified  
[random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(random: Random):  
Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n  
val copy = this[i]\n this[i] = this[j]\n this[j] = copy\n }\n}\n\n/**\n * Randomly shuffles elements in this  
array in-place using the specified [random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(random: Random):  
Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] =  
this[j]\n this[j] = copy\n }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified  
[random] instance as the source of randomness.\n * \n * See:
```

https://en.wikipedia.org/wiki/Fisher%20%93Yates_shuffle#The_modern_algorithm\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(random: Random):  
Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val  
copy = this[i]\n this[i] = this[j]\n this[j] = copy\n }\n}\n\n/**\n * Sorts elements in the array in-place  
descending according to their natural sort order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(): Unit {\n if  
(size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending  
according to their natural sort order.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun  
ULongArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts  
elements in the array in-place descending according to their natural sort order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(): Unit {\n if  
(size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending  
according to their natural sort order.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic  
fun UShortArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sorted(): List<UInt> {\n return
```



```

copyOf().apply { sort() }.asList()\n\n/**\n * Returns a list of all elements sorted according to their natural sort
order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sorted():
List<ULong> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sorted(): List<UByte> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all
elements sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sorted(): List<UShort> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns an
array with all elements of this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArray(): UIntArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArray(): ULongArray
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArray(): UByteArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArray(): UShortArray
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArrayDescending():
UIntArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArrayDescending():
ULongArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according
to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sortedArrayDescending(): UByteArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.sortedArrayDescending(): UShortArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort
order.\n */\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after
sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedDescending():
List<UInt> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted
descending
according to their natural sort order.\n */\n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sortedDescending(): List<ULong> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedDescending():
List<UByte> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted
descending according to their natural sort order.\n */\n * The sort is _stable_. It means that equal elements preserve
their order relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun

```

```

UShortArray.sortedDescending(): List<UShort> {
    return copyOf().apply { sort() }.reversed()
}

Returns an array of type [ByteArray], which is a view of this array where each element is a signed reinterpretation
of the corresponding element of this array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UByteArray.asByteArray(): ByteArray {
    return storage
}

Returns an array of type [IntArray], which
is a view of this array where each element is a signed reinterpretation
of the corresponding element of this
array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UIntArray.asIntArray(): IntArray {
    return storage
}

Returns a [List] that wraps the original array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun UIntArray.asList():
List<UInt>

Returns a [List] that wraps the original array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun ULongArray.asList():
List<ULong>

Returns a [List] that wraps the original array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun UByteArray.asList():
List<UByte>

Returns a [List] that wraps the original array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public expect fun UShortArray.asList():
List<UShort>

Returns an array of type [LongArray], which is a view of this array where each element is
a signed reinterpretation
of the corresponding element of this array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ULongArray.asLongArray(): LongArray {
    return storage
}

Returns an array of type [ShortArray],
which is a view of this array where each element is a signed reinterpretation
of the corresponding element of this
array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public
inline fun UShortArray.asShortArray(): ShortArray {
    return storage
}

Returns an array of type
[UByteArray], which is a view of this array where each element is an unsigned reinterpretation
of the
corresponding element of this array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ByteArray.asUByteArray(): UByteArray {
    return UByteArray(this)
}

Returns an array of type
[UIntArray], which is a view of this array where each element is an unsigned reinterpretation
of the
corresponding element of this array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
IntArray.asUIntArray(): UIntArray {
    return UIntArray(this)
}

Returns an array of type
[ULongArray], which is a view of this array where each element is an unsigned reinterpretation
of the
corresponding element of this
array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
LongArray.asULongArray(): ULongArray {
    return ULongArray(this)
}

Returns an array of type
[UShortArray], which is a view of this array where each element is an unsigned reinterpretation
of the
corresponding element of this array.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ShortArray.asUShortArray(): UShortArray {
    return UShortArray(this)
}

Returns `true` if the two
specified arrays are *structurally* equal to one another,
i.e. contain the same number of the same elements in the
same order.

@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
"1.4")
@ExperimentalUnsignedTypes
public infix fun UIntArray.contentEquals(other: UIntArray): Boolean {
    return this.contentEquals(other)
}

Returns `true` if the two specified arrays are *structurally* equal to one another,
i.e. contain the same number
of the same elements in the same order.

@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
"1.4")
@ExperimentalUnsignedTypes
public infix fun ULongArray.contentEquals(other: ULongArray):
Boolean {
    return this.contentEquals(other)
}

Returns `true` if the two specified arrays are

```

```

*structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.contentEquals(other: UByteArray): Boolean
{\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal
to one another,\n
* i.e. contain the same number of the same elements in the same order.\n
*\n@Deprecated("Use Kotlin compiler
1.4 to avoid deprecation warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.contentEquals(other: UShortArray):
Boolean {\n    return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are
*structurally* equal to one another,\n
* i.e. contain the same number of the same elements in the same order.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray?.contentEquals(other:
UIntArray?): Boolean {\n    return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n
* i.e. contain the same number of the same elements in the
same order.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun
ULongArray?.contentEquals(other:
ULongArray?): Boolean {\n    return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the
two specified arrays are *structurally* equal to one another,\n
* i.e. contain the same number of the same elements
in the same order.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun
UByteArray?.contentEquals(other: UByteArray?): Boolean {\n    return
this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally*
equal to one another,\n
* i.e. contain the same number of the same elements in the same order.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray?.contentEquals(other:
UShortArray?): Boolean {\n    return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns a hash code
based on the contents of this array as if it is [List].\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid
deprecation warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince
= "1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentHashCode(): Int {\n    return
this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it
is [List].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray?.contentHashCode(): Int {\n    return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash
code based on the contents of this array as if it is [List].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it
is [List].\n

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray?.contentHashCode(): Int {\n
return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentToString(): String {\n return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentToString(): String {\n
return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentToString(): String {\n return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated("Use
Kotlin compiler 1.4 to avoid deprecation
warning.")\n@SinceKotlin("1.3")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentToString(): String {\n return
this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n *
Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray?.contentToString(): String {\n
return this?.joinToString(", ", "[", "]") ?: "null"\n}\n\n/**\n * Copies this array or its subrange into the
[destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even
specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy
to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param
startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive)
of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex]
or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```
UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UIIntArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param
destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices
range.\n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
ULongArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex,
endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and
returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so
that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param
destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices
range.\n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UByteArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException
or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when
`startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the
[destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination]
array indices range.\n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyInto(destination: UShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
size): UShortArray {\n storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n return
destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIIntArray.copyOf():
UIIntArray {\n return UIIntArray(storage.copyOf())\n}\n\n/**\n * Returns new array which is a copy of the
original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```

ULongArray.copyOf(): ULongArray {\n    return ULongArray(storage.copyOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOf(): UByteArray {\n    return UByteArray(storage.copyOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOf(): UShortArray {\n    return UShortArray(storage.copyOf())\n}\n\n/**\n
 * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOf(newSize: Int): UIntArray {\n    return UIntArray(storage.copyOf(newSize))\n}\n\n/**\n
 * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the
original array, the extra elements in the copy array are filled with zero values.\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOf(newSize: Int): ULongArray {\n    return ULongArray(storage.copyOf(newSize))\n}\n\n/**\n
 * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOf(newSize: Int): UByteArray {\n    return UByteArray(storage.copyOf(newSize))\n}\n\n/**\n
 * Returns new array which is a copy of the original array, resized to the
given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If
[newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is
greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOf(newSize: Int): UShortArray {\n    return UShortArray(storage.copyOf(newSize))\n}\n\n/**\n
 * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start
of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.copyOfRange(fromIndex: Int, toIndex: Int): UIntArray {\n    return
UIIntArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n
 * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n *
 * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {\n    return
ULongArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n
 * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param
fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n
 * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of

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this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {\n    return
UByteArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n *
@param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n    return
UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the
specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n *
@param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.fill(element: UInt, fromIndex:
Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toInt(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array
or its subrange with the specified [element] value.\n * \n * @param
fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range
(exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.fill(element: ULong, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toLong(),
fromIndex, toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n *
@param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range
(exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.fill(element: UByte, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toByte(),
fromIndex, toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n *
@param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range
(exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less
than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is
greater than [toIndex].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.fill(element: UShort, fromIndex: Int = 0, toIndex: Int = size): Unit {\n    storage.fill(element.toShort(),
fromIndex, toIndex)\n}\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
inline val UIntArray.indices: IntRange\n    get() = storage.indices\n\n/**\n * Returns the range of valid indices for
the array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices:
IntRange\n    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n
    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n
    get() = storage.indices\n\n/**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n    get() =
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic

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```

inline val ULongArray.lastIndex: Int
    get() = storage.lastIndex
/**
 * Returns the last valid index for the array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public inline val UByteArray.lastIndex: Int
    get() = storage.lastIndex
/**
 * Returns the last valid index for the array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public inline val UShortArray.lastIndex: Int
    get() = storage.lastIndex
/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UIntArray.plus(element: UInt): UIntArray {
    return UIntArray(storage + element.toInt())
}
/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun ULongArray.plus(element: ULong): ULongArray {
    return ULongArray(storage + element.toLong())
}
/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UByteArray.plus(element: UByte): UByteArray {
    return UByteArray(storage + element.toByte())
}
/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UShortArray.plus(element: UShort): UShortArray {
    return UShortArray(storage + element.toShort())
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public operator fun UIntArray.plus(elements: Collection<UInt>): UIntArray {
    var index = size
    val result = storage.copyOf(size + elements.size)
    for (element in elements) result[index++] = element.toInt()
    return UIntArray(result)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public operator fun ULongArray.plus(elements: Collection<ULong>): ULongArray {
    var index = size
    val result = storage.copyOf(size + elements.size)
    for (element in elements) result[index++] = element.toLong()
    return ULongArray(result)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public operator fun UByteArray.plus(elements: Collection<UByte>): UByteArray {
    var index = size
    val result = storage.copyOf(size + elements.size)
    for (element in elements) result[index++] = element.toByte()
    return UByteArray(result)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public operator fun UShortArray.plus(elements: Collection<UShort>): UShortArray {
    var index = size
    val result = storage.copyOf(size + elements.size)
    for (element in elements) result[index++] = element.toShort()
    return UShortArray(result)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UIntArray.plus(elements: UIntArray): UIntArray {
    return UIntArray(storage + elements.storage)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun ULongArray.plus(elements: ULongArray): ULongArray {
    return ULongArray(storage + elements.storage)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UByteArray.plus(elements: UByteArray): UByteArray {
    return UByteArray(storage + elements.storage)
}
/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] array.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline operator fun UShortArray.plus(elements: UShortArray): UShortArray {
    return UShortArray(storage +

```



```

elements.storage)\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.sort(): Unit {\n  if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *
@sample samples.collections.Arrays.Sorting.sortArray\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(): Unit {\n  if (size > 1)
sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
samples.collections.Arrays.Sorting.sortArray\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(): Unit {\n  if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *
@sample samples.collections.Arrays.Sorting.sortArray\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(): Unit {\n  if (size > 1)
sortArray(this, 0, size)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of
the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(fromIndex: Int = 0, toIndex:
Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  sortArray(this, fromIndex,
toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range
(inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(fromIndex: Int = 0,
toIndex: Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  sortArray(this,
fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(fromIndex: Int = 0,
toIndex: Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n  sortArray(this, fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param
fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(fromIndex: Int = 0,
toIndex: Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  sortArray(this,
fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are
sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive)
to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(fromIndex: Int,
toIndex: Int): Unit {\n  sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of
the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort
order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range

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(exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic
fun ULongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n
reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The
elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the
range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(fromIndex:
Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements
of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort
order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range
(exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is
greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(fromIndex:
Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Returns an
array of type [ByteArray], which is a copy of this array where each element is a signed reinterpretation\n * of the
corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.toByteArray(): ByteArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns an array of type
[IntArray], which is a copy of this array where each element is a signed
reinterpretation\n * of the corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.toIntArray(): IntArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns an array of type [LongArray],
which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.toLongArray(): LongArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns an array of type
[ShortArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding
element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.toShortArray(): ShortArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns a *typed* object array
containing all
of the elements of this primitive array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.toTypedArray(): Array<UInt> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a
*typed* object array containing all of the elements of this primitive array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.toTypedArray():
Array<ULong> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array
containing all of the elements of this primitive array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.toTypedArray():
Array<UByte> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array
containing all of the elements of this primitive array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.toTypedArray():
Array<UShort> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns
an array of UByte containing all of the elements of this generic array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UByte>.toByteArray():
UByteArray {\n    return UByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type
[UByteArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the

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corresponding element of this array.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ByteArray.toUByteArray(): UByteArray {\n    return UByteArray(this.copyOf())\n}\n\n/**\n * Returns an array of  
UInt containing all of the elements of this generic array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UInt>.toUIntArray(): UIntArray  
{\n    return UIntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UIntArray], which is a  
copy of this array where each element is an unsigned reinterpretation\n * of  
the corresponding element of this array.\n
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```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
IntArray.toUIntArray(): UIntArray {\n    return UIntArray(this.copyOf())\n}\n\n/**\n * Returns an array of ULong  
containing all of the elements of this generic array.\n
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```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out ULong>.toULongArray():  
ULongArray {\n    return ULongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type  
[ULongArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the  
corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
LongArray.toULongArray(): ULongArray {\n    return ULongArray(this.copyOf())\n}\n\n/**\n * Returns an array  
of UShort containing all of the elements of this generic array.\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic  
fun Array<out UShort>.toUShortArray(): UShortArray {\n    return UShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UShortArray], which is a copy of this array where each element is an  
unsigned reinterpretation\n * of the corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ShortArray.toUShortArray(): UShortArray {\n    return UShortArray(this.copyOf())\n}\n\n/**\n * Returns a [Map]  
where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to  
each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map  
preserves the entry iteration order of the original array.\n * \n * @sample  
samples.collections.Collections.Transformations.associateWith\n
```

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
UIntArray.associateWith(valueSelector:  
(UInt) -> V): Map<UInt, V> {\n    val result = LinkedHashMap<UInt, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the  
given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two  
elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order  
of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
ULongArray.associateWith(valueSelector: (ULong) -> V): Map<ULong, V> {\n    val result =  
LinkedHashMap<ULong, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,  
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *  
produced by  
the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added  
to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample  
samples.collections.Collections.Transformations.associateWith\n
```

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>  
UByteArray.associateWith(valueSelector: (UByte) -> V): Map<UByte, V> {\n    val result =  
LinkedHashMap<UByte, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,  
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *  
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
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gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UShortArray.associateWith(valueSelector: (UShort) -> V): Map<UShort, V> {\n    val result =
LinkedHashMap<UShort, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function
applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *
@sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in UInt, in V>> UIntArray.associateWithTo(destination: M, valueSelector: (UInt) -> V): M {\n    for
(element in this) {\n        destination.put(element,
valueSelector(element))\n    }\n    return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs for each element of the given array,\n * where key is the element itself and value is
provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one
overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in ULong, in V>> ULongArray.associateWithTo(destination: M, valueSelector: (ULong) -> V): M
{\n    for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,\n * where key is the element itself and value is provided by the [valueSelector]
function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the
map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in UByte, in V>> UByteArray.associateWithTo(destination: M, valueSelector: (UByte) -> V): M {\n
for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied
to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *
@sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <V, M : MutableMap<in UShort, in V>> UShortArray.associateWithTo(destination: M, valueSelector:
(UShort) -> V): M {\n    for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n
return destination\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function
being invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ULongArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n    return
flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of
[transform] function being invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>

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UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {
    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**
 * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R>
    {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**
 * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.flatMapIndexed(transform: (index: Int, UInt) -> Iterable<R>): List<R> {
    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**
 * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ULongArray.flatMapIndexed(transform: (index: Int, ULong) -> Iterable<R>): List<R> {
    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**
 * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.flatMapIndexed(transform: (index: Int, UByte) -> Iterable<R>): List<R> {
    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**
 * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original
array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMapIndexed(transform: (index: Int, UShort) -> Iterable<R>): List<R> {
    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**
 * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapIndexedTo(destination: C, transform: (index: Int, UInt) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this)
    {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**
 * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index
in the original array, to the given [destination].\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapIndexedTo(destination: C, transform: (index: Int, ULong) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**
 * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R, C : MutableCollection<in R>> UByteArray.flatMapIndexedTo(destination: C, transform: (index: Int,
UByte) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++,
element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, UShort) ->
Iterable<R>): C {\n    var index = 0\n
    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>):
C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort)
-> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n
    }\n    return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given
[keySelector] function\n * applied to each element and returns a map where each group key is associated with a list
of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from
the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated
with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
ULongArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n

```

```

*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K>
UByteArray.groupBy(keySelector:
    (UByte) -> K): Map<K, List<UByte>> {\n    return groupByTo(LinkedHashMap<K, MutableList<UByte>>(),
keySelector)\n}\n/n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K>
UShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n/n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n
* and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned
map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K, V>
UIntArray.groupBy(keySelector: (UInt) -> K, valueTransform: (UInt) -> V): Map<K, List<V>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n/n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K, V>
ULongArray.groupBy(keySelector: (ULong) -> K, valueTransform: (ULong) -> V): Map<K, List<V>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n/n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K, V>
UByteArray.groupBy(keySelector: (UByte) -> K,
    valueTransform: (UByte) -> V): Map<K, List<V>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<V>>(), keySelector, valueTransform)\n}\n/n/**\n * Groups values returned by the [valueTransform]
function applied to each element of the original array\n * by the key returned by the given [keySelector] function
applied to the element\n * and returns a map where each group key is associated with a list of corresponding
values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n
* \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K, V>
UShortArray.groupBy(keySelector: (UShort) -> K, valueTransform: (UShort) -> V): Map<K, List<V>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n/n/**\n * Groups elements
of the original array by the key returned by the given
[keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with
a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^public inline fun <K, M :
MutableMap<in K, MutableList<UInt>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K): M {\n

```

```

for (element in this) {
    val key = keySelector(element)
    val list = destination.getOrPut(key) {
        ArrayList<UInt>()
    }
    list.add(element)
}
return destination
}

/**
 * Groups elements of the original array by the key returned by the given [keySelector] function applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.
 *
 * @return The [destination] map.
 *
 * @sample samples.collections.Collections.Transformations.groupBy
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <K, M : MutableMap<in K, MutableList<ULong>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) {
            ArrayList<ULong>()
        }
        list.add(element)
    }
    return destination
}

/**
 * Groups elements of the original array by the key returned by the given [keySelector] function applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.
 *
 * @return The [destination] map.
 *
 * @sample samples.collections.Collections.Transformations.groupBy
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <K, M : MutableMap<in K, MutableList<UByte>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) {
            ArrayList<UByte>()
        }
        list.add(element)
    }
    return destination
}

/**
 * Groups values returned by the [valueTransform] function applied to each element of the original array by the key returned by the given [keySelector] function applied to the element and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 *
 * @sample samples.collections.Collections.Transformations.groupByKeysAndValues
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K, valueTransform: (UInt) -> V): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) {
            ArrayList<V>()
        }
        list.add(valueTransform(element))
    }
    return destination
}

/**
 * Groups values returned by the [valueTransform] function applied to each element of the original array by the key returned by the given [keySelector] function applied to the element and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 *
 * @sample samples.collections.Collections.Transformations.groupByKeysAndValues
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K, valueTransform: (ULong) -> V): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) {
            ArrayList<V>()
        }
        list.add(valueTransform(element))
    }
    return destination
}

/**
 * Groups values returned by the [valueTransform] function applied to each element of the original array by the key returned by the given [keySelector] function applied to the element and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 *
 * @sample samples.collections.Collections.Transformations.groupByKeysAndValues
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K, valueTransform: (UByte) -> V): M {
    for (element in this) {
        val key = keySelector(element)
        val list

```



```

= destination.getOrPut(key) { ArrayList<V>() } list.add(valueTransform(element)) } return
destination } } // ** Groups values returned by the [valueTransform] function applied to each element of the
original array by the key returned by the given [keySelector] function applied to the element and puts to the
[destination] map each group key associated with a list of corresponding values. @return The [destination]
map. @sample samples.collections.Collections.Transformations.groupByKeysAndValues
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K,
valueTransform: (UShort) -> V): M { /n for (element in this) { /n val key = keySelector(element) /n val list
= destination.getOrPut(key) { ArrayList<V>() } list.add(valueTransform(element)) } } return
destination } } // ** Returns a list containing the results of applying the given [transform] function to each
element in the original array. @sample samples.collections.Collections.Transformations.map
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline fun <R>
UIntArray.map(transform: (UInt) -> R): List<R> { /n return mapTo(ArrayList<R>(size), transform) } } // ** Returns a list containing the results of applying the given [transform] function
to each element in the original array. @sample samples.collections.Collections.Transformations.map
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline fun <R>
ULongArray.map(transform: (ULong) -> R): List<R> { /n return mapTo(ArrayList<R>(size),
transform) } } // ** Returns a list containing the results of applying the given [transform] function to each
element in the original array. @sample samples.collections.Collections.Transformations.map
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline fun <R>
UByteArray.map(transform: (UByte) -> R): List<R> { /n return mapTo(ArrayList<R>(size),
transform) } } // ** Returns a list containing the results of applying the given [transform] function to each
element in the original array. @sample samples.collections.Collections.Transformations.map
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public
inline fun <R> UShortArray.map(transform: (UShort) -> R): List<R> { /n return mapTo(ArrayList<R>(size),
transform) } } // ** Returns a list containing the results of applying the given [transform] function to each
element and its index in the original array. @param [transform] function that takes the index of an element and
the element itself and returns the result of the transform applied to the element. /n
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline fun <R>
UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> { /n return
mapIndexedTo(ArrayList<R>(size), transform) } } // ** Returns a list containing the results of applying the
given [transform] function to each element and its index in the original array. @param [transform] function
that takes the index of an element and the element itself and returns the result of the transform applied to the
element. /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline
fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> { /n return
mapIndexedTo(ArrayList<R>(size), transform) } } // ** Returns a list containing the results of applying the
given [transform] function to each element and its index in the original array. @param [transform] function
that takes the index of an element and the element itself and returns the result of the transform applied to the
element. /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline
fun <R> UByteArray.mapIndexed(transform: (index: Int, UByte) -> R): List<R> { /n return
mapIndexedTo(ArrayList<R>(size), transform) } } // ** Returns a list containing the results of applying the
given [transform] function to each element and its index in the original array. @param [transform] function
that takes the index of an
element and the element itself and returns the result of the transform applied to the element. /n
* /n @SinceKotlin(1.3) /n @ExperimentalUnsignedTypes /n @kotlin.internal.InlineOnly /n public inline fun <R>
UShortArray.mapIndexed(transform: (index: Int, UShort) -> R): List<R> { /n return
mapIndexedTo(ArrayList<R>(size), transform) } } // ** Applies the given [transform] function to each
element and its index in the original array and appends the results to the given [destination]. @param

```

[transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.withIndex(): Iterable<IndexedValue<UInt>>\n
```

```
Iterable<IndexedValue<UInt>>\n
```

```
{\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.withIndex(): Iterable<IndexedValue<ULong>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
```

```

element itself.\n *^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.withIndex():
Iterable<IndexedValue<UByte>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]
that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n *^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.withIndex():
Iterable<IndexedValue<UShort>>
{\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n
*\n * @sample samples.collections.Collections.Aggregates.all\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.all(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.all(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.all(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if
(!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.all(predicate: (UShort) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n
*\n * @sample samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if at least one element matches
the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UIntArray.any(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.any(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.any(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
true\n    return false\n}\n\n/**\n * Returns `true` if at least one element
matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

UShortArray.any(predicate: (UShort) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.count(predicate: (UInt) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun ULongArray.count(predicate: (ULong) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n
return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.count(predicate: (UByte) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n *\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun UShortArray.count(predicate: (UShort) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator
value and an element,
and calculates the next accumulator value.\n
*\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
*\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next
accumulator value.\n
*\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n *
@param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n
*\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates
the next accumulator value.\n
*\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n *
*\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n
*\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UIntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): R {\n  var index = 0\n  var

```

accumulator = initial\n

for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n

*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n

* to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n

*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n

*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n

*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {\n

var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n

*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n ULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n *

* to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n

*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is

empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.foldRightIndexed(initial: R, operation: (index: Int, UByte, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
```

```
* \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n * \n * @param [action] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.forEach(action: (UInt) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.forEach(action: (ULong) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.forEach(action: (UByte) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.forEach(action: (UShort) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {\n    var index = 0\n    for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.forEachIndexed(action: (index: Int,
UByte) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the
given [action] on each element, providing sequential index with the element.\n * @param [action] function that
takes the index of an element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {\n    var index = 0\n    for (item in this)
action(index++, item)\n}\n\n/**\n * Returns the largest element.\n * \n * @throws NoSuchElementException if the
array is empty.\n *\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UIntArray.max(): UInt {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        if (max < e) max =
e\n    }\n    return max\n}\n\n/**\n * Returns the largest element.\n * \n * @throws NoSuchElementException if the
array is empty.\n *\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UByteArray.max(): UByte {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest
element.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UShortArray.max(): UShort {\n    if (isEmpty()) throw NoSuchElementException()\n    var max = this[0]\n    for (i
in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function.\n * \n * @throws NoSuchElementException if the array is
empty.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic inline fun <R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt {\n    if (isEmpty())
throw NoSuchElementException()\n    var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex
== 0) return maxElem\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return

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maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws
NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic inline fun <R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n
val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws
NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic inline fun <R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n
return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function.\n * \n * @throws
NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic inline fun <R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort {\n if
(isEmpty()) throw NoSuchElementException()\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if
(lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e =
this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n
return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n
* \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxByOrNull(selector: (UInt) -> R): UInt? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v)
{\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.maxByOrNull(selector: (ULong) -> R): ULong?
{\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0)
return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v
= selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are
no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.maxByOrNull(selector: (UByte) -> R): UByte? {\n if (isEmpty()) return null\n

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var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val
v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return
maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are
no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.maxByOrNull(selector: (UShort) -> R): UShort? {\n    if (isEmpty()) return null\n
var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the largest
value among all values produced by [selector] function\n * applied to each
element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.maxOf(selector: (ULong) -> Double): Double {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.maxOf(selector: (UByte) -> Double): Double {\n    if
(isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n *
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Double): Double {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n *
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =

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maxOf(maxValue, v)\n } return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (ULong) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.maxOf(selector: (UByte) -> Float): Float {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n
maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all
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NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxOf(selector: (UInt) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R : Comparable<R>> ULongArray.maxOf(selector: (ULong) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the
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Comparable<R>> UByteArray.maxOf(selector: (UByte) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.maxOf(selector: (UShort) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (maxValue < v) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*/\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOfOrNull(selector: (UInt) -> Double): Double? {\n  if (isEmpty()) return null\n  var maxValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n
  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.maxOfOrNull(selector: (ULong) -> Double): Double? {\n  if (isEmpty()) return null\n
var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue =
maxOf(maxValue, v)\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
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  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
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UShortArray.maxOfOrNull(selector: (UShort) -> Double): Double? {\n  if (isEmpty()) return null\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue =
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UIntArray.maxOfOrNull(selector: (UInt) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n
  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.maxOfOrNull(selector: (ULong) -> Float): Float? {\n  if (isEmpty()) return null\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue =

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maxOf(maxValue, v) } return maxValue }

 * Returns the largest value among all values produced
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    }
    return maxValue }

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 * Since Kotlin("1.4") @OptIn(kotlin.experimental.ExperimentalTypeInference::class) @OverloadResolution
ByLambdaReturnType @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public
inline fun <R : Comparable<R>> UIntArray.maxOfOrNull(selector: (UInt) -> R): R? {
    if (isEmpty()) return
null
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if
(maxValue < v) {
            maxValue = v
        }
    }
    return maxValue }

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maxValue = selector(this[0])
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        val v = selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue }

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        if (maxValue < v) {
            maxValue = v
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    }
    return maxValue }

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    var
maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (maxValue < v) {
            maxValue = v
        }
    }
    return maxValue }

 * Returns the largest value according to the
provided [comparator] * among all values produced by [selector] function applied to each element in the array.
 * @throws NoSuchElementException if the array is empty.

 * Since Kotlin("1.4") @OptIn(kotlin.experimental.ExperimentalTypeInference::class) @OverloadResolution
ByLambdaReturnType @ExperimentalUnsignedTypes @kotlin.internal.InlineOnly public inline fun <R>
UIntArray.maxOfWith(comparator: Comparator<in R>,
selector: (UInt) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (comparator.compare(maxValue,

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v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value\n * according to the provided [comparator]\n * among all values produced by [selector] function applied to each\n * element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.maxOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n  if (isEmpty()) throw\n  NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =\n    selector(this[i])\n    if (comparator.compare(maxValue,\n    v) < 0) {\n      maxValue = v\n    }\n  }\n  return\n  maxValue\n}\n\n/**\n * Returns the largest value\n * according to the provided [comparator]\n * among all values produced by\n * [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is\n * empty.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.maxOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n  if (isEmpty()) throw\n  NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =\n    selector(this[i])\n    if (comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return\n  maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by\n * [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\n  inline fun <R> UIntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n    if\n    (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n      val v =\n      selector(this[i])\n      if (comparator.compare(maxValue, v) < 0) {\n        maxValue = v\n      }\n    }\n    return\n    maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null`\n * if there are no elements.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n  if (isEmpty())\n  return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if\n    (comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the

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provided [comparator] among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n    if (isEmpty())\n        return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxOrNull(): UInt? {\n    if (isEmpty())\n        return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxOrNull(): ULong? {\n    if (isEmpty())\n        return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxOrNull(): UByte? {\n    if (isEmpty())\n        return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxOrNull(): UShort? {\n    if (isEmpty())\n        return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator].\n * @throws NoSuchElementException if the array is empty.\n */
```

```
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow-U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun\nUIntArray.maxWith(comparator: Comparator<in UInt>): UInt {\n    if (isEmpty())\n        throw\n        NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator].\n * @throws NoSuchElementException if the array is empty.\n */
```

```
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow-U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun\nULongArray.maxWith(comparator: Comparator<in ULong>): ULong {\n    if (isEmpty())\n        throw\n        NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator].\n * @throws NoSuchElementException if the array is empty.\n */
```

```
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow-U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun\nUByteArray.maxWith(comparator: Comparator<in UByte>): UByte {\n    if (isEmpty())\n        throw\n        NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator].\n * @throws NoSuchElementException if the array is empty.\n */
```

```
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("maxWithOrThrow-U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun\nUShortArray.maxWith(comparator: Comparator<in UShort>): UShort {\n    if (isEmpty())\n        throw\n        NoSuchElementException()\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWithOrNull(comparator: Comparator<in UInt>): UInt? {\n    if (isEmpty())\n        return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0)\n            max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */
```

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val e = this[i]\n    if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are
no elements.\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.maxOrNull(comparator: Comparator<in UByte>): UByte? {\n    if (isEmpty()) return null\n
var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max =
e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided
[comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.maxOrNull(comparator: Comparator<in UShort>): UShort? {\n    if (isEmpty()) return null\n
var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max =
e\n    }\n    return max\n}\n\n/**\n * Returns the smallest element.\n * \n * @throws NoSuchElementException if
the array is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UIntArray.min(): UInt {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest
element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UByteArray.min(): UByte {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest
element.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UShortArray.min(): UShort {\n    if (isEmpty()) throw NoSuchElementException()\n    var min = this[0]\n
for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns
the first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the
array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic inline fun <R : Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt {\n    if (isEmpty())
throw NoSuchElementException()\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex ==
0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val
v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return
minElem\n}\n\n/**\n * Returns the
first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the
array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS

```

```

\)\npublic inline fun <R : Comparable<R>> ULongArray.minBy(selector: (ULong) -> R): ULong {\n  if
(isEmpty()) throw NoSuchElementException()\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if
(lastIndex == 0) return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e =
this[i]\n    val v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic inline fun <R : Comparable<R>> UByteArray.minBy(selector: (UByte) -> R): UByte {\n  if
(isEmpty()) throw NoSuchElementException()\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if
(lastIndex == 0) return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e =
this[i]\n    val v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Aggregates.minBy\n */\n\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minByOrThrow-
U")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\n@Suppress("CONFLICTING_OVERLOADS
")\npublic
inline fun <R : Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0)
return minElem\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minByOrNull(selector: (UInt) -> R): UInt? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.minByOrNull(selector: (ULong) -> R): ULong? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.minByOrNull(selector: (UByte) -> R): UByte? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.minByOrNull(selector: (UShort) -> R): UShort? {\n  if (isEmpty()) return null\n

```



```

var minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.minOf(selector: (UInt) -> Double): Double {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.minOf(selector: (ULong) -> Double): Double {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue
= selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue,
v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]
function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`,
the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.minOf(selector: (UByte) -> Double): Double {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue =
minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by
[selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOf(selector: (UShort) -> Double): Double {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue =
minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.minOf(selector: (UInt) -> Float): Float {\n  if (isEmpty()) throw
NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue =
minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.minOf(selector:

```

```

(ULong) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue =
    selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function
applied to each element in the array.
If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ByteArray.minOf(selector: (UByte) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var
    minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
        minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all values produced by [selector]
function
applied to each element in the array.
If any of values produced by [selector] function is `NaN`,
the returned result is `NaN`.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.minOf(selector: (UShort) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var
    minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue =
        minOf(minValue, v)
    }
    return minValue
}

Returns the smallest value among all values produced
by [selector] function
applied to each element in the array.
@throws NoSuchElementException if the
array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> UIntArray.minOf(selector: (UInt) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function
applied to each element in the
array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> ULongArray.minOf(selector: (ULong) -> R): R {
    if (isEmpty())
    throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function
applied to each element in the
array.
@throws NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> UByteArray.minOf(selector: (UByte) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values
produced by [selector] function
applied to each element in the array.
@throws
NoSuchElementException if the array is empty.

@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun <R :
Comparable<R>> UShortArray.minOf(selector: (UShort) -> R): R {
    if (isEmpty()) throw
    NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v =
        selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

Returns the smallest value among all values produced by [selector] function
applied to each element in the array

```

or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\ninline fun UIntArray.minOrNull(selector: (UInt) -> Double): Double? {\n    if (isEmpty()) return null\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =\n        minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.minOrNull(selector: (ULong) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue\n    = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to\n * each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function\n * is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.minOrNull(selector: (UByte) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue\n    = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to\n * each element in the array\n
```

or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.minOrNull(selector: (UShort) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue\n    = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to\n * each element in the array or `null` if there are no elements.\n * \n * If any of values produced by\n * [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\ninline fun UIntArray.minOrNull(selector: (UInt) -> Float): Float? {\n    if (isEmpty()) return null\n    var\n    minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =\n        minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.minOrNull(selector: (ULong) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return\n    minValue\n}\n\n/**\n * Returns the smallest value among all\n * values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```

UByteArray.minOrNull(selector: (UByte) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOrNull(selector: (UShort) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minOrNull(selector: (UInt) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value
among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no
elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
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Comparable<R>> ULongArray.minOrNull(selector: (ULong) -> R): R? {\n  if (isEmpty()) return null\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each
element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.minOrNull(selector: (UByte) -> R): R? {\n  if (isEmpty()) return null\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.minOrNull(selector: (UShort)
-> R): R? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v
= selector(this[i])\n    if (minValue > v) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.minOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>

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ULongArray.minOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n
* \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.minOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> UShortArray.minOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n  if
(isEmpty()) throw NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n
val v = selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n
return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for
(i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n
minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if
there are no elements.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n
if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no
elements.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n
if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no
elements.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <R> UShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n
if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =

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selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n        minValue = v\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minOrNull(): UInt? {\n    if
(isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min =
e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minOrNull(): ULong? {\n    if
(isEmpty()) return null\n
    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minOrNull(): UByte? {\n    if
(isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min =
e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minOrNull(): UShort? {\n    if
(isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min =
e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided
[comparator].\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic
fun UIntArray.minWith(comparator: Comparator<in UInt>): UInt {\n    if (isEmpty()) throw
NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is
empty.\n * \n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
ULongArray.minWith(comparator: Comparator<in ULong>): ULong {\n    if (isEmpty()) throw
NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator].\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UByteArray.minWith(comparator: Comparator<in UByte>): UByte {\n    if (isEmpty()) throw
NoSuchElementException()\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator].\n * \n * @throws NoSuchElementException if the array is
empty.\n * \n@SinceKotlin("1.7")\n@kotlin.jvm.JvmName("minWithOrThrow-
U")\n@ExperimentalUnsignedTypes\n@Suppress("CONFLICTING_OVERLOADS")\npublic fun
UShortArray.minWith(comparator: Comparator<in UShort>): UShort {\n    if (isEmpty()) throw
NoSuchElementException()\n
    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min =
e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided
[comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n

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    val
    e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minWithOrNull(comparator:
Comparator<in UByte>): UByte? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
    val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWithOrNull(comparator:
Comparator<in UShort>): UShort? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
    val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n
    }\n    return min\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match
the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(predicate: (UShort) -> Boolean): Boolean {\n    for (element in this) if (predicate(element))
return false\n    return true\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.onEach(action: (UInt) -> Unit): UIntArray {\n    return apply { for (element
in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.onEach(action: (ULong) -> Unit): ULongArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.onEach(action: (UByte) -> Unit): UByteArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself

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afterwards.\n *^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.onEach(action: (UShort) -> Unit): UShortArray {\n    return apply { for (element in this)
action(element) }\n}\n\n/**\n
* Performs the given [action] on each element, providing sequential index with the element,\n * and returns the
array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n *
and performs the action on the element.\n
*^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.onEachIndexed(action: (index: Int, UInt) -> Unit): UIntArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n
* Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.onEachIndexed(action: (index: Int, ULong) -> Unit): ULongArray {\n    return apply {
forEachIndexed(action)
}\n}\n\n/**\n
* Performs the given [action] on each element, providing sequential index with the element,\n * and
returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element
itself\n * and performs the action on the element.\n
*^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.onEachIndexed(action: (index: Int, UByte) -> Unit): UByteArray {\n    return apply {
forEachIndexed(action) }\n}\n\n/**\n
* Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*^@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.onEachIndexed(action: (index: Int, UShort) -> Unit): UShortArray {\n    return apply {
forEachIndexed(action)
}\n}\n\n/**\n
* Accumulates value starting with the first element and applying [operation] from left to right\n * to
current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be
empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n
* Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes current accumulator value and an element,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*^@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduce(operation: (acc: ULong, ULong) -> ULong): ULong {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n
* Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n *
please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function
that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n

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@sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element
and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead.
It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator
value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduce(operation: (acc: UShort, UShort) -> UShort): UShort {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n *
Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function
that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index,
accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected
way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes the index of an element, current accumulator value and the element itself,\n * and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator
= this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from
left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws

```

an exception if this array is empty. If the array can be empty in an expected way, please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.`

`@sample samples.collections.Collections.Aggregates.reduce`

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort {\n  if (isEmpty())\n    throw
UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = this[0]\n  for (index in
1..lastIndex) {\n    accumulator = operation(index, accumulator, this[index])\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * Returns `null` if
the array is empty.\n * @param [operation] function that takes the index of an element, current accumulator
value and the element itself,\n * and calculates the next accumulator value.\n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceIndexedOrNull(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt? {\n  if (isEmpty())\n
return null\n  var accumulator = this[0]\n  for (index in 1..lastIndex)
{\n    accumulator = operation(index, accumulator, this[index])\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * Returns `null` if the array is
empty.\n * @param [operation] function that takes the index of an element, current accumulator value and the
element itself,\n * and calculates the next accumulator value.\n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceIndexedOrNull(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong? {\n  if
(isEmpty())\n    return null\n  var accumulator = this[0]\n  for (index in 1..lastIndex) {\n    accumulator =
operation(index, accumulator, this[index])\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n * and
calculates the next accumulator value.\n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexedOrNull(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte? {\n  if
(isEmpty())\n    return null\n  var accumulator = this[0]\n  for (index in 1..lastIndex) {\n    accumulator =
operation(index, accumulator, this[index])\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * Returns `null` if the array is empty.\n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n * and
calculates the next accumulator value.\n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexedOrNull(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort? {\n  if
(isEmpty())\n    return null\n  var accumulator = this[0]\n  for (index in 1..lastIndex) {\n    accumulator =
operation(index, accumulator, this[index])\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * Returns `null` if the array is empty.\n * @param
```

```

[operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceOrNull(operation: (acc: UInt, UInt) -> UInt): UInt?
{\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n
accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n**\n * Accumulates value
starting with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceOrNull(operation: (acc: ULong, ULong) ->
ULong): ULong? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex)
{\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n**\n * Accumulates
value starting with the first element and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.reduceOrNull(operation: (acc: UByte, UByte) -> UByte): UByte? {\n if (isEmpty())\n
return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator =
operation(accumulator, this[index])\n }\n return accumulator\n}\n\n**\n * Accumulates value starting with the
first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n *
Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and
an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceOrNull(operation: (acc: UShort, UShort) ->
UShort): UShort? {\n if (isEmpty())\n return null\n var accumulator
= this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return
accumulator\n}\n\n**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRight(operation: (UInt, acc: UInt) -> UInt): UInt {\n var index = lastIndex\n if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator
= get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ULongArray.reduceRight(operation: (ULong, acc: ULong) -> ULong): ULong {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.
 @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.
 @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

*\/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UByteArray.reduceRight(operation: (UByte, acc: UByte) -> UByte): UByte {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.
 @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.
 @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

*\/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UShortArray.reduceRight(operation: (UShort, acc: UShort) -> UShort): UShort {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
 @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
 @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

*\/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UIntArray.reduceRightIndexed(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
 @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
 @sample

```

samples.collections.Collections.Aggregates.reduceRight

```

```

*\/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline
fun ULongArray.reduceRightIndexed(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
 @sample

```

* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRightIndexed(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself
and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRightIndexed(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRightIndexedOrNull(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt? {\n    var index =
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRightIndexedOrNull(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong? {\n    var
index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.reduceRightIndexedOrNull(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte?
{\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0)
{\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns `null` if

```

```

the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.reduceRightIndexedOrNull(operation: (index: Int, UShort, acc: UShort) -> UShort):
UShort? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index
>= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceRightOrNull(operation: (UInt, acc: UInt) -> UInt):
UInt? {\n
var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and
current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceRightOrNull(operation: (ULong, acc: ULong) ->
ULong): ULong? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator
= operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with
the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n
* Returns `null` if the array is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceRightOrNull(operation: (UByte, acc: UByte) ->
UByte): UByte? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element
and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns
`null` if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceRightOrNull(operation: (UShort, acc: UShort) ->
UShort): UShort? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial]
value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n

```

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.runningFold(initial: R, operation: (acc: R, UInt) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator
value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.runningFold(initial: R, operation: (acc: R, ULong) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.runningFold(initial: R, operation: (acc: R, UByte) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes current @accumulator value and an
element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.runningFold(initial: R, operation: (acc: R, UShort) -> R): List<R> {\n  if (isEmpty()) return
listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(accumulator, element)\n    result.add(accumulator)\n  }\n
return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): List<R> {\n  if (isEmpty())
return listOf(initial)\n  val result = ArrayList<R>(size + 1).apply { add(initial) }\n  var accumulator = initial\n
for (index in indices) {\n    accumulator = operation(index, accumulator,
this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original
array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *

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@param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

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samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun <R>
ULongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): List<R> {n if
(isEmpty()) return listOf(initial)n val result = ArrayList<R>(size +
1).apply { add(initial) }n var accumulator = initialn for (index in indices) {n accumulator =
operation(index, accumulator, this[index])n result.add(accumulator)n }n return result}n/n/n/**n *
Returns a list containing successive accumulation values generated by applying [operation] from left to rightn * to
each element, its index in the original array and current accumulator value that starts with [initial] value.n * n *
Note that `acc` value passed to [operation] function should not be mutated;n * otherwise it would affect the
previous value in resulting list.n * n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun <R>
UByteArray.runningFoldIndexed(initial: R, operation:
(index: Int, acc: R, UByte) -> R): List<R> {n if (isEmpty()) return listOf(initial)n val result =
ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn for (index in indices) {n
accumulator = operation(index, accumulator, this[index])n result.add(accumulator)n }n return
result}n/n/n/**n * Returns a list containing successive accumulation values generated by applying [operation] from
left to rightn * to each element, its index in the original array and current accumulator value that starts with [initial]
value.n * n * Note that `acc` value passed to [operation] function should not be mutated;n * otherwise it would
affect the previous value in resulting list.n * n * @param [operation] function that takes the index of an element,
current accumulator value and the element itself, and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic
inline fun <R> UShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): List<R>
{n if (isEmpty()) return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var
accumulator = initialn for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return result}n/n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element and current accumulator value that
starts with the first element of this array.n * n * Note that `acc` value passed to [operation] function should not be
mutated;n * otherwise it would affect the previous value in resulting list.n * n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.n * n
* @sample samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UIntArray.runningReduce(operation: (acc: UInt, UInt) -> UInt): List<UInt> {n if (isEmpty()) return
emptyList()n var accumulator = this[0]n val result = ArrayList<UInt>(size).apply { add(accumulator) }n for
(index in 1 until size) {n accumulator = operation(accumulator, this[index])n result.add(accumulator)n
}n return result}n/n/n/**n * Returns a list containing successive accumulation values generated by applying
[operation] from left to rightn * to each element and current accumulator value that starts with the first element of
this array.n * n * Note that `acc` value passed to [operation] function should not be mutated;n * otherwise it would
affect the previous value in resulting list.n * n * @param [operation] function that takes current accumulator value
and an element,
and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.runningReduce
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
ULongArray.runningReduce(operation: (acc: ULong, ULong) -> ULong): List<ULong> {n if (isEmpty()) return

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emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<ULong>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n [operation] from left to right\n * to each element and current accumulator value that starts with the first element of\n this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would\n affect the previous value in resulting list.\n * \n * @param [operation]\n function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n UByteArray.runningReduce(operation: (acc: UByte, UByte) -> UByte): List<UByte> {\n  if (isEmpty()) return\n  emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UByte>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n [operation] from left to right\n * to each element and current accumulator value that starts with the first element of\n this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would\n affect the\n previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an\n element, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningReduce\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n UShortArray.runningReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {\n  if (isEmpty()) return\n  emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UShort>(size).apply { add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n [operation] from left to right\n * to each element, its index in the original array and current accumulator value that\n starts with the first element of this array.\n * \n * Note that\n `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in\n resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningReduce\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n UIntArray.runningReduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): List<UInt> {\n  if (isEmpty())\n  return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UInt>(size).apply { add(accumulator)\n  }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of\n this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would\n affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element,\n current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningReduce\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n ULongArray.runningReduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): List<ULong> {\n  if\n (isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<ULong>(size).apply {\n  add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying\n [operation] from left to right\n * to each element, its index in the original array and current accumulator value that

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starts with the first element of this array.

* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

* @param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

* @sample samples.collections.Collections.Aggregates.runningReduce

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.runningReduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): List<UByte> {\n if
(isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<UByte>(size).apply
{ add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator,
this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original
array and current accumulator value that starts with the first element of this array.\n * Note that `acc` value
passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting
list.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.runningReduceIndexed(operation: (index: Int,
acc: UShort, UShort) -> UShort): List<UShort> {\n if (isEmpty()) return emptyList()\n var accumulator =
this[0]\n val result = ArrayList<UShort>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n
accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from
left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that `acc`
value passed to [operation] function should not be mutated; otherwise it would affect the previous value in
resulting list.\n * @param [operation] function that takes current accumulator value and an element, and
calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic
inline fun <R> UIntArray.scan(initial: R, operation: (acc: R, UInt) -> R): List<R> {\n return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * Note that
`acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in
resulting list.\n * @param [operation] function that takes current accumulator value and an element, and
calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scan(initial: R, operation: (acc: R, ULong) -> R):
List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;
otherwise it would affect the previous value in resulting list.\n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scan(initial: R, operation: (acc: R, UByte) -> R):
List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator
value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be
mutated; otherwise it would affect the previous value in resulting list.\n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n * @sample
```

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samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scan(initial: R, operation: (acc: R, UShort) -> R):
List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n
 * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scanIndexed(initial: R, operation: (index: Int, acc: R,
UInt) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n *
 * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, ULong) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element,
its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc`
value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, UByte) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n *
 * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, UShort) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n * \n * @Deprecated("Use sumOf
instead.", ReplaceWith("this.sumOf(selector)"))\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n * @kotlin.internal.InlineOnly\n * public inline fun
UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n * \n * @Deprecated("Use

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sumOf instead.", ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sumBy(selector: (ULong) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.sumBy(selector: (UByte) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sumBy(selector: (UShort) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sumByDouble(selector: (UInt) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each
element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sumByDouble(selector: (ULong) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
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"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.sumByDouble(selector: (UByte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sumByDouble(selector: (UShort) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector:
(UInt) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n *\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this) {\n        sum +=

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selector(element)\n } \n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.sumOf(selector: (UByte) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in
this) {\n sum += selector(element)\n } \n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfDouble")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sumOf(selector:
(UShort) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum +=
selector(element)\n } \n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.sumOf(selector: (UInt) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n
sum += selector(element)\n } \n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n } \n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.sumOf(selector: (UByte) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this)
{\n sum += selector(element)\n } \n return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfInt")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n } \n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt)
-> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n } \n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")\n
@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> Long): Long {\n var

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sum: Long = 0.toLong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")\n\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:\n(UByte) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n    sum +=\nselector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n applied to each element in the array.\n */\n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfLong")\n\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic\ninline fun UShortArray.sumOf(selector: (UShort) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for\n(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values\n produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline\nOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n  for\n(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values\n produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline\nOnly\npublic\ninline fun ULongArray.sumOf(selector: (ULong) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n  for (element in\nthis) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by\n [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline\nOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n  for\n(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all\n values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfUInt")\n\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inline\nOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> UInt): UInt {\n  var sum: UInt = 0.toUInt()\n  for\n(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all\n values produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong")\n\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli\nneOnly\npublic\ninline fun UIntArray.sumOf(selector: (UInt) -> ULong): ULong {\n  var sum: ULong = 0.toULong()\n  for\n(element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values\n produced by [selector] function applied to each element in the array.\n */\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong")

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)\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector: (ULong) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n\n*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> ULong): ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out R>): List<Pair<UInt, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other: Array<out R>): List<Pair<ULong, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out R>): List<Pair<UByte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other: Array<out R>): List<Pair<UShort, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n

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list.add(transform(this[i], other[i]))\n } \n return list\n\n\n\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each
pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i],
other[i]))\n } \n return list\n\n\n\n * Returns a list of values built from the elements of `this` array and the
[other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n *
The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n val size = minOf(size,
other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n
}\n return list\n\n\n\n * Returns a list of pairs built from the elements of `this` collection and [other] array with
the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other:
Iterable<R>): List<Pair<UInt, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n\n\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Iterable<R>): List<Pair<ULong, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n\n\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other:
Iterable<R>):
List<Pair<UByte, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n\n\n * Returns a list of pairs built from the
elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Iterable<R>): List<Pair<UShort, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n\n\n * Returns a list of
values built from the elements of `this` array and the [other] collection with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other:
Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n val arraySize = size\n val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n
if (i >= arraySize) break\n list.add(transform(this[i++], element))\n } \n return list\n\n\n\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n val arraySize = size\n val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in
other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n } \n return list\n}\n\n\n\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *

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using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>\nUByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>\nUShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray): List<Pair<UInt, UInt>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray): List<Pair<ULong, ULong>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray): List<Pair<UByte, UByte>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray): List<Pair<UShort, UShort>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>\nUIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>\nULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the
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provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun <V> UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {\n    val
size = minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Array<out UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this)
{\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic
fun Array<out UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += element\n
}\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Array<out UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sum(): UInt {\n    return storage.sum().toUInt()\n}\n\n/**\n * Returns the sum of all elements in the
array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.sum(): ULong {\n    return storage.sum().toULong()\n}\n\n/**\n
* Returns the sum of all elements in the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.sum(): UInt {\n    return sumOf { it.toUInt() }\n}\n\n/**\n * Returns the sum of all elements in the
array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.sum(): UInt {\n    return sumOf { it.toUInt() }\n}\n\n/**\n * Copyright 2010-2022 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UCollectionsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport
kotlin.ranges.reversed\n\n/**\n * Returns an array of UByte containing all of the elements of this collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<UByte>.toUByteArray():
UByteArray {\n    val result = UByteArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] =
element\n    return result\n}\n\n/**\n * Returns an array of UInt containing all of the elements of this collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<UInt>.toUIntArray(): UIntArray
{\n    val result = UIntArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n
return result\n}\n\n/**\n * Returns an array of ULong containing all of the elements of this collection.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<ULong>.toULongArray():
ULongArray {\n    val result = ULongArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of UShort containing all of the
elements of this collection.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Collection<UShort>.toUShortArray(): UShortArray {\n    val result = UShortArray(size)\n    var index = 0\n    for
(element in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns the sum of all elements in
the collection.\n */\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Iterable<UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this) {\n
        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Iterable<UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
        sum += element\n    }\n    return sum\n}\n\n"/**\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UInt, b:
UInt): UInt {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: ULong,
b: ULong): ULong {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UByte,
b: UByte): UByte {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UShort,
b: UShort):
UShort {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UInt, b: UInt, c: UInt): UInt {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns
the greater of three values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: ULong, b: ULong, c: ULong): ULong {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UByte, b: UByte, c: UByte): UByte {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a:
UShort, b: UShort, c: UShort): UShort {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of the
given values.\n */\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UInt, vararg
other: UInt): UInt {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n/**\n * Returns

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the greater of the given values.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a:
ULong, vararg other: ULong): ULong {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return
max\n}\n\n/**\n * Returns the greater of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte, vararg other: UByte):
UByte {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n/**\n * Returns the greater
of the given values.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UShort,
vararg other: UShort): UShort {\n    var max = a\n    for
(e in other) max = maxOf(max, e)\n    return max\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UInt, b:
UInt): UInt {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: ULong,
b: ULong): ULong {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UByte,
b: UByte): UByte {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UShort,
b: UShort): UShort {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public
inline fun minOf(a: UInt, b: UInt, c: UInt): UInt {\n    return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the
smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun minOf(a: ULong, b: ULong, c: ULong): ULong {\n    return minOf(a, minOf(b, c))\n}\n\n/**\n *
Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun minOf(a: UByte, b: UByte, c: UByte): UByte {\n    return minOf(a, minOf(b, c))\n}\n\n/**\n *
Returns the smaller of three values.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\n
public inline fun minOf(a: UShort, b: UShort, c: UShort): UShort {\n    return minOf(a, minOf(b, c))\n}\n\n/**\n *
Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic
fun minOf(a: UInt, vararg other: UInt): UInt {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return
min\n}\n\n/**\n * Returns the smaller of the given values.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, vararg other: ULong):
ULong {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/**\n * Returns the smaller
of the given values.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte,
vararg other: UByte): UByte {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/**\n *
Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun
minOf(a: UShort, vararg other: UShort): UShort {\n    var min = a\n    for (e in other) min = minOf(min, e)\n
return min\n}\n\n"/**\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("URangesKt")\n\npackage
kotlin.ranges\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n\n See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\n\n/**\n * Returns the
first element.\n * \n * @throws NoSuchElementException if the progression is empty.\n
*\n@SinceKotlin("1.7")\npublic fun UIntProgression.first(): UInt {\n    if (isEmpty())\n        throw
NoSuchElementException("Progression $this is empty.")\n    return this.first\n}\n\n/**\n * Returns the first
element.\n * \n * @throws NoSuchElementException if the progression is empty.\n
*\n@SinceKotlin("1.7")\npublic fun ULongProgression.first(): ULong {\n    if (isEmpty())\n        throw

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NoSuchElementException("Progression $this is empty.")\n  return this.first}\n\n/**\n * Returns the first element, or `null` if the progression is empty.\n */\n@SinceKotlin("1.7")\npublic fun\nUIntProgression.firstOrNull(): UInt? {\n  return if (isEmpty()) null else this.first}\n\n/**\n * Returns the first element, or `null` if the progression is empty.\n */\n@SinceKotlin("1.7")\npublic fun\nULongProgression.firstOrNull(): ULong? {\n  return if (isEmpty()) null else this.first}\n\n/**\n * Returns the last element.\n * @throws NoSuchElementException if the progression is empty.\n * @sample samples.collections.Collections.Elements.last\n */\n@SinceKotlin("1.7")\npublic fun\nUIntProgression.last(): UInt\n{\n  if (isEmpty())\n    throw NoSuchElementException("Progression $this is empty.")\n  return\n  this.last}\n\n/**\n * Returns the last element.\n * @throws NoSuchElementException if the progression is empty.\n * @sample samples.collections.Collections.Elements.last\n */\n@SinceKotlin("1.7")\npublic fun\nULongProgression.last(): ULong\n{\n  if (isEmpty())\n    throw NoSuchElementException("Progression $this is empty.")\n  return\n  this.last}\n\n/**\n * Returns the last element, or `null` if the progression is empty.\n * @sample samples.collections.Collections.Elements.last\n */\n@SinceKotlin("1.7")\npublic fun\nUIntProgression.lastOrNull(): UInt? {\n  return if (isEmpty()) null else this.last}\n\n/**\n * Returns the last element, or `null` if the progression is empty.\n * @sample samples.collections.Collections.Elements.last\n */\n@SinceKotlin("1.7")\npublic fun\nULongProgression.lastOrNull(): ULong? {\n  return if (isEmpty()) null else\n  this.last}\n\n/**\n * Returns a random element from this range.\n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntRange.random(): UInt {\n  return random(Random)}\n\n/**\n * Returns a random element from\n  this range.\n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun\nULongRange.random(): ULong {\n  return random(Random)}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nUIntRange.random(random: Random): UInt {\n  try {\n    return random.nextUInt(this)\n  } catch (e: IllegalArgument\nException) {\n    throw NoSuchElementException(e.message)\n  }\n}\n\n/**\n * Returns a\n  random element from this range using the specified source of randomness.\n * @throws\n  IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\nULongRange.random(random: Random):\n  ULong {\n  try {\n    return random.nextULong(this)\n  } catch (e: IllegalArgument\nException) {\n    throw\n    NoSuchElementException(e.message)\n  }\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,\nExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntRange.randomOrNull():\n  UInt? {\n  return randomOrNull(Random)}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,\nExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun\nULongRange.randomOrNull():\n  ULong? {\n  return randomOrNull(Random)}\n\n/**\n * Returns a random element from this range using the\n  specified source of randomness, or `null` if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,\nExperimentalUnsignedTypes::class)\npublic\n  fun\n  UIntRange.randomOrNull(random: Random): UInt? {\n  if (isEmpty())\n    return null\n  return\n  random.nextUInt(this)}\n\n/**\n * Returns a random element from this range using the specified source of\n  randomness, or `null` if this range is empty.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,

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ExperimentalUnsignedTypes::class)\npublic fun ULongRange.randomOrNull(random: Random): ULong? {\n  if
(isEmpty())\n    return null\n    return random.nextULong(this)\n}\n\n/**\n * Returns `true` if this range contains
the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@\n@kotlin.internal.InlineOnly\n
npublic inline operator fun UIntRange.contains(element: UInt?): Boolean {\n  return element != null &&
contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n *
Always returns `false` if the [element] is `null`.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@\n@kotlin.internal.InlineOnly\n
npublic inline operator fun ULongRange.contains(element: ULong?): Boolean {\n  return element != null &&
contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UByte): Boolean {\n  return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UByte): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UInt): Boolean
{\n  return contains(value.toULong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: ULong): Boolean {\n  return (value shr UInt.SIZE_BITS) == 0uL &&
contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UShort): Boolean {\n  return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UShort): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Returns a
progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less
than or equal to `this`\n
value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.downTo(to: UByte): UIntProgression {\n  return UIntProgression.fromClosedRange(this.toInt(),
to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -
1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this`
value the returned progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UInt.downTo(to: UInt): UIntProgression {\n  return UIntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n *
Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should
be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned
progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.downTo(to: ULong): ULongProgression {\n  return ULongProgression.fromClosedRange(this, to, -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this`
value the returned progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.downTo(to: UShort): UIntProgression {\n  return UIntProgression.fromClosedRange(this.toInt(),
to.toInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the

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same step.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UIntProgression.reversed(): UIntProgression {\n    return UIntProgression.fromClosedRange(last,
    first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the
same step.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULongProgression.reversed(): ULongProgression {\n    return ULongProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UIntProgression.step(step: Int): UIntProgression {\n    checkStepIsPositive(step > 0, step)\n    return
UIntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression
that goes over the same range with the given step.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULongProgression.step(step: Long): ULongProgression {\n    checkStepIsPositive(step > 0, step)\n    return
ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a range from
this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value,
then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.until(to: UByte): UIntRange {\n    if (to <= UByte.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun UInt.until(to:
UInt): UIntRange {\n    if (to <= UInt.MIN_VALUE) return UIntRange.EMPTY\n    return this .. (to -
1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified
[to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.until(to: ULong): ULongRange {\n    if (to <= ULong.MIN_VALUE) return ULongRange.EMPTY\n
return this .. (to - 1u).toULong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.until(to: UShort): UIntRange {\n    if (to <= UShort.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Ensures that this value is not less than the specified
[minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the
[minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceAtLeast(minimumValue: UInt): UInt {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtLeast(minimumValue: ULong): ULong {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
fun UByte.coerceAtLeast(minimumValue: UByte): UByte {\n    return if (this < minimumValue) minimumValue
else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this
value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun

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UShort.coerceAtLeast(minimumValue: UShort): UShort { \n  return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
fun UInt.coerceAtMost(maximumValue: UInt): UInt { \n  return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtMost(maximumValue: ULong): ULong { \n  return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceAtMost(maximumValue:
UByte): UByte { \n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceAtMost(maximumValue: UShort): UShort { \n  return if (this > maximumValue) maximumValue
else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n
* @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceIn(minimumValue:
UInt, maximumValue: UInt): UInt { \n  if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n  if (this < minimumValue) return minimumValue\n  if (this > maximumValue)
return maximumValue\n  return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceIn(minimumValue: ULong, maximumValue: ULong): ULong { \n  if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n
  if (this < minimumValue) return minimumValue\n  if (this > maximumValue) return maximumValue\n  return
this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n
* @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceIn(minimumValue: UByte, maximumValue: UByte): UByte { \n  if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n  if (this < minimumValue) return minimumValue\n

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if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n
 * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceIn(minimumValue: UShort, maximumValue: UShort): UShort {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than
`range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceIn(range: ClosedRange<UInt>): UInt {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<UInt>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to
an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive -
> range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or
`range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceIn(range: ClosedRange<ULong>): ULong {\n    if (range
is ClosedFloatingPointRange) {\n        return this.coerceIn<ULong>(range)\n    }\n    if (range.isEmpty()) throw
IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        this <
range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n\n"/**\n
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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("USequencesKt")\n\npackage
kotlin.sequences\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the
sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotl.in.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic
fun Sequence<UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum += element\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotl.in.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Sequence<ULong>.sum(): ULong {\n    var sum: ULong = 0uL\n    for (element in this)
{\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n *
The operation is _terminal_.\n
*\n@kotl.in.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Sequence<UByte>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n *
The operation is _terminal_.\n
*\n@kotl.in.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsigned
Types::class)\npublic fun Sequence<UShort>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n
sum += element\n    }\n    return sum\n}\n\n"/**\n
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Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

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license/LICENSE.txt file.\n */\n\npackage kotlin\n\n\npublic expect open class Error : Throwable {\n
  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n
  constructor(cause: Throwable?)\n}\n\npublic expect open class Exception : Throwable {\n  constructor()\n
  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause:
  Throwable?)\n}\n\npublic expect open class RuntimeException : Exception {\n  constructor()\n
  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause:
  Throwable?)\n}\n\npublic expect open class IllegalArgumentException : RuntimeException {\n  constructor()\n
  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause:
  Throwable?)\n}\n\npublic expect open class IllegalStateException : RuntimeException {\n  constructor()\n
  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause:
  Throwable?)\n}\n\npublic expect open class IndexOutOfBoundsException : RuntimeException {\n  constructor()\n
  constructor(message: String?)\n}\n\npublic expect open class ConcurrentModificationException :
  RuntimeException {\n  constructor()\n  constructor(message: String?)\n  @Deprecated("The constructor is not
  supported on all platforms and will be removed from kotlin-stdlib-common soon.", level =
  DeprecationLevel.ERROR)\n  constructor(message:
  String?, cause: Throwable?)\n  @Deprecated("The constructor is not supported on all platforms and will be
  removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\n  constructor(cause:
  Throwable?)\n}\n\npublic expect open class UnsupportedOperationException : RuntimeException {\n
  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n
  constructor(cause: Throwable?)\n}\n\npublic expect open class NumberFormatException :
  IllegalArgumentException {\n  constructor()\n  constructor(message: String?)\n}\n\npublic expect open class
  NullPointerException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\npublic expect
  open class ClassCastException : RuntimeException {\n  constructor()\n  constructor(message:
  String?)\n}\n\npublic expect open class AssertionError : Error {\n  constructor()\n  constructor(message:
  Any?)\n}\n\npublic expect open class NoSuchElementException
  : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\n@SinceKotlin("1.3")\n\npublic
  expect open class ArithmeticException : RuntimeException {\n  constructor()\n  constructor(message:
  String?)\n}\n\n@Deprecated("This exception type is not supposed to be thrown or caught in common code and will
  be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\n\npublic expect open class
  NoWhenBranchMatchedException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n
  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\n@Deprecated("This
  exception type is not supposed to be thrown or caught in common code and will be removed from kotlin-stdlib-
  common soon.", level = DeprecationLevel.ERROR)\n\npublic expect class UninitializedPropertyAccessException :
  RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause:
  Throwable?)\n
  constructor(cause: Throwable?)\n}\n\n/**\n * Thrown after invocation of a function or property that was expected
  to return `Nothing`, but returned something instead.\n */\n\n@SinceKotlin("1.4")\n\n@PublishedApi\n\ninternal class
  KotlinNothingValueException : RuntimeException {\n  constructor(): super()\n  constructor(message: String?) :
  super(message)\n  constructor(message: String?, cause: Throwable?) : super(message, cause)\n
  constructor(cause: Throwable?) : super(cause)\n}\n\n\n/**\n * Returns the detailed description of this throwable
  with its stack trace.\n */\n * The detailed description includes:\n * - the short description (see [Throwable.toString])
  of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of the exceptions that were
  [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed description of each
  throwable in the [Throwable.cause] chain.\n */\n\n@SinceKotlin("1.4")\n\npublic expect fun
  Throwable.stackTraceToString():
  String\n\n/**\n * Prints the [detailed description][Throwable.stackTraceToString] of this throwable to the standard
  output or standard error output.\n
  */\n\n@SinceKotlin("1.4")\n\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n\npublic expect fun

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Throwable.printStackTrace(): Unit\n\n/**\n * When supported by the platform, adds the specified exception to the
list of exceptions that were\n * suppressed in order to deliver this exception.\n
*\n@\n@SinceKotlin("1.4")\n@\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n\npublic expect fun
Throwable.addSuppressed(exception: Throwable)\n\n/**\n * Returns a list of all exceptions that were suppressed in
order to deliver this exception.\n * The list can be empty:\n * - if no exceptions were suppressed;\n * - if the
platform doesn't support suppressed exceptions;\n * - if this [Throwable] instance has disabled the suppression.\n
*\n@\n@SinceKotlin("1.4")\n\npublic expect val Throwable.suppressedExceptions: List<Throwable>\n", "/*\n *
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2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n@\n\npackage kotlin.js\n\nimport
kotlin.annotation.AnnotationTarget.\n\n/**\n * Gives a declaration (a function, a property or a class) specific name
in JavaScript.\n *\n@\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER,
PROPERTY_SETTER)\n@\n@OptionalExpectation\n\npublic expect annotation class JsName(val name: String)\n\n/**\n *
Marks experimental JS export annotations.\n * Note that behavior of these annotations will likely be changed
in the future.\n * Usages of such annotations will be reported as warnings unless an explicit opt-in with\n * the
[OptIn] annotation, e.g. `@OptIn(ExperimentalJsExport::class)`,\n * or with the `opt-
in=kotlin.js.ExperimentalJsExport` compiler option is given.\n *\n@\n@RequiresOptIn(level =
RequiresOptIn.Level.WARNING)\n@\n@MustBeDocumented\n@\n@Retention(AnnotationRetention.BINARY)\n@\n@Since
Kotlin("1.4")\n\npublic
annotation class ExperimentalJsExport\n\n/**\n * Exports top-level declaration on JS platform.\n * Compiled
module exposes declarations that are marked with this annotation without name mangling.\n * This annotation
can be applied to either files or top-level declarations.\n * It is currently prohibited to export the following kinds
of declarations:\n * * `expect` declarations\n * * inline functions with reified type parameters\n * * suspend
functions\n * * secondary constructors without `@JsName`\n * * extension properties\n * * enum classes\n * *
annotation classes\n * * Signatures of exported declarations must only contain `exportable` types:\n * *
`dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`\n * * `BooleanArray`, `ByteArray`,
`ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`\n * * `Array<exportable-type>`\n * * Function types with
exportable parameters and return types\n * * `external` or `@JsExport` classes and interfaces\n * * Nullable
counterparts of types above\n * * Unit return type. Must not be nullable\n * * This annotation is experimental,
meaning that restrictions mentioned above are subject to change.\n
*\n@\n@ExperimentalJsExport\n@\n@Retention(AnnotationRetention.BINARY)\n@\n@Target(CLASS, PROPERTY,
FUNCTION, FILE)\n@\n@SinceKotlin("1.4")\n@\n@OptionalExpectation\n\npublic expect annotation class
JsExport(), "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@\n\npackage kotlin.io\n\n/**\n * Prints the line separator to the standard output stream. *\n\npublic expect fun
println()\n\n/**\n * Prints the given [message] and the line separator to the standard output stream. *\n\npublic expect fun
println(message: Any?)\n\n/**\n * Prints the given [message] to the
standard output stream. *\n\npublic expect fun print(message: Any?)\n\n/**\n * Reads a line of input from the
standard input stream and returns it,\n * or throws a [RuntimeException] if EOF has already been reached when
[readln] is called.\n * LF or CRLF is treated as the line terminator. Line terminator is not included in the
returned string.\n * Currently this function is not supported in Kotlin/JS and throws
[UnsupportedOperationException].\n *\n@\n@SinceKotlin("1.6")\n\npublic expect fun readln(): String\n\n/**\n *
Reads a line of input from the standard input stream and returns it,\n * or return `null` if EOF has already been
reached when [readlnOrNull] is called.\n * LF or CRLF is treated as the line terminator. Line terminator is not
included in the returned string.\n * Currently this function is not supported in Kotlin/JS and throws
[UnsupportedOperationException].\n *\n@\n@SinceKotlin("1.6")\n\npublic expect fun readlnOrNull():
String?\n\ninternal class ReadAfterEOFException(message:

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String?) : RuntimeException(message)\n\ninternal expect interface Serializable\n", "/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport
kotlin.internal.PlatformDependent\n\n/**\n * Classes that inherit from this interface can be represented as a
sequence of elements that can\n * be iterated over.\n * @param T the type of element being iterated over. The
iterator is covariant in its element type.\n */\n\npublic interface Iterable<out T> {\n // Query Operations\n /**\n * Returns an iterator
over the elements of this object.\n */\n public operator fun iterator(): Iterator<T>\n}\n\n/**\n * Classes that
inherit from this interface can be represented as a sequence of elements that can\n * be iterated over and that
supports removing elements during iteration.\n * @param T the type of
element being iterated over. The mutable iterator is invariant in its element type.\n */\n\npublic interface
MutableIterable<out T> : Iterable<T> {\n // Query Operations\n /**\n * Returns an iterator over the elements of this sequence that
supports removing elements during iteration.\n */\n public override fun iterator(): MutableIterator<T>\n}\n\n/**\n * A
generic collection of elements. Methods in this interface support only read-only access to the collection;\n *
read/write access is supported through the [MutableCollection] interface.\n * @param E the type of elements
contained in the collection. The collection is covariant in its element type.\n */\n\npublic interface Collection<out E> :
Iterable<E> {\n // Query Operations\n /**\n * Returns the size of the collection.\n */\n public val size:
Int\n\n /**\n * Returns `true` if the collection is empty (contains no elements), `false` otherwise.\n */\n
public fun isEmpty(): Boolean\n\n /**\n * Checks if the specified
element is contained in this collection.\n */\n public operator fun contains(element: @UnsafeVariance E):
Boolean\n\n // Bulk Operations\n /**\n * Checks if all elements in
the specified collection are contained in this collection.\n */\n public fun containsAll(elements:
Collection<@UnsafeVariance E>): Boolean\n}\n\n/**\n * A generic collection of elements that supports adding and
removing elements.\n * @param E the type of elements contained in the collection. The mutable collection is
invariant in its element type.\n */\n\npublic interface MutableCollection<E> : Collection<E>, MutableIterable<E> {\n
// Query Operations\n override fun iterator(): MutableIterator<E>\n\n // Modification Operations\n /**\n *
Adds the specified element to the collection.\n * @return `true` if the element has been added, `false` if the
collection does not support duplicates\n * and the element is already contained
in the collection.\n */\n public fun add(element: E): Boolean\n\n /**\n * Removes a single instance of the
specified element from this\n * collection, if it is present.\n * @return `true` if the element has been
successfully removed; `false` if it was not present in the collection.\n */\n public fun remove(element: E):
Boolean\n\n // Bulk Modification Operations\n /**\n * Adds all of the elements of the specified collection to
this collection.\n * @return `true` if any of the specified elements was added to the collection, `false` if the
collection was not modified.\n */\n public fun addAll(elements: Collection<E>): Boolean\n\n /**\n *
Removes all of this collection's elements that are also contained in the specified collection.\n * @return
`true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.\n
*/\n public fun removeAll(elements:
Collection<E>): Boolean\n\n /**\n * Retains only the elements in this collection that are contained in the
specified collection.\n * @return `true` if any element was removed from the collection, `false` if the
collection was not modified.\n */\n public fun retainAll(elements: Collection<E>): Boolean\n\n /**\n *
Removes all elements from this collection.\n */\n public fun clear(): Unit\n}\n\n/**\n * A generic ordered
collection of elements. Methods in this interface support only read-only access to the list;\n * read/write access is
supported through the [MutableList] interface.\n * @param E the type of elements contained in the list. The list is
covariant in its element type.\n */\n\npublic interface List<out E> : Collection<E> {\n // Query Operations\n
override val size: Int\n override fun isEmpty(): Boolean\n override fun contains(element: @UnsafeVariance E):
Boolean\n override fun iterator(): Iterator<E>\n\n // Bulk Operations\n
override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n\n // Positional Access
Operations\n /**\n * Returns the element at the specified index in the list.\n */\n public operator fun
get(index: Int): E\n\n // Search Operations\n /**\n * Returns the index of the first occurrence of the specified

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element in the list, or -1 if the specified element is not contained in the list. public fun
indexOf(element: @UnsafeVariance E): Int /** Returns the index of the last occurrence of the specified
element in the list, or -1 if the specified element is not contained in the list. public fun
lastIndexOf(element: @UnsafeVariance E): Int // List Iterators /** Returns a list iterator over the
elements in this list (in proper sequence). public fun listIterator(): ListIterator<E> /** Returns
a list iterator over the elements in this list
(in proper sequence), starting at the specified [index]. public fun listIterator(index: Int):
ListIterator<E> // View /** Returns a view of the portion of this list between the specified
[fromIndex] (inclusive) and [toIndex] (exclusive). The returned list is backed by this list, so non-structural
changes in the returned list are reflected in this list, and vice-versa. Structural changes in the base list
make the behavior of the view undefined. public fun subList(fromIndex: Int, toIndex: Int):
List<E> } /** A generic ordered collection of elements that supports adding and removing elements.
@param E the type of elements contained in the list. The mutable list is invariant in its element type.
public interface MutableList<E> : List<E>, MutableCollection<E> { // Modification Operations /** Adds the
specified element to the end of this list. @return `true` because the
list is always modified as the result of this operation. public fun add(element: E): Boolean
override fun remove(element: E): Boolean // Bulk Modification Operations /** Adds all of the
elements of the specified collection to the end of this list. The elements are appended in the order they
appear in the [elements] collection. @return `true` if the list was changed as the result of the
operation. public fun addAll(elements: Collection<E>): Boolean /** Inserts all of the
elements of the specified collection [elements] into this list at the specified [index]. @return `true` if the
list was changed as the result of the operation. public fun addAll(index: Int, elements: Collection<E>):
Boolean override fun removeAll(elements: Collection<E>): Boolean override fun retainAll(elements:
Collection<E>): Boolean override fun clear(): Unit
// Positional Access Operations /** Replaces the element at the specified position in this list with the
specified element. @return the element previously at the specified position. public operator
fun set(index: Int, element: E): E /** Inserts an element into the list at the specified [index].
public fun add(index: Int, element: E): Unit /** Removes an element at the specified [index] from the
list. @return the element that has been removed. public fun removeAt(index: Int): E //
List Iterators override fun listIterator(): MutableListIterator<E> override fun listIterator(index: Int):
MutableListIterator<E> // View override fun subList(fromIndex: Int, toIndex: Int):
MutableList<E> } /** A generic unordered collection of elements that does not support duplicate
elements. Methods in this interface support only read-only access to
the set; read/write access is supported through the [MutableSet] interface. @param E the type of elements
contained in the set. The set is covariant in its element type. public interface Set<out E> : Collection<E> {
// Query Operations override val size: Int override fun isEmpty(): Boolean override fun
contains(element: @UnsafeVariance E): Boolean override fun iterator(): Iterator<E> // Bulk Operations
override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean } /** A generic unordered
collection of elements that does not support duplicate elements, and supports adding and removing elements.
@param E the type of elements contained in the set. The mutable set is invariant in its element type.
public interface MutableSet<E> : Set<E>, MutableCollection<E> { // Query Operations override fun iterator():
MutableIterator<E> // Modification Operations /** Adds the specified
element to the set. @return `true` if the element has been added, `false` if the element is already
contained in the set. public fun add(element: E): Boolean override fun remove(element: E):
Boolean // Bulk Modification Operations override fun addAll(elements: Collection<E>): Boolean
override fun removeAll(elements: Collection<E>): Boolean override fun retainAll(elements: Collection<E>):
Boolean override fun clear(): Unit } /** A collection that holds pairs of objects (keys and values) and
supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one

```

value for each key.

- * Methods in this interface support only read-only access to the map; read-write access is supported through the [MutableMap] interface.
- * @param K the type of map keys. The map is invariant in its key type, as it can accept key as a parameter (of [containsKey] for example) and return it in [keys] set.
- * @param V the type of map values. The map is covariant in its value type.

```

public interface Map<K, out V> {
    // Query Operations
    /** Returns the number of key/value pairs in the map. */
    public val size: Int

    /** Returns `true` if the map is empty (contains no elements), `false` otherwise. */
    public fun isEmpty(): Boolean

    /** Returns `true` if the map contains the specified [key]. */
    public fun containsKey(key: K): Boolean

    /** Returns `true` if the map maps one or more keys to the specified [value]. */
    public fun containsValue(value: @UnsafeVariance V): Boolean

    /** Returns the value corresponding to the given [key], or `null` if such a key is not present in the map. */
    public operator fun get(key: K): V?

    /** Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map. */
    @since JDK 1.8
    @SinceKotlin("1.1")
    @PlatformDependent
    public fun getOrDefault(key: K, defaultValue: @UnsafeVariance V): V {
        // See default implementation in JDK sources
        throw NotImplementedError()
    }

    // Views
    /** Returns a read-only [Set] of all keys in this map. */
    public val keys: Set<K>

    /** Returns a read-only [Collection] of all values in this map. Note that this collection may contain duplicate values. */
    public val values: Collection<V>

    /** Returns a read-only [Set] of all key/value pairs in this map. */
    public val entries: Set<Map.Entry<K, V>>

    /** Represents a key/value pair held by a [Map]. */
    public interface Entry<out K, out V> {
        /** Returns the key of this key/value pair. */
        public val key: K

        /** Returns the value of this key/value pair. */
        public val value: V
    }
}

```

A modifiable collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one value for each key.

- * @param K the type of map keys. The map is invariant in its key type.
- * @param V the type of map values. The mutable map is invariant in its value type.

```

public interface MutableMap<K, V> : Map<K, V> {
    // Modification Operations
    /** Associates the specified [value] with the specified [key] in the map. */
    @return the previous value associated with the key, or `null` if the key was not present in the map.
    public fun put(key: K, value: V): V?

    /** Removes the specified key and its corresponding value from this map. */
    @return the previous value associated with the key, or `null` if the key was not present in the map.
    public fun remove(key: K): V?

    /** Removes the entry for the specified key only if it is mapped to the specified value. */
    @return true if entry was removed
    @SinceKotlin("1.1")
    @PlatformDependent
    public fun remove(key: K, value: V): Boolean {
        // See default implementation in JDK sources
        return true
    }

    // Bulk Modification Operations
    /** Updates this map with key/value pairs from the specified map [from]. */
    public fun putAll(from: Map<out K, V>): Unit

    /** Removes all elements from this map. */
    public fun clear(): Unit

    // Views
    /** Returns a [MutableSet] of all keys in this map. */
    override val keys: MutableSet<K>

    /** Returns a [MutableCollection] of all values in this map. Note that this collection may contain duplicate values. */
    override val values: MutableCollection<V>

    /** Returns a [MutableSet] of all key/value pairs in this map. */
    override val entries: MutableSet<MutableMap.MutableEntry<K, V>>

    /** Represents a key/value pair held by a [MutableMap]. */
    public interface MutableEntry<K, V> : Map.Entry<K, V> {
        /** Changes the value associated with the key of this entry. */
        @return the previous value corresponding to the key.
        public fun setValue(newValue: V): V
    }
}

```

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```

// Auto-generated file. DO NOT EDIT!
package kotlin.collections

/** An iterator over a sequence of values of type `Byte`. */
public abstract class ByteIterator : Iterator<Byte> {
    override final fun next() = nextByte()
    /** Returns the next value in the sequence */
}

```

```

without boxing. */n public abstract fun nextByte(): Byte\n}\n\n/** An iterator over a sequence of values of type
`Char`. */npublic abstract class CharIterator : Iterator<Char> {\n override final fun next() = nextChar()\n\n /**
Returns the next value in the sequence without boxing. */n public abstract fun nextChar(): Char\n}\n\n/** An
iterator over a sequence of values of type `Short`. */npublic abstract class ShortIterator : Iterator<Short> {\n
override final fun next() = nextShort()\n\n /** Returns the next value in the sequence without boxing. */n public
abstract fun nextShort(): Short\n}\n\n/** An iterator over a sequence of values of type `Int`. */npublic abstract class
IntIterator : Iterator<Int> {\n override final fun next() = nextInt()\n\n /** Returns the next value in the sequence
without boxing. */n public abstract fun nextInt(): Int\n}\n\n/** An iterator over a sequence of values of type
`Long`. */npublic abstract class LongIterator : Iterator<Long>
{\n override final fun next() = nextLong()\n\n /** Returns the next value in the sequence without boxing. */n
public abstract fun nextLong(): Long\n}\n\n/** An iterator over a sequence of values of type `Float`. */npublic
abstract class FloatIterator : Iterator<Float> {\n override final fun next() = nextFloat()\n\n /** Returns the next
value in the sequence without boxing. */n public abstract fun nextFloat(): Float\n}\n\n/** An iterator over a
sequence of values of type `Double`. */npublic abstract class DoubleIterator : Iterator<Double> {\n override final
fun next() = nextDouble()\n\n /** Returns the next value in the sequence without boxing. */n public abstract fun
nextDouble(): Double\n}\n\n/** An iterator over a sequence of values of type `Boolean`. */npublic abstract class
BooleanIterator : Iterator<Boolean> {\n override final fun next() = nextBoolean()\n\n /** Returns the next value
in the sequence without boxing. */n public
abstract fun nextBoolean(): Boolean\n}\n\n"/n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n/**\n * An
iterator over a progression of values of type `Char`. \n * @property step the number by which the value is
incremented on each step.\n */ninternal class CharProgressionIterator(first: Char, last: Char, val step: Int) :
CharIterator() {\n private val finalElement: Int = last.code\n private var hasNext: Boolean = if (step > 0) first <=
last else first >= last\n private var next: Int = if (hasNext) first.code else finalElement\n\n override fun hasNext():
Boolean = hasNext\n\n override fun nextChar(): Char {\n val value = next\n if (value == finalElement)
{\n if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n } else {\n next += step\n } return value.toChar()\n }\n}\n\n/**\n * An iterator over a progression of values of type `Int`. \n * @property step the number by which the value is
incremented on each step.\n */ninternal class IntProgressionIterator(first: Int, last: Int, val step: Int) : IntIterator()
{\n private val finalElement: Int = last\n private var hasNext: Boolean = if (step > 0) first <= last else first >=
last\n private var next: Int = if (hasNext) first else finalElement\n\n override fun hasNext(): Boolean =
hasNext\n\n override fun nextInt(): Int {\n val value = next\n if (value == finalElement) {\n if
(!hasNext) throw kotlin.NoSuchElementException()\n hasNext = false\n } else {\n next +=
step\n } return value\n }\n}\n\n/**\n * An iterator over a progression of values of type `Long`. \n *
@property step the number by
which the value is incremented on each step.\n */ninternal class LongProgressionIterator(first: Long, last: Long,
val step: Long) : LongIterator() {\n private val finalElement: Long = last\n private var hasNext: Boolean = if
(step > 0) first <= last else first >= last\n private var next: Long = if (hasNext) first else finalElement\n\n
override fun hasNext(): Boolean = hasNext\n\n override fun nextLong(): Long {\n val value = next\n if
(value == finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n } else {\n next += step\n } return value\n }\n}\n\n"/n * Copyright 2010-2022
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin.ranges\n\nimport kotlin.internal.getProgressionLastElement\n\n/**\n * A progression of values of type `Char`. \n */npublic open class CharProgression\n internal constructor\n (n
start: Char,\n endInclusive: Char,\n step: Int\n ): Iterable<Char> {\n init {\n if (step == 0)
throw kotlin.IllegalArgumentException("Step must be non-zero.")\n if (step == Int.MIN_VALUE) throw

```

```

kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE to avoid overflow on negation.")\n
}\n\n /**\n * The first element in the progression.\n */\n public val first: Char = start\n\n /**\n * The last element in the progression.\n */\n public val last: Char = getProgressionLastElement(start.code, endInclusive.code, step).toChar()\n\n /**\n * The step of the progression.\n */\n public val step: Int = step\n\n override fun iterator(): CharIterator = CharProgressionIterator(first, last, step)\n\n /**\n * Checks if the progression is empty.\n */\n * Progression with a positive step is empty if its first element is greater than the last element.\n * Progression with a negative step is empty if its first element is less than the last element.\n */\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n    other is CharProgression && (isEmpty() && other.isEmpty()) ||\n    first == other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n    if (isEmpty()) -1 else (31 * (31 * first.code + last.code) + step)\n\n override fun toString(): String = if (step > 0) "$first..$last step $step" else "$first downTo $last step ${-step}"\n\n companion object {\n    /**\n     * Creates CharProgression within the specified bounds of a closed range.\n     */\n     * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n     * In order to go backwards the [step] must be negative.\n     */\n     * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n     */\n     public fun fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression = CharProgression(rangeStart, rangeEnd, step)\n }\n\n /**\n * A progression of values of type `Int`.\n */\n public open class IntProgression\n internal constructor(\n     start: Int,\n     endInclusive: Int,\n     step: Int\n ): Iterable<Int> {\n     init {\n         if (step == 0) throw kotlin.IllegalArgumentException("Step must be non-zero.")\n         if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE to avoid overflow on negation.")\n     }\n\n     /**\n     * The first element in the progression.\n     */\n     public val first: Int = start\n\n     /**\n     * The last element in the progression.\n     */\n     public val last: Int = getProgressionLastElement(start, endInclusive, step)\n\n     /**\n     * The step of the progression.\n     */\n     public val step: Int = step\n\n     override fun iterator(): IntIterator = IntProgressionIterator(first, last, step)\n\n     /**\n     * Checks if the progression is empty.\n     */\n     * Progression with a positive step is empty if its first element is greater than the last element.\n     * Progression with a negative step is empty if its first element is less than the last element.\n     */\n     public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n     override fun equals(other: Any?): Boolean =\n         other is IntProgression && (isEmpty() && other.isEmpty()) ||\n         first == other.first && last == other.last && step == other.step)\n\n     override fun hashCode(): Int =\n         if (isEmpty()) -1 else (31 * (31 * first + last) + step)\n\n     override fun toString(): String = if (step > 0) "$first..$last step $step" else "$first downTo $last step ${-step}"\n\n     companion object {\n         /**\n          * Creates IntProgression within the specified bounds of a closed range.\n          */\n          * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n          * In order to go backwards the [step] must be negative.\n          */\n          * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n          */\n          public fun fromClosedRange(rangeStart: Int, rangeEnd: Int, step: Int): IntProgression = IntProgression(rangeStart, rangeEnd, step)\n     }\n\n     /**\n     * A progression of values of type `Long`.\n     */\n     public open class LongProgression\n     internal constructor(\n         start: Long,\n         endInclusive: Long,\n         step: Long\n     ): Iterable<Long> {\n         init {\n             if (step == 0L) throw kotlin.IllegalArgumentException("Step must be non-zero.")\n             if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than Long.MIN_VALUE to avoid overflow on negation.")\n         }\n\n         /**\n         * The first element in the progression.\n         */\n         public val first: Long = start\n\n         /**\n         * The last element in the progression.\n         */\n         public val last: Long = getProgressionLastElement(start, endInclusive, step)\n\n         /**\n         * The step of the progression.\n         */\n         public val step: Long = step\n\n         override fun iterator(): LongIterator = LongProgressionIterator(first, last, step)\n\n         /**\n         * Checks if the progression is empty.\n         */\n         * Progression with a positive step is empty if its first

```



```

element is greater than the last element.\n    * Progression with a negative step is empty if its first element is less
than the last element.\n    *^n    public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n
override fun equals(other: Any?):
    Boolean =\n        other is LongProgression && (isEmpty() && other.isEmpty()) ||\n            first == other.first && last
== other.last && step == other.step)\n
override fun hashCode(): Int =\n        if (isEmpty()) -1 else (31 * (31 *
(first xor (first ushr 32)) + (last xor (last ushr 32))) + (step xor (step ushr 32))).toInt()\n
override fun toString():
String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"*\n
companion object {\n
    /**\n        * Creates LongProgression within the specified bounds of a closed range.\n        *\n        * The
progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the
specified [step].\n        * In order to go backwards the [step] must be negative.\n        *\n        * [step] must be
greater than `Long.MIN_VALUE` and not equal to zero.\n        *^n    public fun fromClosedRange(rangeStart:
Long, rangeEnd: Long, step: Long): LongProgression
    = LongProgression(rangeStart, rangeEnd, step)\n
}\n\n"/>\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.ranges\n\n/**\n * Represents a range of values
(for example, numbers or characters).\n * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/ranges.html) for more information.\n */\n\npublic interface
ClosedRange<T: Comparable<T>> {\n    /**\n        * The minimum value in the range.\n        */\n    public val start:
T\n
    /**\n        * The maximum value in the range (inclusive).\n        */\n    public val endInclusive: T\n
    /**\n        * Checks whether the specified [value] belongs to the range.\n        */\n    public operator fun contains(value: T):
Boolean = value >= start && value <= endInclusive\n
    /**\n        * Checks whether the range is empty.\n        *\n        * The range
is empty if its start value is greater than the end value.\n        */\n    public fun isEmpty(): Boolean = start >
endInclusive\n
}\n\n"/>\n * Copyright 2010-2015 JetBrains s.r.o.\n */\n * Licensed under the Apache License,
Version 2.0 (the \"License\");\n * you may not use this file except in compliance with the License.\n * You may
obtain a copy of the License at\n * http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by
applicable law or agreed to in writing, software\n * distributed under the License is distributed on an \"AS IS\"
BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the
License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage
kotlin\n\n/**\n * The type with only one value: the `Unit` object. This type corresponds to the `void` type in Java.\n
*/\n\npublic object Unit {\n    override fun toString() = \"kotlin.Unit\"\n
}\n\n"/>\n * Copyright 2010-2015 JetBrains
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in compliance with the License.\n * You may obtain a copy of the License at\n *
http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by applicable law or agreed to in writing,
software\n * distributed under the License is distributed on an \"AS IS\" BASIS,\n * WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language
governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.annotation\n\nimport
kotlin.annotation.AnnotationTarget.*\n\n/**\n * Contains the list of code elements which are the possible annotation
targets\n */\n\npublic enum class AnnotationTarget {\n    /** Class, interface or object, annotation class is also
included */\n    CLASS,\n    /** Annotation class only */\n    ANNOTATION_CLASS,\n    /** Generic type
parameter */\n    TYPE_PARAMETER,\n
    /** Property */\n    PROPERTY,\n    /** Field, including property's backing field */\n    FIELD,\n    /** Local variable
*/\n    LOCAL_VARIABLE,\n    /** Value parameter of a function or a constructor */\n    VALUE_PARAMETER,\n
    /** Constructor only (primary or secondary) */\n    CONSTRUCTOR,\n
    /** Function (constructors are not included) */\n    FUNCTION,\n    /** Property getter only */\n    PROPERTY_GETTER,\n
    /** Property setter only */\n    PROPERTY_SETTER,\n    /** Type usage */\n    TYPE,\n
    /** Any expression */\n    EXPRESSION,\n    /** File */\n    FILE,\n    /** Type alias */\n    @SinceKotlin(\"1.1\")\n    TYPEALIAS\n
}\n\n/**\n * Contains the list of possible annotation's retentions.\n */\n

```

```

Determines how an annotation is stored in binary output.\n */\npublic enum class AnnotationRetention {\n    /**\n    Annotation isn't stored in binary output */\n    SOURCE,\n    /** Annotation is stored in binary output, but invisible\n    for reflection */\n    BINARY,\n    /** Annotation\n    is stored in binary output and visible for reflection (default retention) */\n    RUNTIME}\n\n/**\n * This meta-\n    annotation indicates the kinds of code elements which are possible targets of an annotation.\n * \n * If the target\n    meta-annotation is not present on an annotation declaration, the annotation is applicable to the following elements:\n * [CLASS], [PROPERTY], [FIELD], [LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR],\n    [FUNCTION], [PROPERTY_GETTER], [PROPERTY_SETTER].\n * \n * @property allowedTargets list of\n    allowed annotation targets\n\n*/\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@MustBeDocumented\npublic annotation class\n    Target(vararg val allowedTargets: AnnotationTarget)\n\n/**\n * This meta-annotation determines whether an\n    annotation is stored in binary output and visible for reflection. By default, both are true.\n * \n * @property value\n    necessary annotation retention (RUNTIME, BINARY or SOURCE)\n\n*/\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Retention(val\n    value: AnnotationRetention = AnnotationRetention.RUNTIME)\n\n/**\n * This meta-annotation determines that an\n    annotation is applicable twice or more on a single code element\n\n*/\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Repeatable\n\n/**\n * This\n    meta-annotation determines that an annotation is a part of public API and therefore should be included in the\n    generated\n * documentation for the element to which the annotation is applied.\n\n*/\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class MustBeDocumented\n\n"/*\n * Copyright 2010-2016 JetBrains s.r.o.\n * \n * Licensed under the Apache License, Version 2.0 (the "License");\n * \n * you may not use this file except in compliance with the License.\n * \n * You may obtain a copy of the License at\n * \n * \n * http://www.apache.org/licenses/LICENSE-2.0\n * \n * Unless required by applicable law or agreed to in writing,\n    software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * \n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * \n * See the License\n    for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage\n    kotlin.internal\n\n/**\n * Specifies that the corresponding type parameter is not used for unsafe operations such as\n    casts or 'is' checks\n * \n * That means it's completely safe to use generic types as argument for such parameter.\n\n*/\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal\n    annotation class PureReifiable\n\n/**\n * Specifies that the corresponding built-in method exists depending on\n    platform.\n * \n * Current implementation for JVM looks whether method with same JVM descriptor exists in the\n    module JDK.\n * \n * For example MutableMap.remove(K, V) available only if corresponding\n * method\n    'java/util/Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z' is defined in JDK (i.e. for major versions >= 8)\n\n*/\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal\n    annotation class PlatformDependent\n\n/**\n * When applied to a function or property, enables a compiler\n    optimization that evaluates that function or property\n * \n * at compile-time and replaces calls to it with the computed\n    result.\n\n*/\n@Target(AnnotationTarget.CONSTRUCTOR, AnnotationTarget.FUNCTION,\n    AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.7")\ninternal\n    annotation class IntrinsicConstEvaluation\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming\n    Language contributors.\n * \n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n    license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a: Int, b: Int): Int {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b: Long): Long {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod\nprivate fun differenceModulo(a: Int, b: Int, c: Int): Int {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\nprivate fun differenceModulo(a: Long, b: Long, c: Long): Long {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in\n    the range\n * \n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * \n * [step].\n * \n * No validation on passed parameters is performed. The given parameters should satisfy the

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condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start
first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or
difference of successive elements in the progression\n * @return the final element of the progression\n *
@suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Int, end: Int,
step: Int): Int = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n    step < 0
-> if (start <= end) end else end + differenceModulo(start, end, -step)\n    else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <=
end`,\n *\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n */\n@PublishedApi\ninternal fun
getProgressionLastElement(start: Long, end: Long, step: Long): Long = when {\n    step > 0 -> if (start >= end) end
else end - differenceModulo(end, start, step)\n    step < 0 -> if (start <= end) end else end + differenceModulo(start,
end, -step)\n    else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@JsName("arrayIterator")\ninternal
fun arrayIterator(array: dynamic, type: String?) = when (type) {\n    null -> {\n        val arr: Array<dynamic> =
array\n        object : Iterator<dynamic> {\n            var index = 0\n            override fun hasNext() = index < arr.size\n
            override fun next() = if (index < arr.size) arr[index++] else throw NoSuchElementException("$index")\n        }\n    }\n    "BooleanArray" -> booleanArrayIterator(array)\n
    "ByteArray" -> byteArrayIterator(array)\n    "ShortArray" -> shortArrayIterator(array)\n    "CharArray" ->
charArrayIterator(array)\n    "IntArray" -> intArrayIterator(array)\n    "LongArray" -> longArrayIterator(array)\n
    "FloatArray" -> floatArrayIterator(array)\n    "DoubleArray" -> doubleArrayIterator(array)\n    else -> throw
IllegalStateException("Unsupported type argument for arrayIterator:
$type")\n}\n\n@JsName("booleanArrayIterator")\ninternal fun booleanArrayIterator(array: BooleanArray) =
object : BooleanIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override fun
nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("byteArrayIterator")\ninternal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextByte() = if (index < array.size) array[index++]
else throw NoSuchElementException("$index")\n}\n\n@JsName("shortArrayIterator")\ninternal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {\n    var index = 0\n    override fun hasNext() =
index < array.size\n    override fun nextShort() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("charArrayIterator")\ninternal fun charArrayIterator(array:
CharArray) = object : CharIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("intArrayIterator")\ninternal fun intArrayIterator(array:
IntArray) = object : IntIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("floatArrayIterator")\ninternal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {\n    var index = 0\n    override fun hasNext() =
index < array.size\n    override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("doubleArrayIterator")\ninternal fun
doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n    var index = 0\n    override fun hasNext()
= index < array.size\n    override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("longArrayIterator")\ninternal fun longArrayIterator(array:

```

```

LongArray) = object : LongIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("PropertyMetadata")\ninternal class
PropertyMetadata(@JsName("callableName") val name:
String)\n\n@JsName("noWhenBranchMatched")\ninternal
fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n@JsName("subSequence")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n    if (c is String) {\n        return c.substring(startIndex, endIndex)\n
    } else {\n        return c.asDynamic().`subSequence_vux9f0$`(startIndex, endIndex)\n
    }\n}\n\n@JsName("captureStack")\ninternal fun captureStack(@Suppress("UNUSED_PARAMETER")
baseClass: JsClass<in Throwable>, instance: Throwable) {\n    if (js("Error").captureStackTrace) {\n        // Using
uncropped stack traces due to KT-37563.\n        // Precise stack traces are implemented in JS IR compiler and
stdlib\n        js("Error").captureStackTrace(instance);\n    } else {\n        instance.asDynamic().stack = js("new
Error()").stack;\n    }\n}\n\n@JsName("newThrowable")\ninternal fun newThrowable(message: String?, cause:
Throwable?): Throwable {\n    val throwable = js("new Error()")\n
    throwable.message = if (jsTypeOf(message) == "undefined") {\n        if (cause != null) cause.toString() else
null\n    } else {\n        message\n    }\n    throwable.cause = cause\n    throwable.name = "Throwable"\n    return
throwable\n}\n\n@JsName("BoxedChar")\ninternal class BoxedChar(val c: Int) : Comparable<Int> {\n    override
fun equals(other: Any?): Boolean {\n        return other is BoxedChar && c == other.c\n    }\n    override fun
hashCode(): Int {\n        return c\n    }\n    override fun toString(): String {\n        return
js("this.c").unsafeCast<Char>().toString()\n    }\n    override fun compareTo(other: Int): Int {\n        return
js("this.c - other").unsafeCast<Int>()\n    }\n}\n\n@JsName("valueOf")\npublic fun valueOf(): Int {\n
return c\n}\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun <T> concat(args: Array<T>): T {\n    val typed
= js("Array")(args.size)\n    for (i in args.indices) {\n        val arr = args[i]\n
        if (arr lis Array<*>) {\n            typed[i] = js("[]").slice.call(arr)\n        } else {\n            typed[i] = arr\n        }\n
    }\n    return js("[]").concat.apply(js("[]"), typed);\n}\n\n/** Concat regular Array's and TypedArray's into an
Array.\n * \n@PublishedApi\n@JsName("arrayConcat")\n@Suppress("UNUSED_PARAMETER")\ninternal fun
<T> arrayConcat(a: T, b: T): T {\n    return concat(js("arguments"))\n}\n\n/** Concat primitive arrays. Main use:
prepare vararg arguments.\n * For compatibility with 1.1.0 the arguments may be a mixture of Array's and
TypedArray's.\n * \n * If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray)
returns a TypedArray, otherwise an Array.\n * If the first argument has the $type$ property (Boolean-, Char-, and
LongArray) copy its value to result.$type$.\n * If the first argument is a regular Array without the $type$ property
default to arrayConcat.\n
 * \n@PublishedApi\n@JsName("primitiveArrayConcat")\n@Suppress("UNUSED_PARAMETER")\ninternal
fun <T> primitiveArrayConcat(a: T, b: T): T {\n    val args: Array<T> = js("arguments")\n    if (a is Array<*> &&
a.asDynamic().`$type$` === undefined) {\n        return concat(args)\n    } else {\n        var size = 0\n        for (i in
args.indices) {\n            size += args[i].asDynamic().length as Int\n        }\n        val result = js("new
a.constructor(size)")\n        kotlin.copyArrayType(a, result)\n        size = 0\n        for (i in args.indices) {\n            val
arr = args[i].asDynamic()\n            for (j in 0 until arr.length) {\n                result[size++] = arr[j]\n            }\n        }\n
        return result\n    }\n}\n\n@JsName("booleanArrayOf")\ninternal fun booleanArrayOf() =
withType("BooleanArray", js("[]").slice.call(arguments))\n\n@JsName("charArrayOf")\ninternal fun
charArrayOf() = withType("CharArray", js("new
Uint16Array(arguments)"))\n\n@JsName("longArrayOf")\ninternal fun longArrayOf()
= withType("LongArray",
js("[]").slice.call(arguments))\n\n@JsName("withType")\n@kotlin.internal.InlineOnly\ninternal inline fun
withType(type: String, array: dynamic): dynamic {\n    array.`$type$` = type\n    return array\n}\n\n/** Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n@package kotlin.js\n\n/** \n *

```

Function corresponding to JavaScript's `typeof` operator

```
*\n@kotlin.internal.InlineOnly\n@Suppress(\"UNUSED_PARAMETER\")\npublic inline fun jsTypeOf(a: Any?):  
String = js(\"typeof a\")\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language  
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the  
license/LICENSE.txt file.\n *\n *\n@file:Suppress(\"UNUSED_PARAMETER\",  
\"NOTHING_TO_INLINE\")\n\npackage kotlin\n\n/**\n * Returns an empty array  
of the specified type [T].\n *\npublic inline fun <T> emptyArray(): Array<T> = js(\"[]\")\n\n@library\npublic fun  
<T> arrayOf(vararg elements: T): Array<T> = definedExternally\n\n@library\npublic fun doubleArrayOf(vararg  
elements: Double): DoubleArray = definedExternally\n\n@library\npublic fun floatArrayOf(vararg elements: Float):  
FloatArray = definedExternally\n\n@library\npublic fun longArrayOf(vararg elements: Long): LongArray =  
definedExternally\n\n@library\npublic fun intArrayOf(vararg elements: Int): IntArray =  
definedExternally\n\n@library\npublic fun charArrayOf(vararg elements: Char): CharArray =  
definedExternally\n\n@library\npublic fun shortArrayOf(vararg elements: Short): ShortArray =  
definedExternally\n\n@library\npublic fun byteArrayOf(vararg elements: Byte): ByteArray =  
definedExternally\n\n@library\npublic fun booleanArrayOf(vararg elements: Boolean): BooleanArray =  
definedExternally\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization  
function [initializer].\n *\npublic actual fun <T> lazy(initializer: () -> T): Lazy<T> =  
UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization  
function [initializer].\n *\n * The [mode] parameter is ignored.\n *\npublic actual fun <T> lazy(mode:  
LazyThreadSafetyMode, initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new  
instance of the [Lazy] that uses the specified initialization function [initializer].\n *\n * The [lock] parameter is  
ignored.\n *\npublic actual fun <T> lazy(lock: Any?, initializer: () -> T): Lazy<T> =  
UnsafeLazyImpl(initializer)\n\n\ninternal fun fillFrom(src: dynamic, dst: dynamic): dynamic {\n    val srcLen: Int =  
src.length\n    val dstLen: Int = dst.length\n    var index: Int = 0\n    while (index < srcLen && index < dstLen)  
dst[index] = src[index++]\n    return dst\n}\n\n\ninternal fun arrayCopyResize(source: dynamic, newSize: Int,  
defaultValue: Any?): dynamic {\n    val result = source.slice(0, newSize)\n    copyArrayType(source, result)\n    var index: Int = source.length\n    if  
(newSize > index) {\n        result.length = newSize\n        while (index < newSize) result[index++] = defaultValue\n    }\n    return result\n}\n\n\ninternal fun <T> arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic  
{\n    val result = array.slice()\n    result.length += collection.size\n    copyArrayType(array, result)\n    var index: Int  
= array.length\n    for (element in collection) result[index++] = element\n    return result\n}\n\n\ninternal fun <T>  
fillFromCollection(dst: dynamic, startIndex: Int, collection: Collection<T>): dynamic {\n    var index = startIndex\n    for (element in collection) dst[index++] = element\n    return dst\n}\n\n\ninternal inline fun copyArrayType(from:  
dynamic, to: dynamic) {\n    if (from.`$type$` !== undefined) {\n        to.`$type$` = from.`$type$`\n    }\n}\n\n\ninternal inline fun jsIsType(obj: dynamic, jsClass:  
dynamic) = js(\"Kotlin\").isType(obj, jsClass), /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin  
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be  
found in the license/LICENSE.txt file.\n *\n *\npackage kotlin\n\n/**\n * Creates a Char with the specified [code].\n *\n *\n * @sample samples.text.Chars.charFromCode\n *\n *\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli  
c actual inline fun Char(code: UShort): Char {\n    return code.toInt().toChar()\n}\n\", /*\n * Copyright 2010-2018  
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the  
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n *\npackage kotlin.coroutines\n\nimport  
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@SinceKotlin(\"1.3\")\n@JsName(\"CoroutineImpl\")\n\ninternal abstract class CoroutineImpl(private val resultContinuation:  
Continuation<Any?>) : Continuation<Any?> {\n    protected var state = 0\n    protected var exceptionState = 0\n    protected var result: Any? = null\n    protected var exception: Throwable? = null\n    protected var finallyPath:  
Array<Int?> = null\n\n    public override val context: CoroutineContext = resultContinuation.context\n\n    private
```



```

"Success($value)"\n    }\n\n // companion with constructors\n\n /**\n * Companion object for [Result]
class that contains its constructor functions\n * [success] and [failure].\n */\n public companion object {\n
/**\n * Returns
an instance that encapsulates the given [value] as successful value.\n */\n
@Suppress("INAPPLICABLE_JVM_NAME")\n @InlineOnly\n @JvmName("success")\n public
inline fun <T> success(value: T): Result<T> =\n    Result(value)\n\n /**\n * Returns an instance that
encapsulates the given [Throwable] [exception] as failure.\n */\n
@Suppress("INAPPLICABLE_JVM_NAME")\n @InlineOnly\n @JvmName("failure")\n public
inline fun <T> failure(exception: Throwable): Result<T> =\n    Result(createFailure(exception))\n }\n\n
internal class Failure(\n @JvmField\n val exception: Throwable\n ): Serializable {\n    override fun
equals(other: Any?): Boolean = other is Failure && exception == other.exception\n    override fun hashCode():
Int = exception.hashCode()\n    override fun toString(): String = "Failure($exception)"\n }\n\n/**\n *
Creates an instance of
internal marker [Result.Failure] class to\n * make sure that this class is not exposed in ABI.\n
*/\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun createFailure(exception: Throwable): Any =\n
Result.Failure(exception)\n\n/**\n * Throws exception if the result is failure. This internal function minimizes\n *
inlined bytecode for [getOrThrow] and makes sure that in the future we can\n * add some exception-augmenting
logic here (if needed).\n */\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun Result<*>.throwOnFailure() {\n
if (value is Result.Failure) throw value.exception\n}\n\n/**\n * Calls the specified function [block] and returns its
encapsulated result if invocation was successful,\n * catching any [Throwable] exception that was thrown from the
[block] function execution and encapsulating it as a failure.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic
inline fun <R> runCatching(block: () -> R): Result<R> {\n    return try {\n        Result.success(block())\n    }
catch (e: Throwable) {\n        Result.failure(e)\n    }\n}\n\n/**\n * Calls the specified function [block] with `this`
value as its receiver and returns its encapsulated result if invocation was successful,\n * catching any [Throwable]
exception that was thrown from the [block] function execution and encapsulating it as a failure.\n
*/\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T, R> T.runCatching(block: T.() -> R): Result<R> {\n
return try {\n    Result.success(block())\n } catch (e: Throwable) {\n    Result.failure(e)\n }\n}\n\n// --
extensions ---\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or
throws the encapsulated [Throwable] exception\n * if it is [failure][Result.isFailure].\n */\n * This function is a
shorthand for `getOrElse { throw it }` (see [getOrElse]).\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline
fun <T> Result<T>.getOrThrow(): T {\n    throwOnFailure()\n    return value as T\n}\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n * result of
[onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n */\n * Note, that
this function rethrows any [Throwable] exception thrown by [onFailure] function.\n */\n * This function is a
shorthand for `fold(onSuccess = { it }, onFailure = onFailure)` (see [fold]).\n
*/\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.getOrElse(onFailure: (exception:
Throwable) -> R): R {\n    contract {\n        callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n    }\n
return when (val exception = exceptionOrNull()) {\n    null -> value as T\n    else -> onFailure(exception)\n
}\n}\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n *
[defaultValue] if it is [failure][Result.isFailure].\n */\n * This function is a shorthand for `getOrElse { defaultValue
}` (see [getOrElse]).\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R>
Result<T>.getOrElse(defaultValue: R): R {\n    if (isFailure) return defaultValue\n    return value as
T\n}\n\n/**\n * Returns the result of [onSuccess] for the encapsulated value if this instance represents
[success][Result.isSuccess]\n * or the result of [onFailure] function for the encapsulated [Throwable] exception if it
is [failure][Result.isFailure].\n */\n * Note, that this function rethrows any [Throwable] exception thrown by
[onSuccess] or by [onFailure] function.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T>
Result<T>.fold(\n    onSuccess: (value: T) -> R,\n    onFailure: (exception: Throwable) -> R\n): R {\n    contract {\n
callsInPlace(onSuccess, InvocationKind.AT_MOST_ONCE)\n        callsInPlace(onFailure,

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InvocationKind.AT_MOST_ONCE)\n } return when (val exception = exceptionOrNull()) {\n null ->
onSuccess(value as T)\n
else -> onFailure(exception)\n }\n\n// transformation\n\n/**\n * Returns the encapsulated result of the given
[transform] function applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or
the\n * original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n *\n * Note, that this function
rethrows any [Throwable] exception thrown by [transform] function.\n * See [mapCatching] for an alternative that
encapsulates exceptions.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T>
Result<T>.map(transform: (value: T) -> R): Result<R> {\n contract {\n callsInPlace(transform,
InvocationKind.AT_MOST_ONCE)\n }\n return when {\n isSuccess -> Result.success(transform(value as
T))\n else -> Result(value)\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function
applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n
* original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n *\n * This function catches any
[Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n * See [map] for an
alternative that rethrows exceptions from `transform` function.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic
inline fun <R, T> Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {\n return when {\n
isSuccess -> runCatching { transform(value as T) }\n else -> Result(value)\n }\n}\n\n/**\n * Returns the
encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n * if this
instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is
[success][Result.isSuccess].\n *\n * Note, that this function rethrows any [Throwable] exception thrown by
[transform] function.\n * See [recoverCatching] for an alternative that encapsulates exceptions.\n
*/\n@InlineOnly\n@SinceKotlin("1.3")\npublic
inline fun <R, T : R> Result<T>.recover(transform: (exception: Throwable) -> R): Result<R> {\n contract {\n
callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception =
exceptionOrNull()) {\n null -> this\n else -> Result.success(transform(exception))\n }\n}\n\n/**\n *
Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable]
exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is
[success][Result.isSuccess].\n *\n * This function catches any [Throwable] exception thrown by [transform]
function and encapsulates it as a failure.\n * See [recover] for an alternative that rethrows exceptions.\n
*/\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recoverCatching(transform:
(exception: Throwable) -> R): Result<R> {\n return when (val exception = exceptionOrNull())
{\n null -> this\n else -> runCatching { transform(exception) }\n }\n}\n\n/**\n * Performs the given [action] on the encapsulated [Throwable] exception if this instance
represents [failure][Result.isFailure].\n * Returns the original `Result` unchanged.\n
*/\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onFailure(action: (exception:
Throwable) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n
}\n exceptionOrNull()?.let { action(it) }\n return this\n}\n\n/**\n * Performs the given [action] on the
encapsulated value if this instance represents [success][Result.isSuccess].\n * Returns the original `Result`
unchanged.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onSuccess(action: (value:
T) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n }\n if
(isSuccess) action(value
as T)\n return this\n}\n\n// -----\n"/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.contracts.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Interface representing a continuation after
a suspension point that returns a value of type `T`.\n */\n@SinceKotlin("1.3")\npublic interface Continuation<in
T> {\n /**\n * The context of the coroutine that corresponds to this continuation.\n */\n public val context:
CoroutineContext\n\n /**\n * Resumes the execution of the corresponding coroutine passing a successful or
failed [result] as the\n * return value of the last suspension point.\n */\n public fun resumeWith(result:

```


Result<T>)\n}\n\n/**\n * Classes and interfaces marked with this annotation are restricted when used as receivers for extension\n * `suspend` functions. These `suspend` extensions can only invoke other member or extension `suspend` functions on this particular\n * receiver and are restricted from calling arbitrary suspension functions.\n

*\n@\n@SinceKotlin("1.3")\n@\n@Target(AnnotationTarget.CLASS)\n@\n@Retention(AnnotationRetention.BINARY)\n\npublic annotation class RestrictsSuspension\n\n/**\n * Resumes the execution of the corresponding coroutine passing [value] as the return value of the last suspension point.\n *\n@\n@SinceKotlin("1.3")\n@\n@InlineOnly\n\npublic inline fun <T> Continuation<T>.resume(value: T): Unit =\n resumeWith(Result.success(value))\n\n/**\n * Resumes the execution of the corresponding coroutine so that the [exception] is re-thrown right after the\n * last suspension point.\n *\n@\n@SinceKotlin("1.3")\n@\n@InlineOnly\n\npublic inline fun <T> Continuation<T>.resumeWithException(exception: Throwable): Unit =\n resumeWith(Result.failure(exception))\n\n/**\n * Creates a [Continuation] instance with the given [context] and implementation of [resumeWith] method.\n *\n@\n@SinceKotlin("1.3")\n@\n@InlineOnly\n\npublic inline fun <T> Continuation(\n context: CoroutineContext,\n crossinline resumeWith: (Result<T>) -> Unit): Continuation<T> =\n object : Continuation<T> {\n override val context: CoroutineContext\n get() = context\n override fun resumeWith(result: Result<T>) =\n resumeWith(result)\n }\n\n/**\n * Creates a coroutine without a receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce an [IllegalStateException].\n *\n@\n@SinceKotlin("1.3")\n@\n@Suppress("UNCHECKED_CAST")\n\npublic fun <T> (suspend () -> T).createCoroutine(\n completion: Continuation<T>): Continuation<Unit> =\n SafeContinuation(createCoroutineUnintercepted(completion).intercepted(), COROUTINE_SUSPENDED)\n\n/**\n * Creates a coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce an [IllegalStateException].\n *\n@\n@SinceKotlin("1.3")\n@\n@Suppress("UNCHECKED_CAST")\n\npublic fun <R, T> (suspend R.() -> T).createCoroutine(\n receiver: R,\n completion: Continuation<T>): Continuation<Unit> =\n SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(), COROUTINE_SUSPENDED)\n\n/**\n * Starts a coroutine without a receiver and with result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n *\n@\n@SinceKotlin("1.3")\n@\n@Suppress("UNCHECKED_CAST")\n\npublic fun <T> (suspend () -> T).startCoroutine(\n completion: Continuation<T>)\n{\n createCoroutineUnintercepted(completion).intercepted().resume(Unit)\n}\n\n/**\n * Starts a coroutine with receiver type [R] and result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n *\n@\n@SinceKotlin("1.3")\n@\n@Suppress("UNCHECKED_CAST")\n\npublic fun <R, T> (suspend R.() -> T).startCoroutine(\n receiver: R,\n completion: Continuation<T>)\n{\n createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit)\n}\n\n/**\n * Obtains the current continuation instance inside suspend functions and suspends\n * the currently running coroutine.\n * In this function both [Continuation.resume] and [Continuation.resumeWithException] can be used either synchronously in\n * the same stack-frame where the suspension function is run or asynchronously later in the same thread or\n * from a different thread of execution. Subsequent invocation of any resume function will produce an

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[IllegalStateException].\n * \n @SinceKotlin("1.3")\n @InlineOnly\n public suspend inline fun <T>
suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T {\n    contract { callsInPlace(block,
InvocationKind.EXACTLY_ONCE) }\n    return suspendCoroutineUninterceptedOrReturn { c: Continuation<T> -
>\n        val safe = SafeContinuation(c.intercepted())\n        block(safe)\n
        safe.getOrThrow()\n    }\n}\n\n/**\n * Returns the context of the current coroutine.\n
*\n @SinceKotlin("1.3")\n @Suppress("WRONG_MODIFIER_TARGET")\n @InlineOnly\n public suspend inline
val coroutineContext: CoroutineContext\n    get() {\n        throw NotImplementedError("Implemented as
intrinsic")\n    }\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
*\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n @npackage kotlin.coroutines.intrinsics\n @nimport kotlin.coroutines.*\n @nimport kotlin.internal.InlineOnly\n @n/**\n *
Starts an unintercepted coroutine without a receiver and with result type [T] and executes it until its first
suspension.\n * Returns the result of the coroutine or throws its exception if it does not suspend or
[COROUTINE_SUSPENDED] if it suspends.\n * In the latter case, the [completion] continuation is invoked when
the coroutine completes
with a result or an exception.\n * \n * The coroutine is started directly in the invoker's thread without going through
the [ContinuationInterceptor] that might\n * be present in the completion's [CoroutineContext]. It is the invoker's
responsibility to ensure that a proper invocation\n * context is established.\n * \n * This function is designed to be
used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended\n *
coroutine using a reference to the suspending function.\n * \n @SinceKotlin("1.3")\n @InlineOnly\n public actual
inline fun <T> (suspend () -> T).startCoroutineUninterceptedOrReturn(\n    completion: Continuation<T>)\n): Any?
= this.asDynamic()(completion, false)\n\n\n/**\n * Starts an unintercepted coroutine with receiver type [R] and result
type [T] and executes it until its first suspension.\n * Returns the result of the coroutine or throws its exception if
it does not suspend or [COROUTINE_SUSPENDED] if it suspends.\n * In the latter
case, the [completion] continuation is invoked when the coroutine completes with a result or an exception.\n * \n *
The coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that
might\n * be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper
invocation\n * context is established.\n * \n * This function is designed to be used from inside of
[suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended\n * coroutine using a reference
to the suspending function.\n * \n @SinceKotlin("1.3")\n @InlineOnly\n public actual inline fun <R, T> (suspend
R.() -> T).startCoroutineUninterceptedOrReturn(\n    receiver: R,\n    completion: Continuation<T>)\n): Any? =
this.asDynamic()(receiver, completion, false)\n\n\n @InlineOnly\n internal actual inline fun <R, P, T> (suspend R.(P) -
> T).startCoroutineUninterceptedOrReturn(\n    receiver: R,\n    param: P,\n    completion: Continuation<T>)\n):
Any? = this.asDynamic()(receiver, param, completion, false)\n\n\n/**\n * Creates unintercepted coroutine without
receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable computation every
time it is invoked.\n * \n * To start executing the created coroutine, invoke `resume(Unit)` on the returned
[Continuation] instance.\n * The [completion] continuation is invoked when coroutine completes with result or
exception.\n * \n * This function returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine
immediately in the invoker's call stack without going through the\n * [ContinuationInterceptor] that might be present
in the completion's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation
context is established.\n * Note that [completion] of this function may get invoked in an arbitrary context.\n * \n *
[Continuation.intercepted] can be used to acquire the intercepted continuation.\n
*\n * Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of\n * both the coroutine and
[completion] happens in the invocation context established by\n * [ContinuationInterceptor].\n * \n * Repeated
invocation of any resume function on the resulting continuation corrupts the\n * state machine of the coroutine and
may result in arbitrary behaviour or exception.\n * \n @SinceKotlin("1.3")\n public actual fun <T> (suspend () ->
T).createCoroutineUnintercepted(\n    completion: Continuation<T>)\n): Continuation<Unit> =\n    // Kotlin/JS
suspend lambdas have an extra parameter `suspended`\n    if (this.asDynamic().length == 2) {\n        // When
`suspended` is true the continuation is created, but not executed\n        this.asDynamic()(completion, true)\n    } else

```

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{\n    createCoroutineFromSuspendFunction(completion) {\n        this.asDynamic()(completion)\n    }\n}
\n\n/**\n * Creates unintercepted coroutine with receiver type [R] and result
type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n *\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The
[completion] continuation is invoked when coroutine completes with result or exception.\n *\n * This function
returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine immediately in the invoker's
call stack without going through the\n * [ContinuationInterceptor] that might be present in the completion's
[CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation context is established.\n *
Note that [completion] of this function may get invoked in an arbitrary context.\n *\n * [Continuation.intercepted]
can be used to acquire the intercepted continuation.\n * Invocation of `resume(Unit)` on intercepted continuation
guarantees that execution of\n * both the coroutine and [completion] happens in
the invocation context established by\n * [ContinuationInterceptor].\n *\n * Repeated invocation of any resume
function on the resulting continuation corrupts the\n * state machine of the coroutine and may result in arbitrary
behaviour or exception.\n */
\n@SinceKotlin("1.3")\npublic actual fun <R, T> (suspend R.() ->
T).createCoroutineUnintercepted(\n receiver: R,\n completion: Continuation<T>\n): Continuation<Unit> =\n //
Kotlin/JS suspend lambdas have an extra parameter `suspended`\n if (this.asDynamic().length == 3) {\n //
When `suspended` is true the continuation is created, but not executed\n this.asDynamic()(receiver, completion,
true)\n } else {\n createCoroutineFromSuspendFunction(completion) {\n this.asDynamic()(receiver,
completion)\n }\n }\n\n/**\n * Intercepts this continuation with [ContinuationInterceptor].\n *\n * This
function shall be used on the immediate result of [createCoroutineUnintercepted] or
[suspendCoroutineUninterceptedOrReturn],\n
* in which case it checks for [ContinuationInterceptor] in the continuation's [context][Continuation.context],\n *
invokes [ContinuationInterceptor.interceptContinuation], caches and returns the result.\n *\n * If this function is
invoked on other [Continuation] instances it returns `this` continuation unchanged.\n
*\n@SinceKotlin("1.3")\npublic actual fun <T> Continuation<T>.intercepted(): Continuation<T> =\n (this as?
CoroutineImpl)?.intercepted() ?: this\n\nprivate inline fun <T> createCoroutineFromSuspendFunction(\n
completion: Continuation<T>,\n crossinline block: () -> Any?\n): Continuation<Unit> {\n
@Suppress("UNCHECKED_CAST")\n return object : CoroutineImpl(completion as Continuation<Any?>) {\n
override fun doResume(): Any? {\n exception?.let { throw it }\n return block()\n }\n
}\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@npackage kotlin.js\n// Mirrors signature from JS IR BE\n// Used for
js.translator/testData/box/number/mulInt32.kt\n@library\n@jsName("imulEmulated")\n@Suppress("UNUSED_P
ARAMETER")\ninternal fun imul(x: Int, y: Int): Int =
definedExternally\n\n@Suppress("NOTHING_TO_INLINE")\ninternal inline fun isArrayish(o: dynamic) =
js("Kotlin").isArrayish(o)\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n@npackage kotlin\n// NOTE: Do not author your exceptions as they are written in
this file, instead use this template:\n\npublic open class MyException : Exception {\n constructor() : super()\n
constructor(message: String?) : super(message)\n constructor(message: String?, cause: Throwable?) :
super(message,
cause)\n constructor(cause: Throwable?) : super(cause)\n}\n\n@npackage kotlin\n// TODO: remove primary constructors, make
all secondary KT-22055\n\n@Suppress("USELESS_ELVIS_RIGHT_IS_NULL")\npublic actual open class Error
actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n actual
constructor() : this(null, null)\n actual constructor(message: String?) : this(message, null)\n actual
constructor(cause: Throwable?) : this(undefin
cause)\n}\n\n@Suppress("USELESS_ELVIS_RIGHT_IS_NULL")\npublic actual open class Exception actual
constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n actual constructor() :

```

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this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\npublic actual open class RuntimeException actual constructor(message:
String?, cause: Throwable?) : Exception(message, cause) {\n  actual constructor()
: this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\npublic actual open class IllegalArgumentException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\npublic actual open class IllegalStateException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefiend, cause)\n}\n\npublic actual open class IndexOutOfBoundsException actual
constructor(message: String?) : RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\npublic
actual open class
ConcurrentModificationException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual constructor(message:
String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend, cause)\n}\n\npublic actual
open class UnsupportedOperationException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual constructor(message:
String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend, cause)\n}\n\npublic
actual open class NumberFormatException actual constructor(message: String?) :
IllegalArgumentException(message) {\n  actual constructor() : this(null)\n}\n\npublic actual open class
NullPointerException actual constructor(message: String?) : RuntimeException(message) {\n  actual constructor() :
this(null)\n}\n\npublic actual open class ClassCastException
actual constructor(message: String?) : RuntimeException(message) {\n  actual constructor() :
this(null)\n}\n\npublic actual open class AssertionError\n@SinceKotlin("1.4")\nconstructor(message: String?,
cause: Throwable?) : Error(message, cause) {\n  actual constructor() : this(null)\n  constructor(message: String?) :
this(message, null)\n  actual constructor(message: Any?) : this(message.toString(), message as?
Throwable)\n}\n\npublic actual open class NoSuchElementException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\n@SinceKotlin("1.3")\npublic actual open
class ArithmeticException actual constructor(message: String?) : RuntimeException(message) {\n  actual
constructor() : this(null)\n}\n\npublic actual open class NoWhenBranchMatchedException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual
constructor(message: String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend,
cause)\n}\n\n/*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:Suppress("UNUSED_PARAMETER")\n\npackage kotlin.js\n\n@kotlin.internal.InlineOnly\n\ninternal
inline fun jsDeleteProperty(obj: Any, property: Any) {\n  js("delete
obj[property]")\n}\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun jsBitwiseOr(lhs: Any?, rhs: Any?): Int =\njs("lhs | rhs").unsafeCast<Int>()\n\n/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.math\n\n/**\n * Returns this value
with the sign bit same as of the [sign] value.\n * If [sign] is `NaN` the sign of the result is undefined.\n
*\n\n@SinceKotlin("1.2")\n\npublic actual fun Double.withSign(sign: Double): Double {\n  val thisSignBit =
js("Kotlin").doubleSignBit(this).unsafeCast<Int>()\n  val newSignBit =

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js("Kotlin").doubleSignBit(sign).unsafeCast<Int>() return if (thisSignBit == newSignBit) this else -
this}"/**n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.n
*/npackage kotlin/n/n/**n * Returns a bit representation of the specified floating-point value as [Long]n *
according to the IEEE 754 floating-point
`double format` bit layout.n */n@SinceKotlin("1.2")n@library("doubleToBits")npublic actual fun
Double.toBits(): Long = definedExternallyn/n/**n * Returns a bit representation of the specified floating-point
value as [Long]n * according to the IEEE 754 floating-point `double format` bit layout,n * preserving `NaN`
values exact layout.n */n@SinceKotlin("1.2")n@library("doubleToRawBits")npublic actual fun
Double.toRawBits(): Long = definedExternallyn/n/**n * Returns the [Double] value corresponding to a given bit
representation.n */n@SinceKotlin("1.2")n@kotlin.internal.InlineOnlynpublic actual inline fun
Double.Companion.fromBits(bits: Long): Double =
js("Kotlin").doubleFromBits(bits).unsafeCast<Double>()n/n/**n * Returns a bit representation of the specified
floating-point value as [Int]n * according to the IEEE 754 floating-point `single format` bit layout.n */n * Note
that in Kotlin/JS [Float] range is wider than `single format` bit layout
can represent,n * so some [Float] values may overflow, underflow or loose their accuracy after conversion to bits
and back.n */n@SinceKotlin("1.2")n@library("floatToBits")npublic actual fun Float.toBits(): Int =
definedExternallyn/n/**n * Returns a bit representation of the specified floating-point value as [Int]n * according
to the IEEE 754 floating-point `single format` bit layout,n * preserving `NaN` values exact layout.n */n * Note
that in Kotlin/JS [Float] range is wider than `single format` bit layout can represent,n * so some [Float] values
may overflow, underflow or loose their accuracy after conversion to bits and back.n
*/n@SinceKotlin("1.2")n@library("floatToRawBits")npublic actual fun Float.toRawBits(): Int =
definedExternallyn/n/**n * Returns the [Float] value corresponding to a given bit representation.n
*/n@SinceKotlin("1.2")n@kotlin.internal.InlineOnlynpublic actual inline fun Float.Companion.fromBits(bits:
Int): Float =
js("Kotlin").floatFromBits(bits).unsafeCast<Float>()n/n@Suppress("NOTHING_TO_INLINE")ninternal
inline fun Long(low: Int, high: Int) = js("Kotlin").Long.fromBits(low, high).unsafeCast<Long>()ninternal inline
val Long.low: Int get() = this.asDynamic().getLowBits().unsafeCast<Int>()ninternal inline val Long.high: Int get()
= this.asDynamic().getHighBits().unsafeCast<Int>()n"/**n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.n */nimport kotlin.reflect.KClassn/n@PublishedApi\ninternal fun <T :
Annotation> KClass<*>.findAssociatedObject(@Suppress("UNUSED_PARAMETER") annotationClass:
KClass<T>): Any? {n // This API is not supported in js-v1. Return `null` to be source-compatible with js-ir.n
return null}n"/**n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.n *
Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.n */npackage
kotlin.text/n/n/**n * Returns a string representation of this [Long] value in the specified [radix].n */n * @throws
IllegalArgumentException when [radix] is not a valid radix for number to string conversion.n
*/n@SinceKotlin("1.2")npublic actual fun Long.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))"/**n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.n */npackage
kotlin.js\n/n@PublishedApi\n@Suppress("NOTHING_TO_INLINE")n@JsPolyfill("\\n\\nif (typeof
Array.prototype.fill === `undefined`) {n // Polyfill from https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/Array/fill#Polyfilln Object.defineProperty(Array.prototype,
'fill', {n value: function
(value) {n // Steps 1-2.n if (this == null) {n throw new TypeError('this is null or not
defined');n }n var O = Object(this);n // Steps 3-5.n var len = O.length >>> 0;n

```



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by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Reverses elements in the list in-
place.\n */\npublic actual fun <T> MutableList<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if
(midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n"/**\n *
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* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n//
See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\n// 37 ranges totally\nprivate object Digit
{\n    internal val rangeStart = intArrayOf(\n        0x0030, 0x0660, 0x06f0, 0x07c0, 0x0966, 0x09e6, 0x0a66,
0x0ae6, 0x0b66, 0x0be6, 0x0c66, 0x0ce6, 0x0d66, 0x0de6, 0x0e50, 0x0ed0, 0x0f20, 0x1040, 0x1090, 0x17e0, \n
        0x1810, 0x1946, 0x19d0, 0x1a80, 0x1a90, 0x1b50, 0x1bb0, 0x1c40, 0x1c50, 0xa620, 0xa8d0, 0xa900, 0xa9d0,
0xa9f0, 0xaa50, 0xabf0, 0xff10, \n    )\n}\n\n/**\n * Returns the index of the largest element in [array] smaller or
equal to the specified [needle],\n * or -1 if [needle] is smaller than the smallest element in [array].\n */\ninternal fun
binarySearchRange(array: IntArray, needle: Int): Int {\n    var bottom = 0\n
    var top = array.size - 1\n    var middle = -1\n    var value = 0\n    while (bottom <= top) {\n        middle = (bottom
+ top) / 2\n        value = array[middle]\n        if (needle > value)\n            bottom = middle + 1\n        else if (needle
== value)\n            return middle\n        else\n            top = middle - 1\n    }\n    return middle - (if (needle < value) 1
else 0)\n}\n\n/**\n * Returns an integer from 0..9 indicating the digit this character represents,\n * or -1 if this
character is not a digit.\n */\ninternal fun Char.digitToIntImpl(): Int {\n    val ch = this.code\n    val index =
binarySearchRange(Digit.rangeStart, ch)\n    val diff = ch - Digit.rangeStart[index]\n    return if (diff < 10) diff else -
1\n}\n\n/**\n * Returns `true` if this character is a digit.\n */\ninternal fun Char.isDigitImpl(): Boolean {\n    return
digitToIntImpl() >= 0\n}\n\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source
code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n/\n\n// 222 ranges totally\nprivate object Letter {\n
val decodedRangeStart: IntArray\n    val decodedRangeLength: IntArray\n    val decodedRangeCategory: IntArray\n
\n    init {\n        val toBase64 =
\"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/\n        val fromBase64 =
IntArray(128)\n        for (i in toBase64.indices) {\n            fromBase64[toBase64[i].code] = i\n        }\n        //
rangeStartDiff.length = 356\n        val rangeStartDiff =
\"hCgBpCQGYHZH5BRpBPPPPPRMP5BPPICPP6BkEPPPPcXPzBvBrB3BOiDoBHwD+E3DauCnFmBmB2D
6E1BIBTiBmBIBP5BhBiBrBvBjBqBnBPRtBiCmCtBIB0BmB5BiB7BmBgEmChBzGCoEoGVpBsFrhBPqKQ2B
wBYoFgB4CJuTiEvBuCuDrF5DgEgFIJ1DgFmBQtBsBRGsB+BPiBID1EIJdPRPPPPPPPPPGQSQS/DxENVNU+
B9zCwBwBPPCkDPNnBPqDYY1R8B7FkFgTgwGgwUwmBgKwBuBScmEP/BPPPPPrP8B7F1B/ErBqC6B7B
iBmBfQsBUwCw/KwqIwLwETPcPjQgJxFgBIBsD\"\n
        val diff = decodeVarLenBase64(rangeStartDiff, fromBase64, 222)\n        val start = IntArray(diff.size)\n
        for (i in diff.indices) {\n            if (i == 0) start[i] = diff[i]\n            else start[i] = start[i - 1] + diff[i]\n        }\n
        decodedRangeStart = start\n        // rangeLength.length = 328\n        val rangeLength =
\"aaMBXHYH5BRpBPPPPPRMP5BPPICPPzBDOOPPcXPzBvBjB3BOhDmBBpB7DoDYxB+EiBP1DoExBkB
QhBekBPmBgBhBctBiBMWOOXhCsBpBkBUV3Ba4Bkb0D1CgBXgBtD4FSdBfPhBPpKP0BvBXjEQ2CGsT8Dh
BtCqDpFvD1D3E0IrD2EkBjRBDObS+B+BPiBIB1EIJdPPPPPPPPPPPGPPMNLsBNPNPKCvBvBPPCkDPmBPh
DXXgD4B6FzEgDguG9vUtkB9JcuBSckEP/BPPPPPPBPf4FrBjEhBpC3B5BKaWPrBOWck/KsCuLqDHPbPxPsFt
EaaqDL\"\n        decodedRangeLength = decodeVarLenBase64(rangeLength, fromBase64, 222)\n        //
rangeCategory.length = 959\n        val rangeCategory =
\"GFjgggUHGFFZZZmzpz5qB6s6020B60ptltB6smt2sB60mz22B1+vv+8BZZ5s2850BW5q1ymtB506smzBF3q1
q1qB1q1q1+Bgii4wDTm74g3KigxqM60q1q1Bq1o1q1BF1qlrqrBZ2q5wprBGFZWWZGHFsjiioLowgmOowjkw

```


CkgoiIk7ligGogiioBkwkiYkzj2oNoi+sbkwj04DghhkQ8wgiYkgoioDsgnkwC4gikQ//v+85BkwvoIsgoyI4yguI0whiw
Eowri4CoghsJowgqYowgm4DkwgsY/nwzPowhmYkg6wI8yggZswikwHgxgmIoxgqYkwgk4DkxgmIkgoioBsgsso
BgzyI8g9L8g9kI0wgwJoxgkoC0wgioFkw/wI0w53iF4gioYowjmgBHGq1qkgwBF1q1q8qBHwghuIwghyKk0go
QkwgoQk3goQHGFHkyg0pBgxj6IoinkxDswno7Ikwhz9Bo0gioB8z48Rwli0xN0mpjoX8w78pDwltoqKHFGGwwg
sIHFH3q1q16BFHWFZ1q10q1B2qlwq1B1q10q1B2q1yq1B6q1gq1Biq1qhxBir1qp1Bqt1q1qB1g1q1+B//3q16B///q
1qBH/qlq9Bholqq9B1i00a1q10qD1op1HkwmigEigiy6Cptogq1Bixo1kDq7/j00B2qgoBWGFm1lz50B6s5q1+BG
WhggzhwBFFhgk4//Bo2jigE8wguI8wguI8wgugUog1qoB4qjmIwwi2KkgYHHH4IBgiFWkgIWoghssMmz5smrBZ
3q1y50B5sm7gzBtz1smzB5smz50BqzqtmzB5sgzqzBF2/9//5BowgoIwmnkzPkwgk4C8ys65BkgoqI0wgy6FghquZo
2giY0ghiIsgH24B4ghsQ8QF/v1q1OFs0O8iCHHF1qggz/B8wg6Iznv+//B08QgohsjK0QGFk7hsQ4gB\"

```
decodedRangeCategory = decodeVarLenBase64(rangeCategory,  
fromBase64, 222)\n }\n\n/**\n * Returns `true` if this character is a letter.\n */\ninternal fun  
Char.isLetterImpl(): Boolean {\n    return getLetterType() != 0\n}\n\n/**\n * Returns `true` if this character is a  
lower case letter, or it has contributory property `Other_Lowercase`.\n */\ninternal fun Char.isLowercaseImpl():  
Boolean {\n    return getLetterType() == 1 || code.isOtherLowercase()\n}\n\n/**\n * Returns `true` if this character is  
an upper case letter, or it has contributory property `Other_Uppercase`.\n */\ninternal fun Char.isUppercaseImpl():  
Boolean {\n    return getLetterType() == 2 || code.isOtherUppercase()\n}\n\n/**\n * Returns\n * - `1` if the  
character is a lower case letter,\n * - `2` if the character is an upper case letter,\n * - `3` if the character is a letter  
but not a lower or upper case letter,\n * - `0` otherwise.\n */\nprivate fun Char.getLetterType(): Int {\n    val ch =  
this.code\n    val index = binarySearchRange(Letter.decodedRangeStart,  
ch)\n    val rangeStart = Letter.decodedRangeStart[index]\n    val rangeEnd = rangeStart +  
Letter.decodedRangeLength[index] - 1\n    val code = Letter.decodedRangeCategory[index]\n    if (ch > rangeEnd)  
{\n        return 0\n    }\n    val lastTwoBits = code and 0x3\n    if (lastTwoBits == 0) { // gap pattern\n        var  
shift = 2\n        var threshold = rangeStart\n        for (i in 0..1) {\n            threshold += (code shr shift) and 0x7f\n            if (threshold > ch) {\n                return 3\n            }\n            shift += 7\n            threshold += (code shr shift) and  
0x7f\n            if (threshold > ch) {\n                return 0\n            }\n            shift += 7\n        }\n        return 3\n    }\n    if (code <= 0x7) {\n        return lastTwoBits\n    }\n    val distance = (ch - rangeStart)\n    val shift = if (code <=  
0x1F) distance % 2 else distance\n    return (code shr (2 * shift)) and 0x3\n}\n\n"/*\n * Copyright 2010-2021  
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the  
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.text\n\n/\n\nNOTE:  
THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n\n// See:  
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nprivate object OtherLowercase {\n    internal  
val otherLowerStart = intArrayOf(\n        0x00aa, 0x00ba, 0x02b0, 0x02c0, 0x02e0, 0x0345, 0x037a, 0x1d2c,  
0x1d78, 0x1d9b, 0x2071, 0x207f, 0x2090, 0x2170, 0x24d0, 0x2c7c, 0xa69c, 0xa770, 0xa7f8, 0xab5c, \n    )\n    internal val otherLowerLength = intArrayOf(\n        1, 1, 9, 2, 5, 1, 1, 63, 1, 37, 1, 1, 13, 16, 26, 2, 2, 1, 2, 4, \n    )\n}\n\ninternal fun Int.isOtherLowercase(): Boolean {\n    val index =  
binarySearchRange(OtherLowercase.otherLowerStart, this)\n    return index >= 0 && this <  
OtherLowercase.otherLowerStart[index] + OtherLowercase.otherLowerLength[index]\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code  
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage  
kotlin.text\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n\n// See:  
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\ninternal fun Int.isOtherUppercase(): Boolean  
{\n    return this in 0x2160..0x216f\n        || this in 0x24b6..0x24cf\n}\n\n"/*\n * Copyright 2010-2022 JetBrains  
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0  
license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.text\n\n/\n\nNOTE: THIS FILE IS  
AUTO-GENERATED by the GenerateStandardLib.kt\n\n// See:  
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\n\n/**\n * Returns a  
character at the given [index] or throws an [IndexOutOfBoundsException]
```

```

if the [index] is out of bounds of this char sequence.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n *\npublic actual fun CharSequence.elementAt(index: Int):
Char {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, length:
$length}") }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateUnicodeData.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\n// 4 ranges
totally\n\ninternal fun Char.titlecaseCharImpl(): Char {\n    val code = this.code\n    // Letters repeating <Lu, Lt, Ll>
sequence and code of the Lt is a multiple of 3, e.g. <\u01c4, \u01c5, \u01c6>\n    if (code in 0x01c4..0x01cc || code
in 0x01f1..0x01f3) {\n        return
(3 * ((code + 1) / 3)).toChar()\n    }\n    // Lower case letters whose title case mapping equivalent is equal to the
original letter\n    if (code in 0x10d0..0x10fa || code in 0x10fd..0x10ff) {\n        return this\n    }\n    return
uppercaseChar()\n}"/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n\npublic
actual fun UIntArray.elementAt(index: Int): UInt {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n\npublic actual fun ULongArray.elementAt(index: Int):
ULong {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n\npublic actual fun UByteArray.elementAt(index: Int):
UByte {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index,
size: $size}") }\n}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException]
if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n\npublic actual fun UShortArray.elementAt(index: Int):
UShort {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n\npublic actual fun UIntArray.asList(): List<UInt> {\n
return object : AbstractList<UInt>(), RandomAccess {\n    override val size: Int get() = this@asList.size\n
override fun isEmpty(): Boolean = this@asList.isEmpty()\n    override fun contains(element: UInt): Boolean =
this@asList.contains(element)\n    override fun get(index: Int): UInt {\n
AbstractList.checkElementIndex(index, size)\n
return this@asList[index]\n    }\n    override fun indexOf(element: UInt): Int {\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is UInt) return -1\n        return
this@asList.indexOf(element)\n    }\n    override fun lastIndexOf(element: UInt): Int {\n
@Suppress("USELESS_CAST")\n        if ((element as Any?) !is UInt) return -1\n        return
this@asList.lastIndexOf(element)\n    }\n}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n\npublic actual fun ULongArray.asList(): List<ULong>
{\n    return object : AbstractList<ULong>(), RandomAccess {\n    override val size: Int get() = this@asList.size\n
override fun isEmpty(): Boolean = this@asList.isEmpty()\n    override fun contains(element: ULong):

```

```

Boolean = this@asList.contains(element)\n      override fun get(index: Int): ULong {\n
AbstractList.checkElementIndex(index,\n
size)\n      return this@asList[index]\n      }\n      override fun indexOf(element: ULong): Int {\n
@Suppress("USELESS_CAST")\n      if ((element as Any?) !is ULong) return -1\n      return\n
this@asList.indexOf(element)\n      }\n      override fun lastIndexOf(element: ULong): Int {\n
@Suppress("USELESS_CAST")\n      if ((element as Any?) !is ULong) return -1\n      return\n
this@asList.lastIndexOf(element)\n      }\n      }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun UByteArray.asList(): List<UByte>\n
{\n  return object : AbstractList<UByte>(), RandomAccess {\n      override val size: Int get() = this@asList.size\n
      override fun isEmpty(): Boolean = this@asList.isEmpty()\n      override fun contains(element: UByte): Boolean\n
= this@asList.contains(element)\n      override fun get(index: Int): UByte {\n
          AbstractList.checkElementIndex(index, size)\n          return this@asList[index]\n          }\n      override fun\n
indexOf(element: UByte): Int {\n          @Suppress("USELESS_CAST")\n          if ((element as Any?) !is\n
UByte) return -1\n          return this@asList.indexOf(element)\n          }\n      override fun lastIndexOf(element:\n
UByte): Int {\n          @Suppress("USELESS_CAST")\n          if ((element as Any?) !is UByte) return -1\n
          return this@asList.lastIndexOf(element)\n          }\n      }\n}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\npublic actual fun UShortArray.asList(): List<UShort>\n
{\n  return object : AbstractList<UShort>(), RandomAccess {\n      override val size: Int get() = this@asList.size\n
      override fun isEmpty(): Boolean = this@asList.isEmpty()\n      override fun contains(element: UShort):\n
Boolean = this@asList.contains(element)\n      override\n
fun get(index: Int): UShort {\n          AbstractList.checkElementIndex(index, size)\n          return\n
this@asList[index]\n          }\n      override fun indexOf(element: UShort): Int {\n
@Suppress("USELESS_CAST")\n          if ((element as Any?) !is UShort) return -1\n          return\n
this@asList.indexOf(element)\n          }\n      override fun lastIndexOf(element: UShort): Int {\n
@Suppress("USELESS_CAST")\n          if ((element as Any?) !is UShort) return -1\n          return\n
this@asList.lastIndexOf(element)\n          }\n      }\n}\n}\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin\n
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be\n
found in the license/LICENSE.txt file.\n *\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-\n
GENERATED by the GenerateUnicodeData.kt\n// See:\n
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n 9 ranges totally\n\n/**\n
 * Returns `true` if this character is a whitespace.\n *\n\ninternal fun Char.isWhitespaceImpl(): Boolean {\n  val ch =\n
this.code\n  return ch in 0x0009..0x000d\n      || ch in 0x001c..0x0020\n      || ch == 0x00a0\n      || ch >\n
0x1000 && (\n      ch == 0x1680\n      || ch in 0x2000..0x200a\n      || ch == 0x2028\n      ||\n
ch == 0x2029\n      || ch == 0x202f\n      || ch == 0x205f\n      || ch == 0x3000\n
)\n}\n\n"/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this\n
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin\n\n\npublic actual fun interface Comparator<T> {\n  @JsName("compare")\n  public actual\n
fun compare(a: T, b: T): Int\n}\n\n"/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language\n
contributors.\n * Use of this source code\n
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage\n
kotlin.js\n\nimport kotlin.annotation.AnnotationTarget.*\n\n@Target(FUNCTION)\n@Deprecated("Use inline\n
extension function with body using dynamic")\n\npublic annotation class\n
nativeGetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using\n
dynamic")\n\npublic annotation class nativeSetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension\n
function with body using dynamic")\n\npublic annotation class nativeInvoke\n\n@Target(CLASS, FUNCTION,\n
PROPERTY)\n\ninternal annotation class library(public val name: String = "")\n\n@Target(CLASS)\n\ninternal\n
annotation class marker\n\n\n/**\n * Gives a declaration (a function, a property or a class) specific name in\n
JavaScript.\n *\n * This may be useful in the following cases:\n *\n * * There are two functions for which the

```

compiler gives same name in JavaScript, you can mark one with `@JsName(...)` to prevent the compiler from reporting error. You are writing a JavaScript library in Kotlin. The compiler produces mangled names for functions with parameters, which is unnatural for usual JavaScript developer. You can put `@JsName(...)` on functions you want to be available from JavaScript. For some reason you want to rename declaration, e.g. there's common term in JavaScript for a concept provided by the declaration, which is uncommon in Kotlin. Example:

```
kotlin
class Person(val name: String) {
    fun hello() {
        println("Hello $name!")
    }
}
@JsName("helloWithGreeting") fun hello(greeting: String) {
    println("$greeting $name!")
}
```

It's required to denote a valid JavaScript identifier. `@Retention(AnnotationRetention.BINARY)` `@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)` public actual annotation class `JsName(actual val name: String)` Denotes an `external` declaration that must be imported from native JavaScript library. The compiler produces the code relevant for the target module system, for example, in case of `CommonJS`, it will import the declaration via the `require(...)` function. The annotation can be used on top-level external declarations (classes, properties, functions) and files. In case of file (which can't be `external`) the following rule applies: all the declarations in the file must be `external`. By applying `@JsModule(...)` on a file you tell the compiler to import a JavaScript object that contain all the declarations from the file. Example:

```
kotlin
@JsModule("jquery")
external abstract class JQuery() {
    // some declarations here
}
@JsModule("jquery")
external fun JQuery(element: Element): JQuery
```

It is not interpreted by the Kotlin compiler, it's passed as is directly to the target module system. `@see JsNonModule` `@Retention(AnnotationRetention.BINARY)` `@Target(CLASS, PROPERTY, FUNCTION, FILE)` public annotation class `JsModule(val import: String)` Denotes an `external` declaration that can be used without module system. By default, an `external` declaration is available regardless your target module system. However, by applying `[JsModule]` annotation you can make a declaration unavailable to `plain` module system. Some JavaScript libraries are distributed both as a standalone downloadable piece of JavaScript and as a module available as an npm package. To tell the Kotlin compiler to accept both cases, you can augment `[JsModule]` with the `@JsNonModule` annotation. For example:

```
kotlin
@JsModule("jquery")
@JsNonModule
@JsName("$")
external abstract class JQuery() {
    // some declarations here
}
@JsModule("jquery")
@JsNonModule
@JsName("$")
external fun JQuery(element: Element): JQuery
```

`@see JsModule` `@Retention(AnnotationRetention.BINARY)` `@Target(CLASS, PROPERTY, FUNCTION, FILE)` public annotation class `JsNonModule` Adds prefix to `external` declarations in a source file. JavaScript does not have concept of packages (namespaces). They are usually emulated by nested objects. The compiler turns references to `external` declarations either to plain unprefix names (in case of `plain` modules) or to plain imports. However, if a JavaScript library provides its declarations in packages, you won't be satisfied with this. You can tell the compiler to generate additional prefix before references to `external` declarations using the `@JsQualifier(...)` annotation. Note that a file marked with the `@JsQualifier(...)` annotation can't contain non-`external` declarations. Example:

```
@file:JsQualifier("my.jsPackageName")
package some.kotlinPackage
external fun foo(x: Int)
external fun bar(): String
```

It must be a sequence of valid JavaScript identifiers separated by the `.`` character. Examples of valid qualifiers are: `foo`, `bar.Baz`, `_.$.f`. `@see JsModule` `@Retention(AnnotationRetention.BINARY)` `@Target(AnnotationTarget.FILE)` public annotation class `JsQualifier(val value: String)` Exports top-level declaration on JS platform. Compiled module exposes declarations that are marked with this annotation without name mangling. This annotation can be applied to either files or top-level declarations. It is currently prohibited

to export the following kinds of declarations:

- * expect declarations
- * inline functions with reified type parameters
- * suspend functions
- * secondary constructors without `@JsName`
- * extension properties
- * enum classes
- * annotation classes

Signatures of exported declarations must only contain "exportable" types:

- * `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`
- * `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`
- * `Array<exportable-type>`
- * Function types with exportable parameters and return types
- * `external` or `@JsExport` classes and interfaces
- * Nullable counterparts of types above
- * Unit return type. Must not be nullable

This annotation is experimental, meaning that restrictions mentioned above are subject to change.

```

*\/n@ExperimentalJsExport\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS,
PROPERTY, FUNCTION, FILE)\n@SinceKotlin("1.3")\npublic actual annotation class JsExport\n/n/**\n *
Forces a top-level property to be initialized eagerly, opposed to lazily on the first access to file and/or property.\n
*\/n@ExperimentalStdlibApi\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.PROPER
TY)\n@SinceKotlin("1.6")\n@Deprecated("This annotation is a temporal migration assistance and may be
removed in the future releases, please consider filing an issue about the case where it is needed")\npublic annotation
class EagerInitialization\n"/n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\/n\npackage kotlin.jvm\n/n\n// these are used in common generated code in stdlib\n/n\n//
TODO: find how to deprecate these
ones\n/n\n@Target(AnnotationTarget.FIELD)\n@Retention(AnnotationRetention.SOURCE)\npublic actual
annotation class Volatile\n/n\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY_GETTER,
AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation
class Synchronized\n"/n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\/n\npackage kotlin.collections\n/n\n/**\n * Provides a skeletal implementation of the
[MutableCollection] interface.\n *\/n * @param E the type of elements contained in the collection. The collection is
invariant in its element type.\n *\/n\npublic actual abstract class AbstractMutableCollection<E> protected actual
constructor() : AbstractCollection<E>(), MutableCollection<E> {\n\n actual abstract override fun add(element: E):
Boolean\n\n actual override fun remove(element: E): Boolean {\n    checkIsMutable()\n    val iterator =
iterator()\n    while
(iterator.hasNext()) {\n        if (iterator.next() == element) {\n            iterator.remove()\n            return true\n
        }\n    }\n    return false\n }\n\n actual override fun addAll(elements: Collection<E>): Boolean {\n
checkIsMutable()\n    var modified = false\n    for (element in elements) {\n        if (add(element)) modified =
true\n    }\n    return modified\n }\n\n actual override fun removeAll(elements: Collection<E>): Boolean {\n
checkIsMutable()\n    return (this as MutableIterable<E>).removeAll { it in elements }\n }\n\n actual
override fun retainAll(elements: Collection<E>): Boolean {\n    checkIsMutable()\n    return (this as
MutableIterable<E>).removeAll { it !in elements }\n }\n\n actual override fun clear(): Unit {\n
checkIsMutable()\n    val iterator = this.iterator()\n    while (iterator.hasNext()) {\n        iterator.next()\n
iterator.remove()\n
    }\n }\n\n @Deprecated("Provided so that subclasses inherit this function", level =
DeprecationLevel.HIDDEN)\n @JsName("toJSON")\n protected fun toJSON(): Any = this.toArray()\n/n\n
/**\n * This method is called every time when a mutating method is called on this mutable collection.\n *
Mutable collections that are built (frozen) must throw UnsupportedOperationException.\n *\/n * internal open
fun checkIsMutable(): Unit { }\n/n\n"/n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\/n\n\n * Based on GWT AbstractList\n * Copyright 2007 Google
Inc.\n *\/n\n\npackage kotlin.collections\n/n\n/**\n * Provides a skeletal implementation of the [MutableList]
interface.\n *\/n * @param E the type of elements contained in the list. The list is invariant in its element type.\n
*\/n\npublic

```

```

actual abstract class AbstractMutableList<E> protected actual constructor() : AbstractMutableCollection<E>(),
MutableList<E> {\n  protected var modCount: Int = 0\n\n  abstract override fun add(index: Int, element: E):
Unit\n  abstract override fun removeAt(index: Int): E\n  abstract override fun set(index: Int, element: E): E\n\n  /**\n   * Adds the specified element to the end of this list.\n   * @return `true` because the list is always
modified as the result of this operation.\n   */\n  actual override fun add(element: E): Boolean {\n
checkIsMutable()\n  add(size, element)\n  return true\n }\n\n  actual override fun addAll(index: Int,
elements: Collection<E>): Boolean {\n  AbstractList.checkPositionIndex(index, size)\n\n  checkIsMutable()\n  var _index = index\n  var changed = false\n  for (e in elements) {\n
add(_index++, e)\n  changed = true\n }\n  return changed\n
}\n\n  actual override fun clear() {\n  checkIsMutable()\n  removeRange(0, size)\n }\n\n  actual
override fun removeAll(elements: Collection<E>): Boolean {\n  checkIsMutable()\n  return removeAll { it in
elements }\n }\n\n  actual override fun retainAll(elements: Collection<E>): Boolean {\n  checkIsMutable()\n
return removeAll { it !in elements }\n }\n\n\n  actual override fun iterator(): MutableIterator<E> =
IteratorImpl()\n\n  actual override fun contains(element: E): Boolean = indexOf(element) >= 0\n\n  actual
override fun indexOf(element: E): Int {\n  for (index in 0..lastIndex) {\n  if (get(index) == element) {\n
return index\n  }\n }\n  return -1\n }\n\n  actual override fun lastIndexOf(element: E): Int {\n
for (index in lastIndex downTo 0) {\n  if (get(index) == element) {\n  return index\n  }\n
}\n  return
-1\n }\n\n  actual override fun listIterator(): MutableListIterator<E> = listIterator(0)\n\n  actual override fun
listIterator(index: Int): MutableListIterator<E> = ListIteratorImpl(index)\n\n\n  actual override fun
subList(fromIndex: Int, toIndex: Int): MutableList<E> = SubList(this, fromIndex, toIndex)\n\n  /**\n   * Removes
the range of elements from this list starting from [fromIndex] and ending with but not including [toIndex].\n   */\n
protected open fun removeRange(fromIndex: Int, toIndex: Int) {\n  val iterator = listIterator(fromIndex)\n
repeat(toIndex - fromIndex) {\n  iterator.next()\n  iterator.remove()\n }\n }\n\n  /**\n   *
Compares this list with another list instance with the ordered structural equality.\n   * @return true, if [other]
instance is a [List] of the same size, which contains the same elements in the same order.\n   */\n  override fun
equals(other: Any?): Boolean {\n  if (other
=== this) return true\n  if (other !is List<*>) return false\n\n  return AbstractList.orderedEquals(this,
other)\n }\n\n  /**\n   * Returns the hash code value for this list.\n   */\n  override fun hashCode(): Int =
AbstractList.orderedHashCode(this)\n\n\n  private open inner class IteratorImpl : MutableIterator<E> {\n  /**
the index of the item that will be returned on the next call to [next]()\n   */\n  protected var index = 0\n  /**
the index of the item that was returned on the previous call to [next]()\n   * or [ListIterator.previous]() (for
`ListIterator`),\n   * -1 if no such item exists\n   */\n  protected var last = -1\n\n  override fun
hasNext(): Boolean = index < size\n\n  override fun next(): E {\n  if (!hasNext()) throw
NoSuchElementException()\n  last = index++\n  return get(last)\n }\n\n  override fun remove()
{\n  check(last != -1) { "Call
next() or previous() before removing element from the iterator." }\n\n  removeAt(last)\n  index = last\n
last = -1\n }\n }\n\n  /**\n   * Implementation of `MutableListIterator` for abstract lists.\n   */\n
private inner class ListIteratorImpl(index: Int) : IteratorImpl(), MutableListIterator<E> {\n  init {\n
AbstractList.checkPositionIndex(index, this@AbstractMutableList.size)\n  this.index = index\n }\n\n
override fun hasPrevious(): Boolean = index > 0\n\n  override fun nextIndex(): Int = index\n\n  override fun
previous(): E {\n  if (!hasPrevious()) throw NoSuchElementException()\n  last = --index\n
return get(last)\n }\n\n  override fun previousIndex(): Int = index - 1\n\n  override fun add(element: E)
{\n  add(index, element)\n  index++\n  last = -1\n }\n\n  override fun set(element:
E) {\n  check(last != -1) { "Call next() or previous() before updating element value with the iterator." }\n
set(last, element)\n }\n }\n\n  private class SubList<E>(private val list: AbstractMutableList<E>, private
val fromIndex: Int, toIndex: Int) : AbstractMutableList<E>(), RandomAccess {\n  private var _size: Int = 0\n
init {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, list.size)\n  this._size = toIndex -

```

```

fromIndex\n    }\n\n    override fun add(index: Int, element: E) {\n
AbstractList.checkPositionIndex(index, _size)\n        list.add(fromIndex + index, element)\n            _size++\n    }\n\n    override fun get(index: Int): E {\n        AbstractList.checkElementIndex(index, _size)\n            return\nlist[fromIndex + index]\n    }\n\n    override fun removeAt(index: Int): E {\n
AbstractList.checkElementIndex(index, _size)\n\n    val result = list.removeAt(fromIndex + index)\n        _size--\n        return result\n    }\n\n    override fun\nset(index: Int, element: E): E {\n        AbstractList.checkElementIndex(index, _size)\n            return\nlist.set(fromIndex + index, element)\n    }\n\n    override val size: Int get() = _size\n\n    internal override fun\ncheckIsMutable(): Unit = list.checkIsMutable()\n    }\n\n}\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and\nKotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\ncan be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on GWT AbstractMap\n * Copyright 2007\nGoogle Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the [MutableMap]\ninterface.\n * The implementor is required to implement [entries] property, which should return mutable set of\nmap entries, and [put] function.\n * @param K the type of map keys.\n\nThe map is invariant in its key type.\n * @param V the type of map values. The map is invariant in its value type.\n */\n\npublic actual abstract class AbstractMutableMap<K, V> protected actual constructor() : AbstractMap<K, V>(),\nMutableMap<K, V> {\n\n    /**\n     * A mutable [Map.Entry] shared by several [Map] implementations.\n     */\n\n    internal open class SimpleEntry<K, V>(override val key: K, value: V) : MutableMap.MutableEntry<K, V> {\n\n        constructor(entry: Map.Entry<K, V>) : this(entry.key, entry.value)\n\n        private var _value = value\n\n        override val value: V get() = _value\n\n        override fun setValue(newValue: V): V {\n            // Should check if\nthe map containing this entry is mutable.\n            // However, to not increase entry memory footprint it might be\nworthwhile not to check it here and\n            // force subclasses that implement `build()` (freezing) operation to\nimplement their own `MutableEntry`.\n            this@AbstractMutableMap.checkIsMutable()\n\n            val oldValue = this._value\n            this._value = newValue\n            return oldValue\n        }\n\n        override fun hashCode(): Int = entryHashCode(this)\n        override fun toString(): String = entryToString(this)\n\n        override fun equals(other: Any?): Boolean = entryEquals(this, other)\n    }\n\n    // intermediate abstract class to\nworkaround KT-43321\n    internal abstract class AbstractEntrySet<E : Map.Entry<K, V>, K, V> :\nAbstractMutableSet<E>() {\n        final override fun contains(element: E): Boolean = containsEntry(element)\n\n        abstract fun containsEntry(element: Map.Entry<K, V>): Boolean\n        final override fun remove(element: E):\nBoolean = removeEntry(element)\n        abstract fun removeEntry(element: Map.Entry<K, V>): Boolean\n    }\n\n    actual override fun clear() {\n        entries.clear()\n    }\n\n    private var _keys: MutableSet<K>? = null\n    actual\noverride val keys: MutableSet<K>\n        get() {\n            if (_keys == null) {\n                _keys = object : AbstractMutableSet<K>() {\n                    override fun\nadd(element: K): Boolean = throw UnsupportedOperationException("Add is not supported on keys")\n\n                    override fun clear() {\n                        this@AbstractMutableMap.clear()\n                    }\n\n                    override\noperator fun contains(element: K): Boolean = containsKey(element)\n\n                    override operator fun iterator():\nMutableIterator<K> {\n                        val entryIterator = entries.iterator()\n                        return object :\nMutableIterator<K> {\n                            override fun hasNext(): Boolean = entryIterator.hasNext()\n\n                            override fun next(): K = entryIterator.next().key\n\n                            override fun remove() =\nentryIterator.remove()\n                        }\n                    }\n\n                    override fun remove(element: K): Boolean\n{\n                        checkIsMutable()\n                        if (containsKey(element)) {\n                            this@AbstractMutableMap.remove(element)\n                            return true\n                        }\n                        return\nfalse\n                    }\n\n                    override val size: Int get() = this@AbstractMutableMap.size\n\n                    override fun checkIsMutable(): Unit = this@AbstractMutableMap.checkIsMutable()\n                }\n            }\n\n            return _keys!!\n        }\n\n    actual abstract override fun put(key: K, value: V): V?\n\n    actual override fun\nputAll(from: Map<out K, V>) {\n        checkIsMutable()\n        for ((key, value) in from) {\n            put(key,\nvalue)\n        }\n    }\n\n    private var _values: MutableCollection<V>? = null\n    actual override val values:\nMutableCollection<V>\n        get() {\n            if (_values == null) {\n                _values = object :

```

```

AbstractMutableCollection<V>()
{
    override fun add(element: V): Boolean = throw UnsupportedOperationException("Add is not
supported on values")
    override fun clear() = this@AbstractMutableMap.clear()
    override operator fun contains(element: V): Boolean = containsValue(element)
    override operator fun
iterator(): MutableIterator<V> {
        val entryIterator = entries.iterator()
        return object :
MutableIterator<V> {
            override fun hasNext(): Boolean = entryIterator.hasNext()
            override fun next(): V = entryIterator.next().value
            override fun remove() =
entryIterator.remove()
        }
    }
    override fun hasNext(): Boolean = entryIterator.hasNext()
    override fun remove() =
entryIterator.remove()
    override val size: Int get() =
this@AbstractMutableMap.size
    override fun checkIsMutable(): Unit =
this@AbstractMutableMap.checkIsMutable()
}

return _values!!

actual override fun remove(key: K): V? {
    checkIsMutable()
    val iter = entries.iterator()
    while (iter.hasNext()) {
        val entry = iter.next()
        val k = entry.key
        if (key == k) {
            val value = entry.value
            iter.remove()
            return value
        }
    }
    return null
}

/**
 * This method is called every time when a
mutating method is called on this mutable map.
 * Mutable maps that are built (frozen) must throw
`UnsupportedOperationException`.
 */
internal open fun checkIsMutable(): Unit {
}

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by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package
kotlin.collections

Provides a skeletal implementation of the [MutableSet] interface.
 * @param E the type of elements contained
in the set. The set is invariant in its element type.
public actual abstract class AbstractMutableSet<E>
protected actual constructor() : AbstractMutableCollection<E>(), MutableSet<E> {
    /**
     * Compares this
set with another set instance with the unordered structural equality.
     * @return `true`, if [other] instance is
a [Set] of the same size, all elements of which are contained in this set.
     */
    override fun equals(other: Any?):
Boolean {
        if (other === this) return true
        if (other !is Set<*>) return false
        return
AbstractSet.setEquals(this, other)
    }
    /**
     * Returns the hash code value for this set.
     */
    override
fun hashCode(): Int = AbstractSet.unorderedHashCode(this)
}

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code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
package
kotlin.collections

Provides a [MutableList] implementation, which uses a resizable array as its backing
storage.
 * This implementation doesn't provide a way to manage capacity, as backing JS array is resizable
itself.
 * There is no speed advantage to pre-allocating array sizes in JavaScript, so this implementation does not
include any of the
 * capacity and "growth increment" concepts.
public actual open class ArrayList<E>
internal constructor(private var array: Array<Any?>) : AbstractMutableList<E>(), MutableList<E>, RandomAccess
{
    private var readOnly: Boolean = false
    /**
     * Creates an empty [ArrayList].
     */
    public actual
constructor() : this(emptyArray()) {
    }
    /**
     * Creates an empty [ArrayList].
     * @param initialCapacity
initial capacity (ignored)
     */
    public actual constructor(initialCapacity:
Int) : this(emptyArray()) {
    }
    /**
     * Creates an [ArrayList] filled from the [elements] collection.
     */
    public actual constructor(elements: Collection<E>) : this(elements.toArray<Any?>()) {
    }
}

@PublishedApi
internal fun build(): List<E> {
    checkIsMutable()
    readOnly = true
    return
this
}

/**
 * Does nothing in this ArrayList implementation.
 */
public actual fun trimToSize() {
}

/**
 * Does nothing in this ArrayList implementation.
 */
public actual fun ensureCapacity(minCapacity: Int) {
}

actual override val size: Int get() = array.size
@Suppress("UNCHECKED_CAST")
actual override fun
get(index: Int): E = array[rangeCheck(index)] as E
actual override fun set(index: Int, element: E): E {
    checkIsMutable()
    rangeCheck(index)
    @Suppress("UNCHECKED_CAST")
    return
array[index].apply { array[index] = element } as E
}

actual override fun add(element:
E): Boolean {
    checkIsMutable()
    array.asDynamic().push(element)
    modCount++
    return
true
}

actual override fun add(index: Int, element: E): Unit {
    checkIsMutable()
}

```



```

array.asDynamic().splice(insertionRangeCheck(index), 0, element)\n    modCount++\n    }\n\n    actual override
fun addAll(elements: Collection<E>): Boolean {\n    checkIsMutable()\n    if (elements.isEmpty()) return
false\n\n    array += elements.toArray<Any?>()\n    modCount++\n    return true\n    }\n\n    actual
override fun addAll(index: Int, elements: Collection<E>): Boolean {\n    checkIsMutable()\n
insertionRangeCheck(index)\n\n    if (index == size) return addAll(elements)\n    if (elements.isEmpty()) return
false\n    when (index) {\n        size -> return addAll(elements)\n        0 -> array =
elements.toArray<Any?>() + array\n        else -> array = array.copyOfRange(0,
index).asDynamic().concat(elements.toArray<Any?>()),
array.copyOfRange(index, size))\n    }\n\n    modCount++\n    return true\n    }\n\n    actual override fun
removeAt(index: Int): E {\n    checkIsMutable()\n    rangeCheck(index)\n    modCount++\n    return if
(index == lastIndex)\n        array.asDynamic().pop()\n    else\n        array.asDynamic().splice(index, 1)[0]\n
}\n\n    actual override fun remove(element: E): Boolean {\n    checkIsMutable()\n    for (index in array.indices)
{\n        if (array[index] == element) {\n            array.asDynamic().splice(index, 1)\n            modCount++\n
return true\n        }\n    }\n    return false\n    }\n\n    override fun removeRange(fromIndex: Int,
toIndex: Int) {\n    checkIsMutable()\n    modCount++\n    array.asDynamic().splice(fromIndex, toIndex -
fromIndex)\n    }\n\n    actual override fun clear() {\n    checkIsMutable()\n
array = emptyArray()\n    modCount++\n    }\n\n\n    actual override fun indexOf(element: E): Int =
array.indexOf(element)\n\n    actual override fun lastIndexOf(element: E): Int = array.lastIndexOf(element)\n\n
override fun toString() = arrayToString(array)\n\n    @Suppress("UNCHECKED_CAST")\n    override fun <T>
toArray(array: Array<T>): Array<T> {\n    if (array.size < size) {\n        return toArray() as Array<T>\n
}\n\n    (this.array as Array<T>).copyInto(array)\n\n    if (array.size > size) {\n        array[size] = null as T //
null-terminate\n    }\n\n    return array\n    }\n\n    override fun toArray(): Array<Any?> {\n    return
js("[]").slice.call(array)\n    }\n\n\n    internal override fun checkIsMutable() {\n    if (isReadOnly) throw
UnsupportedOperationException()\n    }\n\n    private fun rangeCheck(index: Int) = index.apply {\n
AbstractList.checkElementIndex(index, size)\n    }\n\n    private fun insertionRangeCheck(index:
Int) = index.apply {\n    AbstractList.checkPositionIndex(index, size)\n    }\n}\n\n/*\n * Copyright 2010-2019
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninternal
fun <T> sortArrayWith(array: Array<out T>, comparison: (T, T) -> Int) {\n    if (getStableSortingIsSupported()) {\n
array.asDynamic().sort(comparison)\n    } else {\n    mergeSort(array.unsafeCast<Array<T>>(), 0,
array.lastIndex, Comparator(comparison))\n    }\n}\n\ninternal fun <T> sortArrayWith(array: Array<out T>,
comparison: Comparator<in T>) {\n    if (getStableSortingIsSupported()) {\n        val comparison = { a: T, b: T ->
comparison.compare(a, b) }\n        array.asDynamic().sort(comparison)\n    } else {\n    mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparator)\n    }\n}\n\ninternal fun
<T> sortArrayWith(array: Array<out T>, fromIndex: Int, toIndex: Int, comparator: Comparator<in T>) {\n    if
(fromIndex < toIndex - 1) {\n        mergeSort(array.unsafeCast<Array<T>>(), fromIndex, toIndex - 1, comparator)\n
}\n}\n\ninternal fun <T : Comparable<T>> sortArray(array: Array<out T>) {\n    if
(getStableSortingIsSupported()) {\n        val comparison = { a: T, b: T -> a.compareTo(b) }\n        array.asDynamic().sort(comparison)\n    } else {\n    mergeSort(array.unsafeCast<Array<T>>(), 0,
array.lastIndex, naturalOrder())\n    }\n}\n\nprivate var _stableSortingIsSupported: Boolean? = null\nprivate fun
getStableSortingIsSupported(): Boolean {\n    _stableSortingIsSupported?.let { return it }\n    _stableSortingIsSupported = false\n    val array = js("[]").unsafeCast<Array<Int>>()\n    // known
implementations may use stable sort for arrays of up to 512 elements\n    // so we create slightly more elements to
test stability\n    for (index in 0 until 600) array.asDynamic().push(index)\n\n    val comparison = { a: Int, b: Int -> (a and 3) - (b and 3) }\n    array.asDynamic().sort(comparison)\n    for (index
in 1 until array.size) {\n        val a = array[index - 1]\n        val b = array[index]\n        if ((a and 3) == (b and 3) &&
a >= b) return false\n    }\n    _stableSortingIsSupported = true\n    return true\n}\n\nprivate fun <T>
mergeSort(array: Array<T>, start: Int, endInclusive: Int, comparator: Comparator<in T>) {\n    val buffer =

```

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arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>()\n    val result = mergeSort(array, buffer, start,
endInclusive, comparator)\n    if (result !== array) {\n        for (i in start..endInclusive) array[i] = result[i]\n    }\n}\n\n// Both start and end are inclusive indices.\nprivate fun <T> mergeSort(array: Array<T>, buffer: Array<T>,
start: Int, end: Int, comparator: Comparator<in T>): Array<T> {\n    if (start == end) {\n        return array\n    }\n\n    val median = (start + end) / 2\n    val left = mergeSort(array,
buffer, start, median, comparator)\n    val right = mergeSort(array, buffer, median + 1, end, comparator)\n\n    val target = if (left === buffer) array else buffer\n\n    // Merge.\n    var leftIndex = start\n    var rightIndex = median +
1\n    for (i in start..end) {\n        when {\n            leftIndex <= median && rightIndex <= end -> {\n                val
leftValue = left[leftIndex]\n                val rightValue = right[rightIndex]\n                if
(comparator.compare(leftValue, rightValue) <= 0) {\n                    target[i] = leftValue\n                    leftIndex++\n                } else {\n                    target[i] = rightValue\n                    rightIndex++\n                }\n            }\n\n            leftIndex <= median -> {\n                target[i] = left[leftIndex]\n                leftIndex++\n            }\n            else /*
rightIndex <= end */ -> {\n                target[i] = right[rightIndex]\n                rightIndex++\n            }\n        }\n    }\n\n    Unit // TODO: Fix KT-31506\n    }\n    }\n    }\n\n    return target\n}", /*\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.collections\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@kotlin.js.JsName("
contentDeepHashCodeImpl")\ninternal fun <T> Array<out T>?.contentDeepHashCodeImpl(): Int {\n    if (this ==
null) return 0\n    var result = 1\n    for (element in this) {\n        val elementHash = when {\n            element == null
-> 0\n            isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()\n\n            element is UByteArray -> element.contentHashCode()\n            element is UShortArray ->
element.contentHashCode()\n            element is UIntArray -> element.contentHashCode()\n            element is
ULongArray -> element.contentHashCode()\n            else -> element.hashCode()\n        }\n        result = 31 *
result + elementHash\n    }\n    return result\n}", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninterface EqualityComparator
{\n    /**\n     * Subclasses must override to return a value indicating\n     * whether or not two keys or values are
equal.\n     */\n    abstract fun equals(value1: Any?, value2: Any?): Boolean\n\n    /**\n     * Subclasses must
override to return the hash code of a given key.\n     */\n    abstract fun getHashCode(value: Any?): Int\n\n    object
HashCode : EqualityComparator {\n        override fun equals(value1: Any?, value2: Any?): Boolean = value1 ==
value2\n        override fun getHashCode(value: Any?): Int = value?.hashCode()\n    }\n}\n\n?": 0\n    }\n}", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n/*\n * Based on GWT AbstractHashMap\n * Copyright 2008 Google Inc.\n */\n\npackage
kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based
implementation of the [MutableMap] interface.\n * This implementation makes no guarantees regarding the
order of enumeration of [keys], [values] and [entries] collections.\n */\n\n// Classes that extend HashMap and
implement `build()` (freezing) operation\n// have to make sure mutating methods check `checkIsMutable`.\n\npublic
actual open class HashMap<K, V> : AbstractMutableMap<K, V>, MutableMap<K, V> {\n\n    private inner class
EntrySet : AbstractEntrySet<MutableEntry<K, V>, K, V>() {\n        override fun add(element: MutableEntry<K,
V>): Boolean = throw UnsupportedOperationException("Add
is not supported on entries")\n        override fun clear() {\n            this@HashMap.clear()\n        }\n        override
fun containsEntry(element: Map.Entry<K, V>): Boolean = this@HashMap.containsEntry(element)\n        override
operator fun iterator(): MutableIterator<MutableEntry<K, V>> = internalMap.iterator()\n        override fun
removeEntry(element: Map.Entry<K, V>): Boolean {\n            if (contains(element)) {\n                this@HashMap.remove(element.key)\n                return true\n            }\n            return false\n        }\n        override
val size: Int get() = this@HashMap.size\n    }\n\n    /**\n     * Internal implementation of the map: either string-

```

```

based or hashcode-based.\n    */\n    private val internalMap: InternalMap<K, V>\n\n    private val equality:
EqualityComparator\n\n    internal constructor(internalMap: InternalMap<K, V>) : super() {\n        this.internalMap
= internalMap\n        this.equality
= internalMap.equality\n    }\n\n    /**\n     * Constructs an empty [HashMap] instance.\n     */\n    actual
constructor() : this(InternalHashCodeMap(EqualityComparator.HashCode))\n\n    /**\n     * Constructs an empty
[HashMap] instance.\n     */\n    * @param initialCapacity the initial capacity (ignored)\n     * @param loadFactor
the load factor (ignored)\n     */\n    * @throws IllegalArgumentException if the initial capacity or load factor are
negative\n     */\n    actual constructor(initialCapacity: Int, loadFactor: Float) : this() {\n        // This implementation
of HashMap has no need of load factors or capacities.\n        require(initialCapacity >= 0) { \"Negative initial
capacity: $initialCapacity\" }\n        require(loadFactor >= 0) { \"Non-positive load factor: $loadFactor\" }\n    }\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n    /**\n     * Constructs an instance of
[HashMap] filled with the contents of the specified [original]
map.\n     */\n    actual constructor(original: Map<out K, V>) : this() {\n        this.putAll(original)\n    }\n\n    actual
override fun clear() {\n        internalMap.clear()\n    }\n\n    actual override fun
containsKey(key: K): Boolean = internalMap.containsKey()\n\n    actual override fun containsValue(value: V):
Boolean = internalMap.any { equality.equals(it.value, value) }\n\n    private var _entries:
MutableSet<MutableMap.MutableEntry<K, V>>? = null\n    actual override val entries:
MutableSet<MutableMap.MutableEntry<K, V>>\n        get() {\n            if (_entries == null) {\n                _entries =
createEntrySet()\n            }\n            return _entries!!\n        }\n\n    internal open fun createEntrySet():
MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n    actual override operator fun get(key: K): V? =
internalMap.get(key)\n\n    actual override fun put(key: K, value: V): V? = internalMap.put(key, value)\n\n    actual
override fun remove(key: K): V? = internalMap.remove(key)\n\n    actual override val size: Int get() =
internalMap.size\n}\n\n/**\n * Constructs the specialized implementation of [HashMap] with [String] keys, which
stores the keys as properties of\n * JS object without hashing them.\n */\npublic fun <V> stringMapOf(vararg pairs:
Pair<String, V>): HashMap<String, V> {\n    return HashMap<String,
V>(InternalStringMap(EqualityComparator.HashCode)).apply { putAll(pairs) }\n}\n\n\", \"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on GWT HashSet\n *
Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the [MutableSet]
interface, backed by a [HashMap] instance.\n */\n\n// Classes that extend HashSet and implement `build()` (freezing)
operation\n// have to make sure mutating
methods check `checkIsMutable`.\n\npublic actual open class HashSet<E> : AbstractMutableSet<E>, MutableSet<E>
{\n\n    internal val map: HashMap<E, Any>\n\n    /**\n     * Constructs a new empty [HashSet].\n     */\n    actual
constructor() {\n        map = HashMap<E, Any>()\n    }\n\n    /**\n     * Constructs a new [HashSet] filled with the
elements of the specified collection.\n     */\n    actual constructor(elements: Collection<E>) {\n        map =
HashMap<E, Any>(elements.size)\n        addAll(elements)\n    }\n\n    /**\n     * Constructs a new empty
[HashSet].\n     */\n    * @param initialCapacity the initial capacity (ignored)\n     * @param loadFactor the load
factor (ignored)\n     */\n    * @throws IllegalArgumentException if the initial capacity or load factor are negative\n
*/\n    actual constructor(initialCapacity: Int, loadFactor: Float) {\n        map = HashMap<E, Any>(initialCapacity,
loadFactor)\n    }\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity,
0.0f)\n\n    /**\n     * Protected constructor to specify the underlying map. This is used by\n     * LinkedHashSet.\n     */\n    * @param map underlying map to use.\n     */\n    internal constructor(map: HashMap<E, Any>) {\n        this.map
= map\n    }\n\n    actual override fun add(element: E): Boolean {\n        val old = map.put(element, this)\n
return old == null\n    }\n\n    actual override fun clear() {\n        map.clear()\n    }\n\n    // public override fun
clone(): Any {\n        // return HashSet<E>(this)\n    }\n\n    actual override operator fun contains(element: E):
Boolean = map.containsKey(element)\n\n    actual override fun isEmpty(): Boolean = map.isEmpty()\n\n    actual
override fun iterator(): MutableIterator<E> = map.keys.iterator()\n\n    actual override fun remove(element: E):
Boolean = map.remove(element) != null\n\n    actual override val size: Int get() = map.size\n}\n\n/**\n * Creates a

```

new instance of the specialized implementation

```
of [HashSet] with the specified [String] elements,\n * which elements the keys as properties of JS object without\n hashing them.\n */\npublic fun stringSetOf(vararg elements: String): HashSet<String> {\n    return\n    HashSet(stringMapOf<Any>()).apply { addAll(elements) }\n}\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and\n Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\n can be found in the license/LICENSE.txt file.\n */\n * Based on GWT InternalHashCodeMap\n * Copyright\n 2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport\nkotlin.collections.MutableMap.MutableEntry\nimport kotlin.collections.AbstractMutableMap.SimpleEntry\n\n/**\n * A simple wrapper around JavaScriptObject to provide [java.util.Map]-like semantics for any\n * key type.\n */\n * Implementation notes:\n * A key's hashCode is the index in backingMap which should contain that\n key. Since several keys may\n * have the same hash, each value\n in hashCodeMap is actually an array containing all entries whose\n * keys share the same hash.\n */\n\ninternal class\nInternalHashCodeMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n    private var\nbackingMap: dynamic = createJsMap()\n    override var size: Int = 0\n    private set\n\n    override fun put(key: K,\nvalue: V): V? {\n        val hashCode = equality.getHashCode(key)\n        val chainOrEntry =\ngetChainOrEntryOrNull(hashCode)\n        if (chainOrEntry == null) {\n            // This is a new chain, put it to the\nmap.\n            backingMap[hashCode] = SimpleEntry(key, value)\n        } else {\n            if (chainOrEntry !is\nArray<*>) {\n                // It is an entry\n                val entry: SimpleEntry<K, V> = chainOrEntry\n                if\n(equality.equals(entry.key, key)) {\n                    return entry.setValue(value)\n                } else {\n                    backingMap[hashCode] = arrayOf(entry, SimpleEntry(key, value))\n                    size++\n                    return null\n                } else {\n                    // Chain already exists,\nperhaps key also exists.\n                    val chain: Array<MutableEntry<K, V>> = chainOrEntry\n                    val entry =\nchain.findEntryInChain(key)\n                    if (entry != null) {\n                        return entry.setValue(value)\n                    }\n                    chain.asDynamic().push(SimpleEntry(key, value))\n                    size++\n                }\n            }\n            structureChanged(host)\n            return null\n        }\n\n        override fun remove(key: K): V? {\n            val hashCode =\nequality.getHashCode(key)\n            val chainOrEntry = getChainOrEntryOrNull(hashCode) ?: return null\n            if\n(chainOrEntry !is Array<*>) {\n                val entry: MutableEntry<K, V> = chainOrEntry\n                if\n(equality.equals(entry.key, key)) {\n                    jsDeleteProperty(backingMap, hashCode)\n                    size--\n                    return entry.value\n                } else {\n                    return null\n                } else {\n                    val chain: Array<MutableEntry<K, V>> =\nchainOrEntry\n                    for (index in chain.indices) {\n                        val entry = chain[index]\n                        if\n(equality.equals(key, entry.key)) {\n                            if (chain.size == 1) {\n                                chain.asDynamic().length =\n0\n                                // remove the whole array\n                                jsDeleteProperty(backingMap, hashCode)\n                            } else {\n                                // splice out the entry we're removing\n                                chain.asDynamic().splice(index, 1)\n                                size--\n                            }\n                            structureChanged(host)\n                            return entry.value\n                        }\n                    }\n                    return null\n                }\n            }\n            override fun clear() {\n                backingMap = createJsMap()\n                size =\n0\n            }\n            override fun contains(key: K):\nBoolean = getEntry(key) != null\n            override fun get(key: K): V? = getEntry(key)?.value\n\n            private fun\ngetEntry(key: K): MutableEntry<K, V>? {\n                val chainOrEntry =\ngetChainOrEntryOrNull(equality.getHashCode(key)) ?: return null\n                if (chainOrEntry !is Array<*>) {\n                    val entry: MutableEntry<K, V> = chainOrEntry\n                    if (equality.equals(entry.key, key)) {\n                        return\nentry\n                    } else {\n                        return null\n                    } else {\n                        val chain: Array<MutableEntry<K,\nV>> = chainOrEntry\n                        return chain.findEntryInChain(key)\n                    }\n                }\n            }\n            private fun\nArray<MutableEntry<K, V>>.findEntryInChain(key: K): MutableEntry<K, V>? =\nfirstOrNull { entry ->\nequality.equals(entry.key, key) }\n            override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n                return object : MutableIterator<MutableEntry<K, V>> {\n                    var state = -1 // -1 not ready, 0 - ready, 1 -\ndone\n                }\n            }\n        }\n    }\n}
```

```

        val keys: Array<String> = js("Object").keys(backingMap)\n        var keyIndex = -1\n        var
chainOrEntry: dynamic = null\n        var isChain = false\n        var itemIndex = -1\n        var lastEntry:
MutableEntry<K, V>? = null\n        private fun computeNext(): Int {\n            if (chainOrEntry != null &&
isChain) {\n                val chainSize: Int = chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>().size\n
                if (++itemIndex < chainSize)\n                    return 0\n                }\n                if (++keyIndex < keys.size)
{\n                    chainOrEntry = backingMap[keys[keyIndex]]\n                    isChain = chainOrEntry is Array<*>\n
                    itemIndex = 0\n                    return 0\n                } else {\n                    chainOrEntry = null\n
return 1\n                }\n            }\n            override fun hasNext(): Boolean {\n                if (state == -1)\n                    state = computeNext()\n                return state == 0\n            }\n
            override fun next(): MutableEntry<K, V> {\n                if (!hasNext()) throw NoSuchElementException()\n
                val lastEntry = if (isChain) {\n                    chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>()[itemIndex]\n
                } else {\n                    chainOrEntry.unsafeCast<MutableEntry<K, V>>()\n                }\n
                this.lastEntry = lastEntry\n                state = -1\n                return lastEntry\n            }\n            override fun
remove() {\n                checkNotNull(lastEntry)\n                this@InternalHashMap.remove(lastEntry!!.key)\n
                lastEntry = null\n                // the chain being iterated just got modified by InternalHashMap.remove\n
                itemIndex--\n            }\n        }\n        private fun getChainOrEntryOrNull(hashCode: Int): dynamic
{\n            val chainOrEntry = backingMap[hashCode]\n            return if (chainOrEntry === undefined) null else
chainOrEntry\n        }\n        /**\n         * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n         * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n         */\n        package kotlin.collections\n        /**\n         * The common interface of
[InternalStringMap] and [InternalHashMap].\n         */\n        internal interface InternalMap<K, V> :
MutableIterable<MutableMap.MutableEntry<K, V>> {\n            val equality: EqualityComparator\n            val size: Int\n
            operator fun contains(key: K): Boolean\n            operator fun get(key: K): V?\n            fun put(key: K, value: V): V?\n
            fun remove(key: K): V?\n            fun clear(): Unit\n            fun createJsMap(): dynamic {\n                val result =
js("Object.create(null)")\n                // force to switch object representation to dictionary mode\n                result["foo"] =
1\n                jsDeleteProperty(result,
                \n                "foo")\n                return result\n            }\n        }\n        /**\n         * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n         * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n         */\n        * Based on GWT InternalStringMap\n        * Copyright 2008 Google Inc.\n
        */\n        package kotlin.collections\n        import kotlin.collections.MutableMap.MutableEntry\n        /**\n         * A simple wrapper
around JavaScript Map for key type is string.\n         */\n        * Though this map is instantiated only with K=String, the K type
is not fixed to String statically,\n         * because we want to have it erased to Any? in order not to generate type-safe
override bridges for\n         * [get], [contains], [remove] etc, if they ever are generated.\n         */\n        internal class
InternalStringMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n            private var
backingMap: dynamic = createJsMap()\n            override var size: Int = 0\n            private set\n            /**\n             * A mod count to track 'value' replacements in map to ensure that the 'value' that we have in the\n             * iterator
entry is guaranteed to be still correct.\n             * This is to optimize for the common scenario where the values are not
modified during\n             * iterations where the entries are never stale.\n             */\n            private var valueMod: Int = 0\n
            override operator fun contains(key: K): Boolean {\n                if (key !is String) return false\n                return
backingMap[key] !== undefined\n            }\n            override operator fun get(key: K): V? {\n                if (key !is String) return
null\n                val value = backingMap[key]\n                return if (value !== undefined) value.unsafeCast<V>() else null\n
            }\n            override fun put(key: K, value: V): V? {\n                require(key is String)\n                val oldValue =
backingMap[key]\n                backingMap[key] = value\n                if (oldValue === undefined) {\n                    size++\n                    structureChanged(host)\n
                }\n                } else {\n                    valueMod++\n                    return oldValue.unsafeCast<V>()\n                }\n            }\n            override fun
remove(key: K): V? {\n                if (key !is String) return null\n                val value = backingMap[key]\n                if (value !==
undefined) {\n                    jsDeleteProperty(backingMap, key)\n                    size--\n                    structureChanged(host)\n
                }\n                return value.unsafeCast<V>()\n            } else {\n                valueMod++\n                return null\n            }\n        }\n

```

```

override fun clear() {\n    backingMap = createJsMap()\n    size = 0\n } \n\n override fun iterator():
MutableIterator<MutableEntry<K, V>> {\n    return object : MutableIterator<MutableEntry<K, V>> {\n
private val keys: Array<String> = js("Object").keys(backingMap)\n    private val iterator = keys.iterator()\n
    private var lastKey: String? = null\n\n    override fun hasNext(): Boolean = iterator.hasNext()\n\n
override fun next():
    MutableEntry<K, V> {\n        val key = iterator.next()\n        lastKey = key\n
    @Suppress("UNCHECKED_CAST")\n        return newMapEntry(key as K)\n    } \n\n    override
fun remove() {\n        @Suppress("UNCHECKED_CAST")\n
this@InternalStringMap.remove(checkNotNull(lastKey) as K)\n    } \n } \n\n private fun
newMapEntry(key: K): MutableEntry<K, V> = object : MutableEntry<K, V> {\n    override val key: K get() =
key\n    override val value: V get() = this@InternalStringMap[key].unsafeCast<V>()\n\n    override fun
setValue(newValue: V): V = this@InternalStringMap.put(key, newValue).unsafeCast<V>()\n\n    override fun
hashCode(): Int = AbstractMap.entryHashCode(this)\n    override fun toString(): String =
AbstractMap.entryToString(this)\n    override fun equals(other: Any?): Boolean = AbstractMap.entryEquals(this,
other)\n } \n } \n", "/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n\n * Based on GWT
LinkedHashMap\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport
kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based implementation of the [MutableMap]
interface, which additionally preserves the insertion order\n * of entries during the iteration.\n * The insertion
order is preserved by maintaining a doubly-linked list of all of its entries.\n */\n\npublic actual open class
LinkedHashMap<K, V> : HashMap<K, V>, MutableMap<K, V> {\n\n    /**\n     * The entry we use includes
next/prev pointers for a doubly-linked circular\n     * list with a head node. This reduces the special cases we have to
deal with\n     * in the list operations.\n     * Note that we duplicate the key from the underlying hash map so we
can find\n     * the eldest
entry. The alternative would have been to modify HashMap so more\n     * of the code was directly usable here, but
this would have added some\n     * overhead to HashMap, or to reimplement most of the HashMap code here with\n
     * small modifications. Paying a small storage cost only if you use\n     * LinkedHashMap and minimizing code size
seemed like a better tradeoff\n     */\n    private inner class ChainEntry<K, V>(key: K, value: V) :
AbstractMutableMap.SimpleEntry<K, V>(key, value) {\n        internal var next: ChainEntry<K, V>? = null\n
        internal var prev: ChainEntry<K, V>? = null\n\n        override fun setValue(newValue: V): V {\n
            this@LinkedHashMap.checkIsMutable()\n            return super.setValue(newValue)\n        }\n    } \n\n    private inner
class EntrySet : AbstractEntrySet<MutableEntry<K, V>, K, V>() {\n\n        private inner class EntryIterator :
MutableIterator<MutableEntry<K, V>> {\n            // The last entry that was returned from this iterator.\n
            private var last: ChainEntry<K, V>? = null\n            // The next entry to return from this iterator.\n
            private var next: ChainEntry<K, V>? = null\n\n            init {\n                next = head\n            }\n
            recordLastKnownStructure(map, this)\n\n            override fun hasNext(): Boolean {\n                return
next != null\n            }\n\n            override fun next(): MutableEntry<K, V> {\n                //\n                checkStructuralChange(map, this)\n                if (!hasNext()) throw NoSuchElementException()\n                val
current = next!!\n                last = current\n                next = current.next.takeIf { it != head }\n                return
current\n            }\n\n            override fun remove() {\n                check(last != null)\n
                this@EntrySet.checkIsMutable()\n                checkStructuralChange(map, this)\n                last!!.remove()\n
                map.remove(last!!.key)\n\n                recordLastKnownStructure(map, this)\n                last = null\n            }\n        }\n    } \n\n    override fun
add(element: MutableEntry<K, V>): Boolean = throw UnsupportedOperationException("Add is not supported on
entries")\n    override fun clear() {\n        this@LinkedHashMap.clear()\n    }\n\n    override fun
containsEntry(element: Map.Entry<K, V>): Boolean = this@LinkedHashMap.containsEntry(element)\n\n    override operator fun iterator(): MutableIterator<MutableEntry<K, V>> = EntryIterator()\n\n    override fun

```

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removeEntry(element: Map.Entry<K, V>): Boolean {
    checkIsMutable()
    if (contains(element)) {
        this@LinkedHashMap.remove(element.key)
        return true
    }
    return false
}

override val size: Int get() = this@LinkedHashMap.size
override fun checkIsMutable(): Unit =
    this@LinkedHashMap.checkIsMutable()
}

/*
 * The head of the insert order chain, which is a doubly-linked circular
 * list.
 * The most recently
 * inserted node is at the end of the chain, ie.
 * chain.prev.
 */
private var head: ChainEntry<K, V>? =
    null

/*
 * Add this node to the end of the chain.
 */
private fun ChainEntry<K, V>.addToEnd() {
    // This entry is not in the list.
    check(next == null && prev == null)
    val _head = head
    if (_head == null) {
        head = this
        next = this
        prev = this
    } else {
        // Chain is
        // valid.
        val _tail = checkNotNull(_head.prev)
        // Update me.
        prev = _tail
        next =
        _head
        // Update my new siblings: current head and old tail
        _head.prev = this
        _tail.next =
        this
    }
}

/*
 * Remove this node from the chain it is a part of.
 */
private fun
ChainEntry<K,
V>.remove() {
    if (this.next === this) {
        // if this is single element, remove head
        head =
        null
    } else {
        if (head === this) {
            // if this is first element, move head to next
            head = next
        }
        next!!.prev = prev
        prev!!.next = next
    }
    next = null
    prev =
    null
}

/*
 * The hashmap that keeps track of our entries and the chain. Note that we
 * duplicate the
 * key here to eliminate changes to HashMap and minimize the
 * code here, at the expense of additional space.
 */
private val map: HashMap<K, ChainEntry<K, V>>
private var isReadOnly: Boolean = false

/*
 * Constructs an empty [LinkedHashMap] instance.
 */
actual constructor(): super() {
    map =
    HashMap<K, ChainEntry<K, V>>()
}

internal constructor(backingMap: HashMap<K, Any>): super() {
    @Suppress("UNCHECKED_CAST")
    // expected to work due to erasure
    map = backingMap as HashMap<K, ChainEntry<K, V>>
}

/*
 * Constructs an empty [LinkedHashMap] instance.
 * @param initialCapacity the initial capacity
 * (ignored)
 * @param loadFactor the load factor (ignored)
 * @throws IllegalArgumentException if
 * the initial capacity or load factor are negative
 */
actual constructor(initialCapacity: Int, loadFactor: Float):
super(initialCapacity, loadFactor) {
    map = HashMap<K, ChainEntry<K, V>>()
}

actual
constructor(initialCapacity: Int): this(initialCapacity, 0.0f)

/*
 * Constructs an instance of
 * [LinkedHashMap] filled with the contents of the specified [original] map.
 */
actual constructor(original:
Map<out K, V>): {
    map = HashMap<K, ChainEntry<K, V>>()
    this.putAll(original)
}

@PublishedApi
internal fun build(): Map<K, V> {
    checkIsMutable()
    isReadOnly = true
    return this
}

actual override fun clear() {
    checkIsMutable()
    map.clear()
    head = null
}

// override fun clone(): Any {
//     return LinkedHashMap(this)
// }

actual override fun containsKey(key: K): Boolean = map.containsKey(key)
actual override fun
containsValue(value: V): Boolean {
    var node: ChainEntry<K, V> = head
    if (node.value == value) {
        return true
    }
    while (node !=
    head) {
        node = node.next!!
    }
    return false
}

internal override fun createEntrySet():
MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()

actual override operator fun get(key: K): V? =
map.get(key)?.value

actual override fun put(key: K, value: V): V? {
    checkIsMutable()
    val old =
    map.get(key)
    if (old == null) {
        val newEntry
        = ChainEntry(key, value)
        map.put(key, newEntry)
        newEntry.addToEnd()
        return null
    } else {
        return old.setValue(value)
    }
}

actual override fun remove(key: K): V? {
    checkIsMutable()
    val entry = map.remove(key)
    if (entry != null) {
        entry.remove()
    }
    return entry.value
}

return null
}

actual override val size: Int get() = map.size

internal
override fun checkIsMutable() {
    if (isReadOnly) throw UnsupportedOperationException()
}

/*
 * Constructs the specialized implementation of [LinkedHashMap] with [String] keys, which stores the keys as
 * properties of a JS object without hashing them.
 */
public fun <V> linkedStringMapOf(vararg pairs:
Pair<String, V>): LinkedHashMap<String, V> {
    return LinkedHashMap<String,

```

```

V>(stringMapOf<Any>()).apply { putAll(pairs) }}\n\n", /*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT LinkedHashMap\n * Copyright
2008 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the [MutableSet] interface,
backed by a [LinkedHashMap] instance.\n */\n * This implementation preserves the insertion order of elements
during the iteration.\n */\n\npublic actual open class LinkedHashMap<E> : HashSet<E>, MutableSet<E> {\n\n
internal constructor(map: LinkedHashMap<E, Any>) : super(map)\n\n /**\n * Constructs a new empty
[LinkedHashSet].\n */\n\n actual constructor() : super(LinkedHashMap<E, Any>())\n\n /**\n * Constructs a
new [LinkedHashSet] filled with the elements of the specified collection.\n */\n\n actual constructor(elements:
Collection<E>) : super(LinkedHashMap<E, Any>()) {\n    addAll(elements)\n }\n\n /**\n * Constructs
a new empty [LinkedHashSet].\n */\n\n * @param initialCapacity the initial capacity (ignored)\n * @param
loadFactor the load factor (ignored)\n */\n * @throws IllegalArgumentException if the initial capacity or
load factor are negative\n */\n\n actual constructor(initialCapacity: Int, loadFactor: Float) :
super(LinkedHashMap<E, Any>(initialCapacity, loadFactor))\n\n actual constructor(initialCapacity: Int) :
this(initialCapacity, 0.0f)\n\n @PublishedApi\n internal fun build(): Set<E> {\n    (map as
LinkedHashMap<E, Any>).build()\n    return this\n }\n\n internal override fun checkIsMutable(): Unit =
map.checkIsMutable()\n\n// public override fun clone(): Any {\n//    return LinkedHashSet(this)\n//
}\n\n}\n\n/**\n * Creates a new instance of the specialized implementation of [LinkedHashSet] with the specified
[String] elements,\n * which elements the keys as properties of JS object without hashing them.\n */\n\npublic fun
linkedStringSetOf(vararg elements: String): LinkedHashSet<String> {\n    return
LinkedHashSet(linkedStringMapOf<Any>()).apply { addAll(elements) }}\n\n", /*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.contracts.*\n\n@DeprecatedSinceKotlin(warningSince = \"1.6\")\n@Deprecated(\"Synchronization on any
object is not supported in Kotlin/JS\",
ReplaceWith(\"run(block)\"))\n@kotlin.internal.InlineOnly\n@Suppress(\"UNUSED_PARAMETER\")\n\npublic
inline fun <R> synchronized(lock: Any, block: () -> R): R {\n    contract {\n        callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt
file.\n */\n\npackage kotlin.io\n\ninternal abstract class BaseOutput {\n    open fun println() {\n        print(\"\\n\")\n
}\n\n    open fun println(message: Any?) {\n        print(message)\n        println()\n    }\n\n    abstract fun
print(message: Any?)\n\n    open fun flush() {} }\n\n\n/** JsName used to make the declaration available outside of
module to test it */\n\n@JsName(\"NodeJsOutput\")\n\ninternal class NodeJsOutput(val outputStream: dynamic) :
BaseOutput() {\n    override fun print(message: Any?) {\n        // TODO: Using local variable because of bug in
block decomposition lowering in IR backend\n        val messageString = String(message)\n
outputStream.write(messageString)\n    }\n}\n\n\n/** JsName used to make the declaration available outside of
module to test it */\n\n@JsName(\"OutputToConsoleLog\")\n\ninternal class OutputToConsoleLog : BaseOutput() {\n
override fun print(message: Any?) {\n    console.log(message)\n }\n\n override fun println(message:
Any?) {\n    console.log(message)\n }\n\n override fun println() {\n    console.log(\"\")\n }\n}\n\n\n/**
JsName used to make the declaration available outside of module to test it and use at try.kotl.in
*/\n\n@JsName(\"BufferedOutput\")\n\ninternal open class BufferedOutput : BaseOutput() {\n    var buffer = \"\"\n\n
override fun print(message: Any?) {\n    buffer += String(message)\n }\n\n override fun flush() {\n    buffer
= \"\"\n }\n}\n\n\n/** JsName used to make the declaration available outside of module to test it
*/\n\n@JsName(\"BufferedOutputToConsoleLog\")\n\ninternal class BufferedOutputToConsoleLog : BufferedOutput()
{\n    override fun print(message: Any?) {\n        var s = String(message)\n        val i = s.nativeLastIndexOf(\"\\n\",
0)\n        if (i >= 0) {\n            buffer += s.substring(0, i)\n            flush()\n            s = s.substring(i + 1)\n        }\n
buffer += s\n }\n\n override fun flush() {\n

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    console.log(buffer)\n    buffer = \\\"\\\"n    }n}\n\n/** JsName used to make the declaration available outside of
module to test it and use at try.kotl.in */\n@JsName(\"output\")\ninternal var output = run { \n    val isNode: Boolean
= js(\"typeof process !== 'undefined' && process.versions && !process.versions.node\")\n    if (isNode)
NodeJsOutput(js(\"process.stdout\")) else
BufferedOutputToConsoleLog()\n\n\n@kotlin.internal.InlineOnly\nprivate inline fun String(value: Any?): String =
js(\"String\")(value)\n\n/** Prints the line separator to the standard output stream. */\npublic actual fun println() {\n
output.println()\n}\n\n/** Prints the given [message] and the line separator to the standard output stream. */\npublic
actual fun println(message: Any?) {\n    output.println(message)\n}\n\n/** Prints the given [message] to the standard
output stream. */\npublic actual fun print(message: Any?) {\n
output.print(message)\n}\n\n@SinceKotlin(\"1.6\")\npublic actual fun readln():
String = throw UnsupportedOperationException(\"readln is not supported in
Kotlin/JS\")\n\n@SinceKotlin(\"1.6\")\npublic actual fun readlnOrNull(): String? = throw
UnsupportedOperationException(\"readlnOrNull is not supported in Kotlin/JS\"), /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.CoroutineSingletons.*\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal
actual class SafeContinuation<in T>\ninternal actual constructor(\n    private val delegate: Continuation<T>,\n    initialResult: Any?\n) : Continuation<T> {\n    @PublishedApi\n    internal actual constructor(delegate:
Continuation<T>) : this(delegate, UNDECIDED)\n\n    public actual override val context: CoroutineContext{\n
get() = delegate.context\n\n    private var result: Any? = initialResult\n\n    public actual override fun resumeWith(result: Result<T>) {\n
val cur = this.result\n        when {\n            cur === UNDECIDED -> {\n                this.result = result.value\n
}\n            cur === COROUTINE_SUSPENDED -> {\n                this.result = RESUMED\n
delegate.resumeWith(result)\n            }\n            else -> throw IllegalStateException(\"Already resumed\")\n        }\n    }\n\n    @PublishedApi\n    internal actual fun getOrThrow(): Any? {\n        if (result === UNDECIDED) {\n
result = COROUTINE_SUSPENDED\n            return COROUTINE_SUSPENDED\n        }\n        val result =
this.result\n        return when {\n            result === RESUMED -> COROUTINE_SUSPENDED // already called
continuation, indicate COROUTINE_SUSPENDED upstream\n            result is Result.Failure -> throw
result.exception\n            else -> result // either COROUTINE_SUSPENDED
or data\n        }\n    }\n}\n\n\", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines.cancellation\n\n@SinceKotlin(\"1.4\")\npublic actual
open class CancellationException : IllegalStateException {\n    actual constructor(): super()\n    actual
constructor(message: String?): super(message)\n    constructor(message: String?, cause: Throwable?):
super(message, cause)\n    constructor(cause: Throwable?): super(cause)\n}\n\n\", /*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines.js.internal\n\nimport
kotlin.coroutines.Continuation\nimport
kotlin.coroutines.EmptyCoroutineContext\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal
val EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->\n
result.getOrThrow()\n}\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes the [Date
API](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.\n
*/\n@Suppress(\"NOT_DOCUMENTED\")\npublic external class Date() {\n    public constructor(milliseconds:
Number)\n    public constructor(dateString: String)\n    public constructor(year: Int, month: Int)\n    public
constructor(year: Int, month: Int, day: Int)\n    public constructor(year: Int, month: Int, day: Int, hour: Int)\n}

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public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)\n\n public constructor(year: Int, month:
Int, day: Int, hour: Int, minute: Int, second: Int)\n\n
    public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number)\n\n
public fun getDate(): Int\n\n public fun getDay(): Int\n\n public fun getFullYear(): Int\n\n public fun
getHours(): Int\n\n public fun getMilliseconds(): Int\n\n public fun getMinutes(): Int\n\n public fun
getMonth(): Int\n\n public fun getSeconds(): Int\n\n public fun getTime(): Double\n\n public fun
getTimezoneOffset(): Int\n\n public fun getUTCDate(): Int\n\n public fun getUTCDay(): Int\n\n public fun
getUTCFullYear(): Int\n\n public fun getUTCHours(): Int\n\n public fun getUTCMilliseconds(): Int\n\n public
fun getUTCMinutes(): Int\n\n public fun getUTCMonth(): Int\n\n public fun getUTCSeconds(): Int\n\n public
fun toDateString(): String\n\n public fun toISOString(): String\n\n public fun toJSON(): Json\n\n public fun
toLocaleDateString(locales: Array<String> = definedExternally, options: LocaleOptions
= definedExternally): String\n\n public fun toLocaleDateString(locales: String, options: LocaleOptions =
definedExternally): String\n\n public fun toLocaleString(locales: Array<String> = definedExternally, options:
LocaleOptions = definedExternally): String\n\n public fun toLocaleString(locales: String, options: LocaleOptions
= definedExternally): String\n\n public fun toLocaleTimeString(locales: Array<String> = definedExternally,
options: LocaleOptions = definedExternally): String\n\n public fun toLocaleTimeString(locales: String, options:
LocaleOptions = definedExternally): String\n\n public fun toTimeString(): String\n\n public fun toUTCString():
String\n\n public companion object {\n    public fun now(): Double\n\n    public fun parse(dateString: String):
Double\n\n    public fun UTC(year: Int, month: Int): Double\n\n    public fun UTC(year: Int, month: Int, day:
Int): Double\n\n    public fun UTC(year: Int, month: Int, day: Int, hour:
Int): Double\n\n    public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int): Double\n\n    public
fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n\n    public fun UTC(year:
Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n    }\n\n public
interface LocaleOptions {\n    public var localeMatcher: String?\n\n    public var timeZone: String?\n\n
    public var hour12: Boolean?\n\n    public var formatMatcher: String?\n\n    public var weekday: String?\n\n
    public var era: String?\n\n    public var year: String?\n\n    public var month: String?\n\n    public var day:
String?\n\n    public var hour: String?\n\n    public var minute: String?\n\n    public var second: String?\n\n
    public var timeZoneName: String?\n    }\n\n\n    public inline fun dateLocaleOptions(init: Date.LocaleOptions() ->
Unit): Date.LocaleOptions {\n        val result = js("new Object()").unsafeCast<Date.LocaleOptions>()\n        init(result)\n        return result\n    }, /*\n *
Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.Document\n\nimport org.w3c.dom.Element\n\nimport
kotlin.internal.LowPriorityInOverloadResolution\n\nimport kotlinx.dom.appendElement as
newAppendElement\n\nimport kotlinx.dom.createElement as newCreateElement\n\n/**\n * Creates a new element
with the specified [name].\n * The element is initialized with the specified [init] function.\n
*/\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = "This API is moved to another package,
use 'kotlinx.dom.createElement' instead.",\n    replaceWith = ReplaceWith("this.createElement(name, init)",
"kotlinx.dom.createElement()")\n)\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.6")\n\npublic inline fun Document.createElement(name: String, noinline init: Element.() -> Unit): Element =
this.newCreateElement(name, init)\n\n/**\n * Appends a newly created element with the specified [name] to this
element.\n * The element is initialized with the specified [init] function.\n
*/\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = "This API is moved to another package,
use 'kotlinx.dom.appendElement' instead.",\n    replaceWith = ReplaceWith("this.appendElement(name, init)",
"kotlinx.dom.appendElement()")\n)\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")\n\npublic
inline fun Element.appendElement(name: String, noinline init: Element.() -> Unit): Element =
this.newAppendElement(name, init)\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

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license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.Element\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport
kotlinx.dom.addClass as newAddClass\nimport kotlinx.dom.hasClass as newHasClass\nimport
kotlinx.dom.removeClass as newRemoveClass\n\n/** Returns true if the element has the given CSS class style in its
'class' attribute */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to
another package, use 'kotlinx.dom.hasClass' instead.\",\n    replaceWith = ReplaceWith(\"this.hasClass(cssClass)\",
\"kotlinx.dom.hasClass\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline fun
Element.hasClass(cssClass: String): Boolean = this.newHasClass(cssClass)\n\n/**\n * Adds CSS class to element.
Has no effect if all specified classes are already in class attribute of the element\n * \n * @return true if at least one
class has been added\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved
to another package,
use 'kotlinx.dom.addClass' instead.\",\n    replaceWith = ReplaceWith(\"this.addClass(cssClasses)\",
\"kotlinx.dom.addClass\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline fun
Element.addClass(vararg cssClasses: String): Boolean = this.newAddClass(*cssClasses)\n\n/**\n * Removes all
[cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n * \n *
@return true if at least one class has been removed\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package, use 'kotlinx.dom.removeClass' instead.\",\n    replaceWith =
ReplaceWith(\"this.removeClass(cssClasses)\",
\"kotlinx.dom.removeClass\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline
fun Element.removeClass(vararg cssClasses: String): Boolean = this.newRemoveClass(*cssClasses)\n\n/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport
org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.isElement as newIsElement\nimport
kotlinx.dom.isText as newIsText\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a
CDATA_SECTION_NODE.\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API
is moved to another package, use 'kotlinx.dom.isText' instead.\",\n    replaceWith = ReplaceWith(\"this.isText\",
\"kotlinx.dom.isText\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic val
Node.isText: Boolean\n    inline get() = this.newIsText\n\n/**\n * Gets a value indicating whether this node is an
[Element].\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to
another package, use 'kotlinx.dom.isElement'
instead.\",\n    replaceWith = ReplaceWith(\"this.isElement\",
\"kotlinx.dom.isElement\")\n)\n\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic val
Node.isElement: Boolean\n    inline get() = this.newIsElement\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom.events\n\npublic fun
EventListener(handler: (Event) -> Unit): EventListener = EventListenerHandler(handler)\n\nprivate class
EventListenerHandler(private val handler: (Event) -> Unit) : EventListener {\n    public override fun
handleEvent(event: Event) {\n        handler(event)\n    }\n\n    public override fun toString(): String =
\"EventListenerHandler($handler)\"\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache
2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\npublic external
interface ItemArrayLike<out T> {\n    val length: Int\n    fun item(index: Int): T?}\n\n/**\n * Returns the view of
this `ItemArrayLike<T>` collection as `List<T>`\n */\n\n@public fun <T> ItemArrayLike<T>.asList(): List<T> =
object : AbstractList<T>() {\n    override val size: Int get() = this@asList.length\n\n    override fun get(index: Int): T
= when (index) {\n        in 0..lastIndex -> this@asList.item(index).unsafeCast<T>()\n        else -> throw
IndexOutOfBoundsException(\"index $index is not in range [0..$lastIndex]\")\n    }\n}\n\n/*\n * Copyright 2010-
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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport
org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport
kotlin.dom.appendText as newAppendText\nimport kotlin.dom.clear as newClear\n\n/** Removes all the
children from this node. */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is
moved to another package, use 'kotlin.dom.clear' instead.\",\n    replaceWith = ReplaceWith(\"this.clear()\",
\"kotlin.dom.clear\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic inline fun
Node.clear() = this.newClear()\n\n/**\n * Creates text node and append it to the element.\n * \n * @return this
element\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another
package, use 'kotlin.dom.appendText' instead.\",\n    replaceWith = ReplaceWith(\"this.appendText(text)\",
\"kotlin.dom.appendText\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline fun
Element.appendText(text: String): Element = this.newAppendText(text)\n\n\", /*\n * Copyright 2010-2018 JetBrains
s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Reinterprets this value as a value
of the [dynamic type](/docs/reference/dynamic-type.html).\n */\n@kotlin.internal.InlineOnly\npublic inline fun
Any?.asDynamic(): dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T] without any
actual type checking.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Any?.unsafeCast():
@kotlin.internal.NoInfer T = this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of the
specified type [T] without any actual type checking.\n */\n@kotlin.internal.DynamicExtension\n@JsName(\"unsafeCastDynamic\")\n@kotlin.internal.InlineOnly\npublic
inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic`
object in the following cases:\n * - when it has an `iterator`
function,\n * - when it is an array\n * - when it is an instance of [kotlin.collections.Iterable]\n */\n@kotlin.internal.DynamicExtension\npublic operator fun dynamic.iterator(): Iterator<dynamic> {\n    val r:
Any? = this\n\n    return when {\n        this[\"iterator\"] != null ->\n            this[\"iterator\"]()\n        isArrayish(r) ->\n            r.unsafeCast<Array<*>>().iterator()\n        else ->\n            (r as Iterable<*>).iterator()\n    }\n}\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is
omitted to get declarations directly under the module\n\n@JsName(\"throwNPE\")\ninternal fun
throwNPE(message: String) {\n    throw NullPointerException(message)\n}\n\n@JsName(\"throwCCE\")\ninternal
fun throwCCE() {\n    throw ClassCastException(\"Illegal cast\")\n}\n\n@JsName(\"throwISE\")\ninternal
fun throwISE(message: String) {\n    throw
IllegalStateException(message)\n}\n\n@JsName(\"throwUPAE\")\ninternal fun throwUPAE(propertyName: String)
{\n    throw UninitializedPropertyAccessException(\"lateinit property ${propertyName} has not been
initialized\")\n}\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n */
\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */
\npackage kotlin.collections\n\n/**\n * Groups elements from the [Grouping] source by key and counts elements
in each group.\n * \n * @return a [Map] associating the key of each group with the count of elements in the group.\n */
\n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin(\"1.1\")\npublic actual fun
<T, K> Grouping<T, K>.eachCount(): Map<K, Int> =\n    fold(0) { acc, _ -> acc + 1 }\n\n\n/**\n * Groups
elements from the [Grouping] source by key and sums values provided by
the [valueSelector] function for elements in each group.\n * \n * @return a [Map] associating the key of each group
with the count of element in the group.\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K> Grouping<T,
K>.eachSumOf(valueSelector: (T) -> Int): Map<K, Int> =\n    fold(0) { acc, e -> acc + valueSelector(e)
}\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */
\n@file:kotlin.jvm.JvmName(\"GroupingKt\")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage

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kotlin.collections\n\n**\n * Represents a source of elements with a [keyOf] function, which can be applied to each element to get its key.\n *\n * A [Grouping] structure serves as an intermediate step in group-and-fold operations:\n * they group elements by their keys and then fold each group with some aggregating operation.\n *\n * It is created by attaching

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`keySelector: (T) -> K` function to a source of elements.\n * To get an instance of [Grouping] use one of `groupingBy` extension functions:\n * - [Iterable.groupingBy]\n * - [Sequence.groupingBy]\n * - [Array.groupingBy]\n * - [CharSequence.groupingBy]\n *\n * For the list of group-and-fold operations available, see the [extension functions](#extension-functions) for `Grouping`.\n *\n @SinceKotlin("1.1")\n public interface Grouping<T, out K> {\n     /** Returns an [Iterator] over the elements of the source of this grouping. */\n     fun sourceIterator(): Iterator<T>\n     /** Extracts the key of an [element]. */\n     fun keyOf(element: T): K\n }\n\n**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value, and the current element as arguments, and stores the results in a new map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param operation
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function is invoked on each element with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null` if it's the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n * - `first`: indicates whether it's the first `element` encountered in the group.\n *\n * @return a [Map] associating the key of each group with the result of aggregation of the group elements.\n *\n @sample
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samples.collections.Grouping.aggregateByRadix\n *\n @SinceKotlin("1.1")\n public inline fun <T, K, R> Grouping<T, K>.aggregate(\n     operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n ): Map<K, R> {\n     return aggregateTo(mutableMapOf<K, R>(), operation)\n }\n\n**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value
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and the current element as arguments,\n * and stores the results in the given [destination] map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null` if it's the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n * - `first`: indicates whether it's the first `element` encountered in the group.\n *\n * If the [destination] map already has a value corresponding to some key,\n * then the elements being aggregated for that key are never considered as `first`.\n *\n * @return the [destination] map associating the key of each group with the result of aggregation of the group elements.\n *\n @sample
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samples.collections.Grouping.aggregateByRadixTo\n *\n @SinceKotlin("1.1")\n public inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.aggregateTo(\n     destination: M,\n     operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n ): M {\n     for (e in this.sourceIterator()) {\n         val key = keyOf(e)\n         val accumulator = destination[key]\n         destination[key] = operation(key, accumulator, e, accumulator == null && !destination.containsKey(key))\n     }\n     return destination\n }\n\n**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the results in a new map.\n *\n * An initial value of accumulator is provided by [initialValueSelector] function.\n *\n * @param initialValueSelector a function that provides an initial value of accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the group;\n * - `element`: the first element
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being encountered in that group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n *\n @sample
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samples.collections.Grouping.foldByEvenLengthWithComputedInitialValue\n *\n @SinceKotlin("1.1")\n public inline fun <T, K, R> Grouping<T, K>.fold(\n     initialValueSelector: (key: K, element: T) -> R,\n     operation: (key:
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K, accumulator: R, element: T) -> R): Map<K, R> =\n @Suppress("UNCHECKED_CAST")\n aggregate { key, acc, e, first -> operation(key, if (first) initialValueSelector(key, e) else acc as R, e) }\n\n**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator is provided by [initialValueSelector] function.\n *\n * @param initialValueSelector a function that provides an initial value of accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the group;\n * - `element`: the first element being encountered in that group.\n *\n * If the [destination] map already has a value corresponding to some key, that value is used as an initial value of\n * the accumulator for that group and the [initialValueSelector] function is not called for that group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return the [destination] map associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithComputedInitialValueTo\n *\n * @SinceKotlin("1.1")\n\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n destination: M,\n initialValueSelector: (key: K, element: T) -> R,\n operation: (key: K, accumulator: R, element: T) -> R)\n M =\n @Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { key, acc, e, first -> operation(key, if (first) initialValueSelector(key, e) else acc as R, e) }\n\n\n**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the results in a new map.\n * An initial value of accumulator is the same [initialValue] for each group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithConstantInitialValue\n *\n * @SinceKotlin("1.1")\n\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n initialValue: R,\n operation: (accumulator: R, element: T) -> R)\n Map<K, R> =\n @Suppress("UNCHECKED_CAST")\n aggregate { _, acc, e, first -> operation(if (first) initialValue else acc as R, e) }\n\n\n**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator is the same [initialValue] for each group.\n *\n * If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an initial value of the accumulator for that group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return the [destination] map associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithConstantInitialValueTo\n *\n * @SinceKotlin("1.1")\n\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n destination: M,\n initialValue: R,\n operation: (accumulator: R, element: T) -> R)\n M =\n @Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { _, acc, e, first -> operation(if (first) initialValue else acc as R, e) }\n\n\n**\n * Groups elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n * sequentially starting from the second element of the group,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in a new map.\n * An initial value of accumulator is the first element of the group.\n *\n * @param operation a function that is invoked on each subsequent element of the group with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return a [Map] associating the key of each group with the result of accumulating the group

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elements.\n * @sample samples.collections.Grouping.reduceByMaxVowels\n * \n @SinceKotlin("1.1")\npublic
inline fun <S, T : S, K> Grouping<T, K>.reduce(\n operation: (key: K, accumulator: S, element:
T) -> S)\n): Map<K, S> =\n aggregate { key, acc, e, first ->\n @Suppress("UNCHECKED_CAST")\n if
(first) e else operation(key, acc as S, e)\n }\n\n/**\n * Groups elements from the [Grouping] source by key and
applies the reducing [operation] to the elements of each group\n * sequentially starting from the second element of
the group,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the
results in the given [destination] map.\n * An initial value of accumulator is the first element of the group.\n * \n * If
the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an initial
value of the accumulator for that group and the first element of that group is also\n * subjected to the
[operation].\n\n * @param operation a function that is invoked on each subsequent element of the group with the
following parameters:\n * - `accumulator`: the current value of the accumulator of
the group;\n * - `element`: the element from the source being folded;\n * \n * @return the [destination] map
associating the key of each group with the result of accumulating the group elements.\n * @sample
samples.collections.Grouping.reduceByMaxVowelsTo\n * \n @SinceKotlin("1.1")\npublic inline fun <S, T : S, K,
M : MutableMap<in K, S>> Grouping<T, K>.reduceTo(\n destination: M,\n operation: (key: K, accumulator: S,
element: T) -> S)\n): M =\n aggregateTo(destination) { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n }\n\n\n/**\n * Groups
elements from the [Grouping] source by key and counts elements in each group to the given [destination] map.\n * \n *
If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an
initial value of the counter for that group.\n * \n * @return the [destination] map associating the key of each group
with the count of elements
in the group.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n
*\n * \n @SinceKotlin("1.1")\npublic fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachCountTo(destination: M): M =\n foldTo(destination, 0) { acc, _ -> acc + 1 }\n\n\n/**\n * Groups
elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements
in each group\n * to the given [destination] map.\n * \n * \n * If the [destination] map already has a value
corresponding to the key of some group,\n * that value is used as an initial value of the sum for that group.\n * \n *
@return the [destination] map associating the key of each group with the sum of elements in the group.\n
*\n * \n @SinceKotlin("1.1")\npublic inline fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachSumOfTo(destination: M, valueSelector: (T) -> Int): M =\n foldTo(destination, 0) { acc, e -> acc +
valueSelector(e)}\n\n\n/**\n * TODO: sum by long and by double overloads\n\npublic
inline fun <T, K, M : MutableMap<in K, Long>> Grouping<T, K>.sumEachByLongTo(destination: M,
valueSelector: (T) -> Long): M =\n foldTo(destination, 0L) { acc, e -> acc + valueSelector(e)}\n\npublic inline
fun <T, K> Grouping<T, K>.sumEachByLong(valueSelector: (T) -> Long): Map<K, Long> =\n fold(0L) { acc,
e -> acc + valueSelector(e)}\n\npublic inline fun <T, K, M : MutableMap<in K, Double>> Grouping<T,
K>.sumEachByDoubleTo(destination: M, valueSelector: (T) -> Double): M =\n foldTo(destination, 0.0) { acc, e
-> acc + valueSelector(e)}\n\npublic inline fun <T, K> Grouping<T, K>.sumEachByDouble(valueSelector: (T) ->
Double): Map<K, Double> =\n fold(0.0) { acc, e -> acc + valueSelector(e)}\n\n\n/**\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n\npackage
kotlin.js\n\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.FUNCTION,
AnnotationTarget.PROPERTY)\ninternal annotation class JsPolyfill(val implementation: String)\n\n\n/**\n *
Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n\npackage
kotlin.js\n\n/**\n * An interface for indexing access to a collection of key-value pairs, where type of key is [String]
and type of value is [Any?][Any].\n * \n\npublic external interface Json {\n /**\n * Calls to the function will be
translated to indexing operation (square brackets) on the receiver with [propertyName] as the argument.\n * \n *
E.g. for next code:\n * ```kotlin\n * fun test(j: Json, p: String) = j["prop"] + j.get(p)\n * ```\n * \n * will

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be generated:\n * ``js\n * function test(j, p) {\n *   return j["prop"] + j[p];\n * }\n * ``\n * ^\n
operator fun get(propertyName: String): Any?\n /**\n * Calls of the function will be translated to an
assignment of [value] to the receiver indexed (with square brackets/index operation) with [propertyName].\n * ^\n
* E.g. for the following code:\n * ``kotlin\n * fun test(j: Json, p: String, newValue: Any) {\n *   j["prop"]
= 1\n *   j.set(p, newValue)\n * }\n * ``\n * ^\n * will be generated:\n * ``js\n * function test(j, p,
newValue) {\n *   j["prop"] = 1;\n *   j[p] = newValue;\n * }\n * }\n * ``\n * ^\n operator fun
set(propertyName: String, value: Any?): Unit\n /**\n * Returns a simple JavaScript object (as [Json]) using
provided key-value pairs as names and values of its properties.\n * ^\n public fun json(vararg pairs: Pair<String,
Any?>): Json {\n   val res: dynamic = js("{}")\n   for ((name, value) in pairs) {\n     res[name] = value\n   }\n   return res\n }\n /**\n * Adds
key-value pairs from [other] to [this].\n * Returns the original receiver.\n * ^\n public fun Json.add(other: Json): Json
{\n   val keys: Array<String> = js("Object").keys(other)\n   for (key in keys) {\n     if
(other.asDynamic().hasOwnProperty(key)) {\n       this[key] = other[key];\n     }\n   }\n   return
this\n }\n /**\n * Exposes the JavaScript [JSON object](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/JSON) to Kotlin.\n
* ^\n @Suppress("NOT_DOCUMENTED")\n public external object JSON {\n   public fun stringify(o: Any?):
String\n   public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?): String\n   public fun
stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: Int): String\n   public
fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: String): String\n
   public fun stringify(o: Any?, replacer: Array<String>): String\n
   public fun stringify(o: Any?, replacer: Array<String>, space: Int): String\n   public fun stringify(o: Any?,
replacer: Array<String>, space: String): String\n\n   public fun <T> parse(text: String): T\n   public fun <T>
parse(text: String, reviver: ((key: String, value: Any?) -> Any?): T)\n }\n "/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n * ^\n package kotlin.math\n\n import
kotlin.internal.InlineOnly\n import kotlin.js.JsMath as nativeMath\n\n region ===== Double Math
=====
\n /**\n * Computes the sine of the angle [x] given in
radians.\n * ^\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n
* ^\n @SinceKotlin("1.2")\n @InlineOnly\n public actual inline fun sin(x: Double): Double =
nativeMath.sin(x)\n /**\n * Computes the cosine of the angle [x] given in radians.\n
* ^\n * Special cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n * ^\n @SinceKotlin("1.2")\n @InlineOnly\n public actual
inline fun cos(x: Double): Double = nativeMath.cos(x)\n /**\n * Computes the tangent of the angle [x] given in
radians.\n * ^\n * Special cases:\n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n
* ^\n @SinceKotlin("1.2")\n @InlineOnly\n public actual inline fun tan(x: Double): Double =
nativeMath.tan(x)\n /**\n * Computes the arc sine of the value [x];\n * the returned value is an angle in the range
from  $-\pi/2$  to  $\pi/2$  radians.\n * ^\n * Special cases:\n * - `asin(x)` is `NaN`, when  $abs(x) > 1$  or x is `NaN`\n
* ^\n @SinceKotlin("1.2")\n @InlineOnly\n public actual inline fun asin(x: Double): Double =
nativeMath.asin(x)\n /**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in the
range from  $0.0$  to  $\pi$  radians.\n * ^\n * Special cases:\n * - `acos(x)` is `NaN`, when  $abs(x) > 1$  or x is `NaN`\n
* ^\n @SinceKotlin("1.2")\n @InlineOnly\n public actual
inline fun acos(x: Double): Double = nativeMath.acos(x)\n /**\n * Computes the arc tangent of the value [x];\n *
the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.\n * ^\n * Special cases:\n * - `atan(NaN)` is
`NaN`\n * ^\n @SinceKotlin("1.2")\n @InlineOnly\n public actual inline fun atan(x: Double): Double =
nativeMath.atan(x)\n /**\n * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the
rectangular coordinates `(x, y)` by computing the arc tangent of the value  $y / x$ ;\n * the returned value is an angle
in the range from  $-\pi$  to  $\pi$  radians.\n * ^\n * Special cases:\n * - `atan2(0.0, 0.0)` is  $0.0$ \n * - `atan2(0.0, x)` is
 $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$ \n * - `atan2(-0.0, x)` is  $-0.0$  for  $x > 0$  and  $-\pi$  for  $x < 0$ \n * - `atan2(y,
+Inf)` is  $0.0$  for  $0 < y < +Inf$  and  $-0.0$  for  $-Inf < y < 0$ \n * - `atan2(y, -Inf)` is  $\pi$  for  $0 < y < +Inf$  and  $-\pi$ 
for  $-Inf < y < 0$ 

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for $-\infty < y < 0$ is $-\text{atan2}(y, 0.0)$
is $\text{PI}/2$ for $y > 0$ and $-\text{PI}/2$ for $y < 0$ is $-\text{atan2}(+\infty, x)$ is $\text{PI}/2$ for finite x is $-\text{atan2}(-\infty, x)$ is $-\text{PI}/2$ for finite x is $-\text{atan2}(\text{NaN}, x)$ and $\text{atan2}(y, \text{NaN})$ is NaN

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* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun atan2(y: Double, x: Double): Double =
nativeMath.atan2(y, x) /n /n ** /n * Computes the hyperbolic sine of the value [x]. /n * /n * Special cases: /n * -
`sinh(NaN)` is `NaN` /n * - `sinh(+Inf)` is `+Inf` /n * - `sinh(-Inf)` is `-Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun sinh(x: Double): Double = nativeSinh(x) /n /n ** /n
* Computes the hyperbolic cosine of the value [x]. /n * /n * Special cases: /n * - `cosh(NaN)` is `NaN` /n * -
`cosh(+Inf|-Inf)` is `+Inf` /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun cosh(x: Double):
Double = nativeCosh(x) /n /n ** /n * Computes the hyperbolic tangent of the value [x]. /n * /n * Special cases: /n * -
`tanh(NaN)` is `NaN` /n * - `tanh(+Inf)` is
`1.0` /n * - `tanh(-Inf)` is `-1.0` /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun tanh(x:
Double): Double = nativeTanh(x) /n /n ** /n * Computes the inverse hyperbolic sine of the value [x]. /n * /n * The
returned value is `y` such that `sinh(y) == x`. /n * /n * Special cases: /n * - `asinh(NaN)` is `NaN` /n * -
`asinh(+Inf)` is `+Inf` /n * - `asinh(-Inf)` is `-Inf` /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline
fun asinh(x: Double): Double = nativeAsinh(x) /n /n ** /n * Computes the inverse hyperbolic cosine of the value
[x]. /n * /n * The returned value is positive `y` such that `cosh(y) == x`. /n * /n * Special cases: /n * - `acosh(NaN)` is
`NaN` /n * - `acosh(x)` is `NaN` when `x < 1` /n * - `acosh(+Inf)` is `+Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun acosh(x: Double): Double =
nativeAcosh(x) /n /n ** /n * Computes the inverse hyperbolic tangent of the value [x]. /n * /n * The returned value is
`y` such that `tanh(y) == x`. /n
* /n * Special cases: /n * - `tanh(NaN)` is `NaN` /n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1` /n * - `tanh(1.0)`
is `+Inf` /n * - `tanh(-1.0)` is `-Inf` /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun atanh(x:
Double): Double = nativeAtanh(x) /n /n ** /n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or
underflow. /n * /n * Special cases: /n * - returns `+Inf` if any of arguments is infinite /n * - returns `NaN` if any of
arguments is `NaN` and the other is not infinite /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun
hypot(x: Double, y: Double): Double = nativeHypot(x, y) /n /n ** /n * Computes the positive square root of the value
[x]. /n * /n * Special cases: /n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun sqrt(x: Double): Double =
nativeMath.sqrt(x) /n /n ** /n * Computes Euler's number `e` raised to the power of the value [x]. /n * /n * Special
cases: /n * - `exp(NaN)`
is `NaN` /n * - `exp(+Inf)` is `+Inf` /n * - `exp(-Inf)` is `0.0` /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public
actual inline fun exp(x: Double): Double = nativeMath.exp(x) /n /n ** /n * Computes `exp(x) - 1`. /n * /n * This
function can be implemented to produce more precise result for [x] near zero. /n * /n * Special cases: /n * -
`expm1(NaN)` is `NaN` /n * - `expm1(+Inf)` is `+Inf` /n * - `expm1(-Inf)` is `-1.0` /n * @see [exp] function. /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun expm1(x: Double): Double =
nativeExp1(x) /n /n ** /n * Computes the logarithm of the value [x] to the given [base]. /n * /n * Special cases: /n * -
`log(x, b)` is `NaN` if either `x` or `b` are `NaN` /n * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0` /n
* - `log(+Inf, +Inf)` is `NaN` /n * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1` /n * - `log(0.0, b)` is
`-Inf` for `b > 1` and `+Inf` for `b < 1` /n * /n * See also logarithm functions for
common fixed bases: [ln], [log10] and [log2]. /n * /n @SinceKotlin("1.2") /n public actual fun log(x: Double, base:
Double): Double { /n if (base <= 0.0 || base == 1.0) return Double.NaN /n return nativeMath.log(x) /
nativeMath.log(base) /n } /n /n ** /n * Computes the natural logarithm (base `E`) of the value [x]. /n * /n * Special
cases: /n * - `ln(NaN)` is `NaN` /n * - `ln(x)` is `NaN` when `x < 0.0` /n * - `ln(+Inf)` is `+Inf` /n * - `ln(0.0)` is
`-Inf` /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun ln(x: Double): Double =
nativeMath.log(x) /n /n ** /n * Computes the common logarithm (base 10) of the value [x]. /n * /n * @see [ln] function
for special cases. /n * /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun log10(x: Double): Double =
nativeLog10(x) /n /n ** /n * Computes the binary logarithm (base 2) of the value [x]. /n * /n * @see [ln] function for

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special cases.
`fun log2(x: Double): Double = nativeLog2(x)`
 Computes $\ln(x + 1)$. This function can be implemented to produce more precise result for [x] near zero.
 Special cases:
 $\ln(\text{NaN})$ is NaN
 $\ln(x)$ is NaN where $x < -1.0$
 $\ln(-1.0)$ is $-\text{Inf}$
 $\ln(+\text{Inf})$ is $+\text{Inf}$
 @see [ln] function
 @see [expm1] function
`fun ln1p(x: Double): Double = nativeLog1p(x)`
 Rounds the given value [x] to an integer towards positive infinity.
 @return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.
 Special cases:
 $\text{ceil}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer.
`fun ceil(x: Double): Double = nativeMath.ceil(x)`
 Rounds the given value [x] to an integer towards negative infinity.
 @return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.
 Special cases:
 $\text{floor}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer.
`fun floor(x: Double): Double = nativeMath.floor(x)`
 Rounds the given value [x] to an integer towards zero.
 @return the value [x] having its fractional part truncated.
 Special cases:
 $\text{truncate}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer.
`fun truncate(x: Double): Double = nativeTrunc(x)`
 Rounds the given value [x] towards the closest integer with ties rounded towards even integer.
 Special cases:
 $\text{round}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer.
`fun round(x: Double): Double {`
`if (x % 0.5 != 0.0) {`
`return nativeMath.round(x)`
`}`
`val floor = floor(x)`
`return if (floor % 2 == 0.0) floor else ceil(x)`
`}`
 Returns the absolute value of the given value [x].
 Special cases:
 $\text{abs}(\text{NaN})$ is NaN
 @see absoluteValue extension property for [Double]
`fun abs(x: Double): Double = nativeMath.abs(x)`
 Returns the sign of the given value [x]:
 -1.0 if the value is negative,
 zero if the value is zero,
 1.0 if the value is positive
 Special case:
 $\text{sign}(\text{NaN})$ is NaN
`fun sign(x: Double): Double = nativeSign(x)`
 Returns the smaller of two values.
 If either value is NaN , then the result is NaN .
`fun min(a: Double, b: Double): Double = nativeMath.min(a, b)`
 Returns the greater of two values.
 If either value is NaN , then the result is NaN .
`fun max(a: Double, b: Double): Double = nativeMath.max(a, b)`
 // extensions
 Raises this value to the power [x].
 Special cases:
 $b.\text{pow}(0.0)$ is 1.0
 $b.\text{pow}(1.0) == b$
 $b.\text{pow}(\text{NaN})$ is NaN
 $\text{NaN}.\text{pow}(x)$ is NaN for $x != 0.0$
 $b.\text{pow}(\text{Inf})$ is NaN for $\text{abs}(b) == 1.0$
 $b.\text{pow}(x)$ is NaN for $b < 0$ and x is finite and not an integer
`fun Double.pow(x: Double): Double = nativeMath.pow(this, x)`
 Raises this value to the integer power [n].
 See the other overload of [pow] for details.
`fun Double.pow(n: Int): Double = nativeMath.pow(this, n.toDouble())`
 Returns the absolute value of this value.
 Special cases:
 $\text{NaN}.\text{absoluteValue}$ is NaN
 @see abs function
`val Double.absoluteValue: Double get() = nativeMath.abs(this)`
 Returns the sign of this value:
 -1.0 if the value is negative,
 zero if the value is zero,
 1.0 if the value is positive
 Special case:
 $\text{NaN}.\text{sign}$ is NaN
`val Double.sign: Double get() = nativeSign(this)`
 Returns this value with the sign bit same as of the [sign] value.
`fun Double.withSign(sign: Int): Double = this.withSign(sign.toDouble())`
 Returns the ulp (unit in the last place) of this value.
 An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.
 Special

`nativeMath.atan(x.toDouble()).toFloat()` Returns the angle θ of the polar coordinates (r, θ) that correspond to the rectangular coordinates (x, y) by computing the arc tangent of the value $[y] / [x]$; the returned value is an angle in the range from $-\pi$ to π radians.

Special cases:

- $\text{atan2}(0.0, 0.0)$ is 0.0
- $\text{atan2}(0.0, x)$ is 0.0 for $x > 0$ and π for $x < 0$
- $\text{atan2}(-0.0, x)$ is -0.0 for $x > 0$ and $-\pi$ for $x < 0$
- $\text{atan2}(y, +\text{Inf})$ is 0.0 for $0 < y < +\text{Inf}$ and -0.0 for $-\text{Inf} < y < 0$
- $\text{atan2}(y, -\text{Inf})$ is π for $0 < y < +\text{Inf}$ and $-\pi$ for $-\text{Inf} < y < 0$
- $\text{atan2}(y, 0.0)$ is $\pi/2$ for $y > 0$ and $-\pi/2$ for $y < 0$
- $\text{atan2}(+\text{Inf}, x)$ is $\pi/2$ for finite x
- $\text{atan2}(-\text{Inf}, x)$ is $-\pi/2$ for finite x
- $\text{atan2}(\text{NaN}, x)$ and $\text{atan2}(y, \text{NaN})$ is NaN

`atan2(y: Float, x: Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()`

Computes the hyperbolic sine of the value $[x]$.

Special cases:

- $\sinh(\text{NaN})$ is NaN
- $\sinh(+\text{Inf})$ is $+\text{Inf}$
- $\sinh(-\text{Inf})$ is $-\text{Inf}$

`sinh(x: Float): Float = nativeSinh(x.toDouble()).toFloat()`

Computes the hyperbolic cosine of the value $[x]$.

Special cases:

- $\cosh(\text{NaN})$ is NaN
- $\cosh(+\text{Inf}|- \text{Inf})$ is $+\text{Inf}$

`cosh(x: Float): Float = nativeCosh(x.toDouble()).toFloat()`

Computes the hyperbolic tangent of the value $[x]$.

Special cases:

- $\tanh(\text{NaN})$ is NaN
- $\tanh(+\text{Inf})$ is 1.0
- $\tanh(-\text{Inf})$ is -1.0

`tanh(x: Float): Float = nativeTanh(x.toDouble()).toFloat()`

Computes the inverse hyperbolic sine of the value $[x]$.

The returned value is y such that $\sinh(y) == x$.

Special cases:

- $\text{asinh}(\text{NaN})$ is NaN
- $\text{asinh}(+\text{Inf})$ is $+\text{Inf}$
- $\text{asinh}(-\text{Inf})$ is $-\text{Inf}$

`asinh(x: Float): Float = nativeAsinh(x.toDouble()).toFloat()`

Computes the inverse hyperbolic cosine of the value $[x]$.

The returned value is positive y such that $\cosh(y) == x$.

Special cases:

- $\text{acosh}(\text{NaN})$ is NaN
- $\text{acosh}(x)$ is NaN when $x < 1$
- $\text{acosh}(+\text{Inf})$ is $+\text{Inf}$

`acosh(x: Float): Float = nativeAcosh(x.toDouble()).toFloat()`

Computes the inverse hyperbolic tangent of the value $[x]$.

The returned value is y such that $\tanh(y) == x$.

Special cases:

- $\text{atanh}(\text{NaN})$ is NaN
- $\text{atanh}(x)$ is NaN when $x > 1$ or $x < -1$
- $\text{atanh}(1.0)$ is $+\text{Inf}$
- $\text{atanh}(-1.0)$ is $-\text{Inf}$

`atanh(x: Float): Float = nativeAtanh(x.toDouble()).toFloat()`

Computes $\sqrt{x^2 + y^2}$ without intermediate overflow or underflow.

Special cases:

- returns $+\text{Inf}$ if any of arguments is infinite
- returns NaN if any of arguments is NaN and the other is not infinite

`hypot(x: Float, y: Float): Float = nativeHypot(x.toDouble(), y.toDouble()).toFloat()`

Computes the positive square root of the value $[x]$.

Special cases:

- \sqrt{x} is NaN when $x < 0$ or x is NaN

`sqrt(x: Float): Float = nativeMath.sqrt(x.toDouble()).toFloat()`

Computes Euler's number e raised to the power of the value $[x]$.

Special cases:

- $\exp(\text{NaN})$ is NaN
- $\exp(+\text{Inf})$ is $+\text{Inf}$
- $\exp(-\text{Inf})$ is 0.0

`exp(x: Float): Float = nativeMath.exp(x.toDouble()).toFloat()`

Computes $\exp(x) - 1$.

This function can be implemented to produce more precise result for $[x]$ near zero.

Special cases:

- $\text{expm1}(\text{NaN})$ is NaN
- $\text{expm1}(+\text{Inf})$ is $+\text{Inf}$
- $\text{expm1}(-\text{Inf})$ is -1.0

`expm1(x: Float): Float = nativeExp1(x.toDouble()).toFloat()`

Computes the logarithm of the value $[x]$ to the given $[base]$.

Special cases:

- $\log(x, b)$ is NaN if either x or b are NaN
- $\log(x, b)$ is NaN when $x < 0$ or $b \leq 0$ or $b == 1.0$
- $\log(+\text{Inf}, +\text{Inf})$ is NaN
- $\log(+\text{Inf}, b)$ is $+\text{Inf}$ for $b > 1$ and $-\text{Inf}$ for $b < 1$
- $\log(0.0, b)$ is $-\text{Inf}$ for $b > 1$ and $+\text{Inf}$ for $b < 1$

See also logarithm functions for common fixed bases: $[\ln]$, $[\log_{10}]$ and $[\log_2]$.

`log(x: Float, base: Float): Float = log(x.toDouble(), base.toDouble()).toFloat()`

Computes the natural logarithm (base


```

negative,\n * - zero if the value is zero,\n * - `1.0` if the
value is positive\n * \n * Special case:\n * - `NaN.sign` is `NaN`\n
*\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Float.sign: Float get() =
nativeSign(this.toDouble()).toFloat()\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n
*\n * If [sign] is `NaN` the sign of the result is undefined.\n *\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual
inline fun Float.withSign(sign: Float): Float = this.toDouble().withSign(sign.toDouble()).toFloat()\n\n/**\n *
Returns this value with the sign bit same as of the [sign] value.\n *\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic
actual inline fun Float.withSign(sign: Int): Float = this.toDouble().withSign(sign.toDouble()).toFloat()\n\n\n/**\n *
Rounds this [Float] value to the nearest integer and converts the result to [Int].\n * Ties are rounded towards positive
infinity.\n *\n * Special cases:\n * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * -
`x.roundToInt() == Int.MIN_VALUE`
when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n
*\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToInt(): Int =
toDouble().roundToInt()\n\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to
[Long].\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n * - `x.roundToLong() ==
Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x
< Long.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n
*\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToLong(): Long =
toDouble().roundToLong()\n\n\n// endregion\n\n// region ===== Integer Math
=====
\n\n\n/**\n * Returns the absolute value of the given value
[n].\n *\n * Special cases:\n * - `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow\n *\n * @see
absoluteValue extension property
for [Int]\n *\n// TODO: remove manual 'or' when KT-19290 is fixed\n@\n@SinceKotlin("1.2")\npublic actual fun
abs(n: Int): Int = if (n < 0) (-n or 0) else n\n\n\n/**\n * Returns the smaller of two values.\n
*\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun min(a: Int, b: Int): Int = nativeMath.min(a,
b)\n\n\n/**\n * Returns the greater of two values.\n *\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun
max(a: Int, b: Int): Int = nativeMath.max(a, b)\n\n\n/**\n * Returns the absolute value of this value.\n *\n * Special
cases:\n * - `Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n *\n * @see abs
function\n *\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Int.absoluteValue: Int get() =
abs(this)\n\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n
* - `1` if the value is positive\n *\n@\n@SinceKotlin("1.2")\npublic actual val Int.sign: Int get() = when {\n
this < 0 -> -1\n this > 0 -> 1\n else -> 0}\n\n\n\n/**\n * Returns the absolute value of the given value [n].\n
*\n * Special cases:\n * - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n *\n * @see
absoluteValue extension property for [Long]\n *\n@\n@SinceKotlin("1.2")\npublic actual fun abs(n: Long): Long = if
(n < 0) -n else n\n\n\n/**\n * Returns the smaller of two values.\n
*\n@\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun min(a: Long, b:
Long): Long = if (a <= b) a else b\n\n\n/**\n * Returns the greater of two values.\n
*\n@\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun max(a: Long, b:
Long): Long = if (a >= b) a else b\n\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * -
`Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n *\n * @see abs function\n
*\n@\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Long.absoluteValue: Long
get() = abs(this)\n\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value
is zero,\n * - `1` if the value is positive\n *\n@\n@SinceKotlin("1.2")\npublic actual val Long.sign: Int get() = when
{\n this < 0 -> -1\n this > 0 -> 1\n else -> 0}\n\n\n\n// endregion\n",/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\n@\n\npackage kotlin\n\n/**\n * Returns `true` if the
specified number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n *\n@\npublic actual fun Double.isNaN():
Boolean = this != this\n\n\n/**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value, `false`

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otherwise.\n */\npublic actual fun Float.isNaN(): Boolean = this != this\n\n/**\n * Returns `true` if this value is
infinitely large in magnitude.\n */\npublic actual fun Double.isInfinite():
Boolean = this == Double.POSITIVE_INFINITY || this == Double.NEGATIVE_INFINITY\n\n/**\n * Returns
`true` if this value is infinitely large in magnitude.\n */\npublic actual fun Float.isInfinite(): Boolean = this ==
Float.POSITIVE_INFINITY || this == Float.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if the argument is a
finite floating-point value; returns `false` otherwise (for `NaN` and infinity arguments).\n */\npublic actual fun
Double.isFinite(): Boolean = !isInfinite() && !isNaN()\n\n/**\n * Returns `true` if the argument is a finite floating-
point value; returns `false` otherwise (for `NaN` and infinity arguments).\n */\npublic actual fun Float.isFinite():
Boolean = !isInfinite() && !isNaN()\n\n\n/**\n * Counts the number of set bits in the binary representation of this
[Int] number.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.countOneBits(): Int {\n // Hacker's Delight 5-1 algorithm\n var v = this\n v =
(v and 0x55555555) + (v.ushr(1) and 0x55555555)\n v = (v and 0x33333333) + (v.ushr(2) and 0x33333333)\n v
= (v and 0x0F0F0F0F) + (v.ushr(4) and 0x0F0F0F0F)\n v = (v and 0x00FF00FF) + (v.ushr(8) and 0x00FF00FF)\n
v = (v and 0x0000FFFF) + (v.ushr(16))\n return v}\n\n/**\n * Counts the number of consecutive most
significant bits that are zero in the binary representation of this [Int] number.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
actual inline fun Int.countLeadingZeroBits(): Int = nativeClz32(this)\n\n/**\n * Counts the number of consecutive
least significant bits that are zero in the binary representation of this [Int] number.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.countTrailingZeroBits(): Int =\n // Hacker's Delight 5-4 algorithm for expressing countTrailingZeroBits with
countLeadingZeroBits\n Int.SIZE_BITS - (this or -this).inv().countLeadingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Int] number,\n * or
zero, if this number is zero.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.takeHighestOneBit(): Int =\n if (this == 0) 0 else 1.shl(Int.SIZE_BITS - 1 - countLeadingZeroBits())\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Int] number,\n * or
zero, if this number is zero.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.takeLowestOneBit(): Int =\n // Hacker's Delight 2-1 algorithm for isolating rightmost 1-bit\n this and -
this\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified [bitCount] number of
bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the
right side.\n
*/\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n *
`number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns
the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
*/\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.rotateLeft(bitCount: Int): Int =\n shl(bitCount) or ushr(Int.SIZE_BITS - bitCount)\n\n/**\n * Rotates the
binary representation of this [Int] number right by the specified [bitCount] number of bits.\n * The least significant
bits pushed out from the right side reenter the number as the most significant bits on the left side.\n * Rotating
the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns
the same number,
or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n
*/\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.rotateRight(bitCount: Int): Int =\n shl(Int.SIZE_BITS - bitCount) or ushr(bitCount)\n\n/**\n * Counts the
number of set bits in the binary representation of this [Long] number.\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countOneBits(): Int =\n high.countOneBits() + low.countOneBits()\n\n/**\n * Counts the number of

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consecutive most significant bits that are zero in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countLeadingZeroBits(): Int =\n    when (val high = this.high) {\n        0 -> Int.SIZE_BITS +
low.countLeadingZeroBits()\n    } else -> high.countLeadingZeroBits()\n } \n\n/**\n * Counts the number of
consecutive least significant bits
that are zero in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countTrailingZeroBits(): Int =\n    when (val low = this.low) {\n        0 -> Int.SIZE_BITS +
high.countTrailingZeroBits()\n    } else -> low.countTrailingZeroBits()\n } \n\n/**\n * Returns a number having a
single bit set in the position of the most significant set bit of this [Long] number,\n * or zero, if this number is
zero.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.takeHighestOneBit(): Long =\n    when (val high = this.high) {\n        0 -> Long(low.takeHighestOneBit(),
0)\n    } else -> Long(0, high.takeHighestOneBit())\n } \n\n/**\n * Returns a number having a single bit set in the
position of the least significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
actual fun Long.takeLowestOneBit(): Long =\n    when (val low = this.low) {\n        0 -> Long(0,
high.takeLowestOneBit())\n    } else -> Long(low.takeLowestOneBit(), 0)\n } \n\n/**\n * Rotates the binary
representation of this [Long] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number as the least significant bits on the right side.\n * \n * Rotating the
number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-
n) == number.rotateRight(n)`\n * \n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or
more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.rotateLeft(bitCount: Int): Long {\n    if ((bitCount and 31) != 0) {\n        val low = this.low\n        val high =
this.high\n
        val newLow = low.shl(bitCount) or high.ushr(-bitCount)\n        val newHigh = high.shl(bitCount) or low.ushr(-
bitCount)\n        return if ((bitCount and 32) == 0) Long(newLow, newHigh) else Long(newHigh, newLow)\n    }
else {\n        return if ((bitCount and 32) == 0) this else Long(high, low)\n    } \n\n/**\n * Rotates the binary
representation of this [Long] number right by the specified [bitCount] number of bits.\n * The least significant bits
pushed out from the right side reenter the number as the most significant bits on the left side.\n * \n * Rotating the
number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `
number.rotateRight(-n) == number.rotateLeft(n)`\n * \n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
actual
inline fun Long.rotateRight(bitCount: Int): Long = rotateLeft(-bitCount)\n","/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\n@npackage kotlin.js\n@nimport
kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Exposes the JavaScript [Promise
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Promise) to Kotlin.\n
*\n@Suppress("NOT_DOCUMENTED")\npublic open external class Promise<out T>(executor: (resolve: (T) ->
Unit, reject: (Throwable) -> Unit) -> Unit) {\n    @LowPriorityInOverloadResolution\n    public open fun <S>
then(onFulfilled: ((T) -> S)?): Promise<S>\n\n    @LowPriorityInOverloadResolution\n    public open fun <S>
then(onFulfilled: ((T) -> S)?, onRejected: ((Throwable) -> S)?): Promise<S>\n\n    public open fun <S>
catch(onRejected: (Throwable) -> S): Promise<S>\n\n    public
open fun finally(onFinally: () -> Unit): Promise<T>\n\n    companion object {\n        public fun <S> all(promise:
Array<out Promise<S>>): Promise<Array<out S>>\n\n        public fun <S> race(promise: Array<out
Promise<S>>): Promise<S>\n\n        public fun reject(e: Throwable): Promise<Nothing>\n\n        public fun <S>

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resolve(e: S): Promise<S>\n    public fun <S> resolve(e: Promise<S>): Promise<S>\n    }\n}\n\n// It's workaround
for KT-19672 since we can fix it properly until KT-11265 isn't fixed.\ninline fun <T, S>
Promise<Promise<T>>.then(\n    noinline onFulfilled: ((T) -> S)?\n): Promise<S> {\n    return
this.unsafeCast<Promise<T>>().then(onFulfilled)\n}\n}\n\ninline fun <T, S> Promise<Promise<T>>.then(\n    noinline
onFulfilled: ((T) -> S)?,\n    noinline onRejected: ((Throwable) -> S)?\n): Promise<S> {\n    return
this.unsafeCast<Promise<T>>().then(onFulfilled, onRejected)\n}\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.random\n\nimport kotlin.math.pow\n\ninternal actual fun defaultPlatformRandom(): Random
=\n    Random(js\("(Math.random() * Math.pow(2, 32)) | 0\)").unsafeCast<Int>())\n\nprivate val INV_2_26:
Double = 2.0.pow(-26)\nprivate val INV_2_53: Double = 2.0.pow(-53)\n\ninternal actual fun doubleFromParts(hi26:
Int, low27: Int): Double =\n    hi26 * INV_2_26 + low27 * INV_2_53", /*\n * Copyright 2010-2020 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n
 * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.reflect\n\nimport
findAssociatedObject\n\n/**\n * The experimental marker for associated objects API.\n * Any usage of a
declaration annotated with `@ExperimentalAssociatedObjects` must be accepted either by\n * annotating that usage
with the [OptIn] annotation,
e.g. `@OptIn(ExperimentalAssociatedObjects::class)`,\n * or by using the compiler argument `-opt-
in=kotlin.reflect.ExperimentalAssociatedObjects`.\n * ^\n * @RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n * @Retention(value = AnnotationRetention.BINARY)\n * public annotation class
ExperimentalAssociatedObjects\n\n/**\n * Makes the annotated annotation class an associated object key.\n * Any\n * An associated object key annotation should have single [KClass] parameter.\n * When applied to a class with
reference to an object declaration as an argument, it binds\n * the object to the class, making this binding
discoverable at runtime using [findAssociatedObject].\n
*/\n * @ExperimentalAssociatedObjects\n * @Retention(AnnotationRetention.BINARY)\n * @Target(AnnotationTarget.A
NNOTATION_CLASS)\n * public annotation class AssociatedObjectKey\n\n/**\n * If [T] is an
@[AssociatedObjectKey]-annotated annotation class and [this] class is annotated with @[T] (`S::class`),\n * returns
object `S`.\n * Otherwise
returns `null`.\n * ^\n * @ExperimentalAssociatedObjects\n * public inline fun <reified T : Annotation>
KClass<*>.findAssociatedObject(): Any? =\n    this.findAssociatedObject(T::class)", /*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n
 * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.js\n\nimport
getKClass\n\nimport kotlin.reflect.KClass\n\nimport kotlin.reflect.js.internal.KClassImpl\n\n/**\n * Represents the
constructor of a class. Instances of `JsClass` can be passed to JavaScript APIs that expect a constructor reference.\n
*/\n * ^\n * external interface JsClass<T : Any> {\n    /**\n     * Returns the unqualified name of the class represented by
this instance.\n     * ^\n     * val name: String\n    }\n\n/**\n * Obtains a constructor reference for the given `KClass`.\n
*/\n * ^\n * nval <T : Any> KClass<T>.js: JsClass<T>\n    get() = (this as KClassImpl<T>).jClass\n\n/**\n * Obtains a
`KClass` instance for the given constructor reference.\n * ^\n * nval <T : Any> JsClass<T>.kotlin: KClass<T>\n    get()
= getKClass(this)\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
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license/LICENSE.txt file.\n
*/\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal abstract
class KClassImpl<T : Any>(\n    internal open val jClass: JsClass<T>\n) : KClass<T> {\n\n    override val
qualifiedName: String?\n    get() = TODO()\n\n    override fun equals(other: Any?): Boolean {\n        return other
is KClassImpl<*> && jClass == other.jClass\n    }\n\n    // TODO: use FQN\n    override fun hashCode(): Int =
simpleName?.hashCode() ?: 0\n\n    override fun toString(): String {\n        // TODO: use FQN\n        return "\"class
$simpleName\"\n    }\n}\n\ninternal class SimpleKClassImpl<T : Any>(jClass: JsClass<T>) :
KClassImpl<T>(jClass)

```

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    override val simpleName: String? =
jClass.asDynamic().`$metadata$`.simpleName.unsafeCast<String?>()\n
    override fun isInstance(value: Any?):
Boolean {\n
    return jsIsType(value, jClass)\n
}\n}\n\ninternal class PrimitiveKClassImpl<T : Any>(\n
jClass: JsClass<T>,\n
private val givenSimpleName: String,\n
private val isInstanceFunction: (Any?) ->
Boolean)\n
: KClassImpl<T>(jClass) {\n
    override fun equals(other: Any?): Boolean {\n
        if (other !is
PrimitiveKClassImpl<*>) return false\n
        return super.equals(other) && givenSimpleName ==
other.givenSimpleName\n
}\n}\n
    override val simpleName: String? get() = givenSimpleName\n
    override fun
isInstance(value: Any?): Boolean {\n
    return isInstanceFunction(value)\n
}\n}\n\ninternal object
NothingKClassImpl : KClassImpl<Nothing>(js("Object\")) {\n
    override val simpleName: String =
"Nothing"\n
    override fun isInstance(value: Any?): Boolean = false\n
    override val jClass:
JsClass<Nothing>\n
        get() = throw UnsupportedOperationException("There's no native JS class for Nothing type")\n
    override
fun equals(other: Any?): Boolean = other === this\n
    override fun hashCode(): Int = 0\n
}\n\ninternal class
ErrorKClass : KClass<Nothing> {\n
    override val simpleName: String? get() = error("Unknown simpleName for
ErrorKClass")\n
    override val qualifiedName: String? get() = error("Unknown qualifiedName for
ErrorKClass")\n
    override fun isInstance(value: Any?): Boolean = error("Can's check isInstance on
ErrorKClass")\n
    override fun equals(other: Any?): Boolean = other === this\n
    override fun hashCode(): Int
= 0\n
}"/\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
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this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.reflect\n\ninternal actual inline val KClass<*>.qualifiedOrSimpleName: String? get()
= simpleName"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
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*/\n\n// a package is omitted to get declarations directly under the module\n\n// TODO: Remove once
JsReflectionAPICallChecker supports more reflection types\n\n@file:Suppress("Unsupported")\n\nimport
kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName("createKType")\n\ninternal fun createKType(\n
classifier: KClassifier,\n
arguments: Array<KTypeProjection>,\n
isMarkedNullable: Boolean)\n
= \n
KTypeImpl(classifier, arguments.asList(), isMarkedNullable)\n
\n\n@JsName("createDynamicKType")\n\ninternal fun
createDynamicKType(): KType = DynamicKType\n
\n\n@JsName("markKTypeNullable")\n\ninternal fun
markKTypeNullable(kType: KType) = KTypeImpl(kType.classifier!!, kType.arguments,
true)\n
\n\n@JsName("createKTypeParameter")\n\ninternal fun createKTypeParameter(\n
name: String,\n
upperBounds: Array<KType>,\n
variance: String)\n
: KTypeParameter {\n
    val kVariance =
when (variance) {\n
        "in" -> KVariance.IN\n
        "out" -> KVariance.OUT\n
        else ->
KVariance.INVARIANT\n
}\n
    return KTypeParameterImpl(name, upperBounds.asList(), kVariance,
false)\n
}\n
\n\n@JsName("getStarKTypeProjection")\n\ninternal fun getStarKTypeProjection(): KTypeProjection = \n
KTypeProjection.STAR\n
\n\n@JsName("createCovariantKTypeProjection")\n\ninternal fun
createCovariantKTypeProjection(type: KType): KTypeProjection = \n
KTypeProjection.covariant(type)\n
\n\n@JsName("createInvariantKTypeProjection")\n\ninternal fun
createInvariantKTypeProjection(type: KType): KTypeProjection = \n
KTypeProjection.invariant(type)\n
\n\n@JsName("createContravariantKTypeProjection")\n\ninternal fun
createContravariantKTypeProjection(type: KType): KTypeProjection = \n
KTypeProjection.contravariant(type)\n
"/\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n
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can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.reflect.*\n\ninternal class KTypeImpl(\n
override val classifier: KClassifier,\n
override val arguments:
List<KTypeProjection>,\n
override val isMarkedNullable: Boolean)\n
: KType {\n
    override fun equals(other:
Any?): Boolean = \n
        other is KTypeImpl && \n
            classifier == other.classifier && arguments ==
other.arguments && isMarkedNullable == other.isMarkedNullable\n
\n
    override fun hashCode(): Int = \n
(classifier.hashCode() * 31 + arguments.hashCode()) * 31 + isMarkedNullable.hashCode()\n
\n
    override fun

```

```

toString(): String {
    val kClass = (classifier as? KClass<*>)
    val classifierName = when {
        kClass == null -> classifier.toString()
        kClass.simpleName != null -> kClass.simpleName
        else -> "(non-denotable type)"
    }
    val args = if (arguments.isEmpty()) "" else arguments.joinToString(", ", "<", ">")
    val nullable = if (isMarkedNullable) "?" else ""
    return classifierName + args + nullable
}

internal object DynamicKType : KType {
    override val classifier: KClassifier? = null
    override val arguments: List<KTypeProjection> = emptyList()
    override val isMarkedNullable: Boolean = false
    override fun toString(): String = "dynamic"
}

/*
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 */
package kotlin.reflect.js.internal

import kotlin.reflect.*
internal data class KTypeParameterImpl(
    override val name: String,
    override val upperBounds: List<KType>,
    override val variance: KVariance,
    override val isReified: Boolean
) : KTypeParameter {
    override fun toString(): String = name
}

/*
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 */
package kotlin.reflect.js.internal

import kotlin.js.JsClass
@JsName("PrimitiveClasses") internal object PrimitiveClasses {
    @JsName("anyClass") val anyClass = PrimitiveKClassImpl(js("Object").unsafeCast<JsClass<Any>>(), "Any", { it is Any })
    @JsName("numberClass") val numberClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Number>>(), "Number", { it is Number })
    @JsName("nothingClass") val nothingClass = NothingKClassImpl
    @JsName("booleanClass") val booleanClass = PrimitiveKClassImpl(js("Boolean").unsafeCast<JsClass<Boolean>>(), "Boolean", { it is Boolean })
    @JsName("byteClass") val byteClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Byte>>(), "Byte", { it is Byte })
    @JsName("shortClass") val shortClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Short>>(), "Short", { it is Short })
    @JsName("intClass") val intClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Int>>(), "Int", { it is Int })
    @JsName("floatClass") val floatClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Float>>(), "Float", { it is Float })
    @JsName("doubleClass") val doubleClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Double>>(), "Double", { it is Double })
    @JsName("arrayClass") val arrayClass = PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<Array<*>>>(), "Array", { it is Array<*> })
    @JsName("stringClass") val stringClass = PrimitiveKClassImpl(js("String").unsafeCast<JsClass<String>>(), "String", { it is String })
    @JsName("throwableClass") val throwableClass = PrimitiveKClassImpl(js("Error").unsafeCast<JsClass<Throwable>>(), "Throwable", { it is Throwable })
    @JsName("booleanArrayClass") val booleanArrayClass = PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<BooleanArray>>(), "BooleanArray", { it is BooleanArray })
    @JsName("charArrayClass") val charArrayClass = PrimitiveKClassImpl(js("Uint16Array").unsafeCast<JsClass<CharArray>>(), "CharArray", { it is CharArray })
    @JsName("byteArrayClass") val byteArrayClass = PrimitiveKClassImpl(js("Int8Array").unsafeCast<JsClass<ByteArray>>(), "ByteArray", { it is ByteArray })
    @JsName("shortArrayClass") val shortArrayClass = PrimitiveKClassImpl(js("Int16Array").unsafeCast<JsClass<ShortArray>>(), "ShortArray", { it is ShortArray })
    @JsName("intArrayClass") val intArrayClass = PrimitiveKClassImpl(js("Int32Array").unsafeCast<JsClass<IntArray>>(), "IntArray", { it is IntArray })
    @JsName("longArrayClass") val longArrayClass = PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<LongArray>>(), "LongArray", { it is LongArray })
    @JsName("floatArrayClass") val floatArrayClass =

```

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PrimitiveKClassImpl(js("Float32Array").unsafeCast<JsClass<FloatArray>>(), "FloatArray", { it is FloatArray
})\n\n @JsName("doubleArrayClass")\n val doubleArrayClass =
PrimitiveKClassImpl(js("Float64Array").unsafeCast<JsClass<DoubleArray>>(), "DoubleArray", { it is
DoubleArray })\n\n @JsName("functionClass")\n fun functionClass(arity: Int): KClassImpl<Any> {\n
return functionClasses.get(arity) ?: run {\n        val result =
PrimitiveKClassImpl(js("Function").unsafeCast<JsClass<Any>>(), "Function$arity",\n
    { jsTypeOf(it) === "function" && it.asDynamic().length === arity })\n        functionClasses.asDynamic()[arity]
= result\n        result\n    }\n
    }\n\nprivate val functionClasses = arrayOfNulls<KClassImpl<Any>>(0),"/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get
declarations directly under the module\n\nimport kotlin.reflect.*\nimport
kotlin.reflect.js.internal.*\n\n@JsName("getKClass")\ninternal fun <T : Any> getKClass(jClass: Any /*
JsClass<T> | Array<JsClass<T>> */): KClass<T> {\n    return if (js("Array").isArray(jClass)) {\n
getKClassM(jClass.unsafeCast<Array<JsClass<T>>>())\n    } else {\n
getKClass1(jClass.unsafeCast<JsClass<T>>())\n    }\n}\n\n@JsName("getKClassM")\ninternal fun <T : Any>
getKClassM(jClasses: Array<JsClass<T>>): KClass<T> = when (jClasses.size) {\n    1 ->
getKClass1(jClasses[0])\n    0 -> NothingKClassImpl.unsafeCast<KClass<T>>()\n    else ->
ErrorKClass().unsafeCast<KClass<T>>()\n}\n\n@JsName("getKClassFromExpression")\ninternal
fun <T : Any> getKClassFromExpression(e: T): KClass<T> =\n    when (jsTypeOf(e)) {\n        "string" ->
PrimitiveClasses.stringClass\n        "number" -> if (jsBitwiseOr(e, 0).asDynamic() === e)
PrimitiveClasses.intClass else PrimitiveClasses.doubleClass\n        "boolean" -> PrimitiveClasses.booleanClass\n
        "function" -> PrimitiveClasses.functionClass(e.asDynamic().length)\n        else -> {\n            when {\n                e
is BooleanArray -> PrimitiveClasses.booleanArrayClass\n                e is CharArray ->
PrimitiveClasses.charArrayClass\n                e is ByteArray -> PrimitiveClasses.byteArrayClass\n                e is
ShortArray -> PrimitiveClasses.shortArrayClass\n                e is IntArray -> PrimitiveClasses.intArrayClass\n
                e is LongArray -> PrimitiveClasses.longArrayClass\n                e is FloatArray ->
PrimitiveClasses.floatArrayClass\n                e is DoubleArray -> PrimitiveClasses.doubleArrayClass\n
                e is KClass<*> -> KClass::class\n                e is Array<*> -> PrimitiveClasses.arrayClass\n            }
else -> {\n                val constructor = js("Object").getPrototypeOf(e).constructor\n                when {\n
                    constructor === js("Object") -> PrimitiveClasses.anyClass\n                    constructor === js("Error") ->
PrimitiveClasses.throwableClass\n                    else -> {\n                        val jsClass: JsClass<T> =
constructor\n                        getKClass1(jsClass)\n                    }\n                }\n            }\n        }\n    }.unsafeCast<KClass<T>>()\n\n@JsName("getKClass1")\ninternal fun <T : Any> getKClass1(jClass:
JsClass<T>): KClass<T> {\n    if (jClass === js("String")) return
PrimitiveClasses.stringClass.unsafeCast<KClass<T>>()\n    val metadata = jClass.asDynamic().`$metadata$\n\n
return if (metadata
    != null) {\n        if (metadata.`$kClass$` == null) {\n            val kClass = SimpleKClassImpl(jClass)\n
metadata.`$kClass$` = kClass\n            kClass\n        } else {\n            metadata.`$kClass$`\n        }\n    } else {\n
SimpleKClassImpl(jClass)\n    }\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes the JavaScript [RegExp
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/RegExp) to Kotlin.\n
*/\n\n@Suppress("NOT_DOCUMENTED")\npublic external class RegExp(pattern: String, flags: String? =
definedExternally) {\n    public fun test(str: String): Boolean\n    public fun exec(str: String): RegExpMatch?\n\n
    public override fun toString(): String\n\n    /**\n     * The lastIndex is a read/write integer property
of regular expressions that specifies the index at which to start the next match.\n     */\n    public var lastIndex:
Int\n\n    public val global: Boolean\n    public val ignoreCase: Boolean\n    public val multiline:

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Boolean\n}\n\n/**\n * Resets the regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning of the input string.\n */\npublic fun RegExp.reset() {\n lastIndex = 0\n}\n\n/\n\n TODO: Inherit from array or introduce asArray() extension\n\n/**\n * Represents the return value of [RegExp.exec].\n */\n@Suppress(\\"NOT_DOCUMENTED\\")\npublic external interface RegExpMatch {\n public val index: Int\n public val input: String\n public val length: Int\n}\n\n/**\n * Returns the entire text matched by [RegExp.exec] if the [index] parameter is 0, or the text matched by the capturing parenthesis\n */\n * at the given index.\n */\npublic inline operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]\n}\n\n/**\n * Converts

the result of [RegExp.exec] to an array where the first element contains the entire matched text and each subsequent\n */\n * element is the text matched by each capturing parenthesis.\n */\npublic inline fun RegExpMatch.asArray(): Array<out String?> = unsafeCast<Array<out String?>>()\n}\n\n/\n\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n */\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.sequences\n\ninternal actual class ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>): Sequence<T> {\n private var sequenceRef: Sequence<T>? = sequence\n\n actual override fun iterator(): Iterator<T> {\n val sequence = sequenceRef ?: throw IllegalStateException(\\"This sequence can be consumed only once.\")\n sequenceRef = null\n return sequence.iterator()\n }\n}\n\n/\n\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming

Language contributors.\n */\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n@SinceKotlin("1.5")\npublic actual enum class CharCategory(internal val value: Int, public actual val code: String) {\n /**\n * General category \"Cn\" in the Unicode specification.\n */\n UNASSIGNED(0, \"Cn\"),\n /**\n * General category \"Lu\" in the Unicode specification.\n */\n UPPERCASE_LETTER(1, \"Lu\"),\n /**\n * General category \"Ll\" in the Unicode specification.\n */\n LOWERCASE_LETTER(2, \"Ll\"),\n /**\n * General category \"Lt\" in the Unicode specification.\n */\n TITLECASE_LETTER(3, \"Lt\"),\n /**\n * General category \"Lm\" in the Unicode specification.\n */\n MODIFIER_LETTER(4, \"Lm\"),\n /**\n * General category \"Lo\" in the Unicode specification.\n */\n OTHER_LETTER(5, \"Lo\"),\n /**\n * General category \"Mn\" in the Unicode specification.\n */\n NON_SPACING_MARK(6, \"Mn\"),\n /**\n * General category \"Me\" in the Unicode specification.\n */\n ENCLOSING_MARK(7, \"Me\"),\n /**\n * General category \"Ml\" in the Unicode specification.\n */\n LIGATURE(8, \"Ml\"),\n /**\n * General category \"Mc\" in the Unicode specification.\n */\n COMBINING_SPACING_MARK(9, \"Mc\"),\n /**\n * General category \"Nd\" in the Unicode specification.\n */\n DECIMAL_DIGIT_NUMBER(10, \"Nd\"),\n /**\n * General category \"Nl\" in the Unicode specification.\n */\n LETTER_NUMBER(11, \"Nl\"),\n /**\n * General category \"No\" in the Unicode specification.\n */\n OTHER_NUMBER(12, \"No\"),\n /**\n * General category \"Zs\" in the Unicode specification.\n */\n SPACE_SEPARATOR(13, \"Zs\"),\n /**\n * General category \"Zl\" in the Unicode specification.\n */\n LINE_SEPARATOR(14, \"Zl\"),\n /**\n * General category \"Zp\" in the Unicode specification.\n */\n PARAGRAPH_SEPARATOR(15, \"Zp\"),\n /**\n * General category \"Cc\" in the Unicode specification.\n */\n CONTROL(16, \"Cc\"),\n /**\n * General category \"Cf\" in the Unicode specification.\n */\n FORMAT(17, \"Cf\"),\n /**\n * General category \"Co\" in the Unicode specification.\n */\n PRIVATE_USE(18, \"Co\"),\n /**\n * General category \"Cs\" in the Unicode specification.\n */\n SURROGATE(19, \"Cs\"),\n /**\n * General category \"Pd\" in the Unicode specification.\n */\n DASH_PUNCTUATION(20, \"Pd\"),\n /**\n * General category \"Ps\" in the Unicode specification.\n */\n START_PUNCTUATION(21, \"Ps\"),\n /**\n * General category \"Pe\" in the Unicode specification.\n */\n END_PUNCTUATION(22, \"Pe\"),\n /**\n * General category \"Pc\" in the Unicode specification.\n */\n CONNECTOR_PUNCTUATION(23, \"Pc\"),\n /**\n * General category \"Po\" in the Unicode specification.\n */\n OTHER_PUNCTUATION(24, \"Po\"),\n /**\n * General category \"Sm\" in the Unicode specification.\n */\n MATH_SYMBOL(25, \"Sm\"),\n /**\n * General category \"Sc\" in the Unicode

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specification.\n *^n CURRENCY_SYMBOL(26, \"Sc\"),\n\n /**\n * General category \"Sk\" in the
Unicode specification.\n *^n MODIFIER_SYMBOL(27, \"Sk\"),\n\n /**\n * General category \"So\" in the
Unicode specification.\n *^n OTHER_SYMBOL(28, \"So\"),\n\n /**\n * General category \"Pi\" in the
Unicode specification.\n *^n INITIAL_QUOTE_PUNCTUATION(29, \"Pi\"),\n\n /**\n * General
category \"Pf\" in the Unicode specification.\n *^n FINAL_QUOTE_PUNCTUATION(30, \"Pf\");\n\n /**\n
* Returns `true` if [char] character belongs to this category.\n *^n public actual operator fun contains(char:
Char): Boolean = char.getCategoryValue() == this.value\n\n companion object {\n internal fun
valueOf(category: Int): CharCategory =\n when (category) {\n in 0..16 -> values()[category]\n
in 18..30 -> values()[category - 1]\n else -> throw IllegalArgumentException(\"Category #${category} is
not defined.\")\n }\n }\n\n\", \"*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *^n\npackage kotlin.text\n\n/**\n * The exception thrown when a character encoding
or decoding error occurs.\n *^n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n\npublic
actual open class CharacterCodingException(message: String?) : Exception(message) {\n actual constructor() :
this(null)\n\n\", \"*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^n\npackage kotlin.text\n\n/**\n * A mutable sequence of characters.\n
*\n * String builder can be used to efficiently perform multiple string manipulation operations.\n *^n\npublic actual
class StringBuilder actual constructor(content: String) : Appendable, CharSequence {\n /**\n * Constructs an
empty string builder with the specified initial [capacity].\n *^n * In Kotlin/JS implementation of StringBuilder
the initial capacity has no effect on the further performance of operations.\n *^n actual constructor(capacity:
Int) : this() {\n }\n\n /**\n * Constructs a string builder that contains the same characters as the specified [content]
char sequence.\n *^n actual constructor(content: CharSequence) : this(content.toString()) {\n }\n\n /**\n * Constructs an
empty string builder.\n *^n actual constructor() : this(\"\")\n\n private var string: String = if (content !===
undefined) content else \"\"\n\n actual override
val length: Int\n get() = string.asDynamic().length\n\n actual override fun get(index: Int): Char =\n
string.getOrNull(index) { throw IndexOutOfBoundsException(\"index: $index, length: $length\") }\n\n actual
override fun subSequence(startIndex: Int, endIndex: Int): CharSequence = string.substring(startIndex, endIndex)\n\n
actual override fun append(value: Char): StringBuilder {\n string += value\n return this\n }\n\n actual
override fun append(value: CharSequence?): StringBuilder {\n string += value.toString()\n return this\n
}\n\n actual override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder =\n
this.appendRange(value ?: \"null\", startIndex, endIndex)\n\n /**\n * Reverses the contents of this string builder
and returns this instance.\n *^n * Surrogate pairs included in this string builder are treated as single
characters.\n *^n * Therefore, the order of the high-low
surrogates is never reversed.\n *^n * Note that the reverse operation may produce new surrogate pairs that were
unpaired low-surrogates and high-surrogates before the operation.\n *^n * For example, reversing
\"\\uDC00\\uD800\" produces \"\\uD800\\uDC00\" which is a valid surrogate pair.\n *^n actual fun
reverse(): StringBuilder {\n var reversed = \"\"\n var index = string.length - 1\n while (index >= 0) {\n
val low = string[index--]\n if (low.isLowSurrogate() && index >= 0) {\n val high =
string[index--]\n if (high.isHighSurrogate()) {\n reversed = reversed + high + low\n }
else {\n reversed = reversed + low + high\n }\n } else {\n reversed += low\n
}\n }\n string = reversed\n return this\n }\n\n /**\n * Appends the string representation of the
specified object
[value] to this string builder and returns this instance.\n *^n * The overall effect is exactly as if the [value] were
converted to a string by the `value.toString()` method,\n *^n * and then that string was appended to this string
builder.\n *^n actual fun append(value: Any?): StringBuilder {\n string += value.toString()\n return
this\n }\n\n /**\n * Appends the string representation of the specified boolean [value] to this string builder and
returns this instance.\n *^n * The overall effect is exactly as if the [value] were converted to a string by the

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`value.toString()` method,\n    * and then that string was appended to this string builder.\n    */\n
@SinceKotlin("1.3")\n    actual fun append(value: Boolean): StringBuilder {\n        string += value\n        return this\n    }\n    /**\n     * Appends characters in the specified character array [value] to this string builder and returns this instance.\n     */\n    * Characters are appended in order, starting at the index 0.\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun append(value: CharArray): StringBuilder {\n        string += value.concatToString()\n        return this\n    }\n    @Deprecated("Provided for binary compatibility.", level = DeprecationLevel.HIDDEN)\n    fun append(value: String): StringBuilder = append(value)\n    /**\n     * Appends the specified string [value] to this string builder and returns this instance.\n     */\n    * If [value] is `null`, then the four characters `\\null\\` are appended.\n    */\n    @SinceKotlin("1.3")\n    actual fun append(value: String?): StringBuilder {\n        this.string += value ?: "\\null"\n        return this\n    }\n    /**\n     * Returns the current capacity of this string builder.\n     */\n    * The capacity is the maximum length this string builder can have before an allocation occurs.\n    */\n    * In Kotlin/JS implementation of StringBuilder the value returned from this method may not indicate the actual size of the backing storage.\n    */\n    @SinceKotlin("1.3")\n    // @ExperimentalStdlibApi\n    @Deprecated("Obtaining StringBuilder capacity is not supported in JS and common code.", level = DeprecationLevel.ERROR)\n    actual fun capacity(): Int = length\n    /**\n     * Ensures that the capacity of this string builder is at least equal to the specified [minimumCapacity].\n     */\n    * If the current capacity is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.\n    * Otherwise, this method takes no action and simply returns.\n    */\n    * In Kotlin/JS implementation of StringBuilder the size of the backing storage is not extended to comply the given [minimumCapacity],\n    * thus calling this method has no effect on the further performance of operations.\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun ensureCapacity(minimumCapacity: Int) {\n    }\n    /**\n     * Returns the index within this string builder of the first occurrence of the specified [string].\n     */\n    * Returns `-1` if the specified [string] does not occur in this string builder.\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun indexOf(string: String): Int = this.string.asDynamic().indexOf(string)\n    /**\n     * Returns the index within this string builder of the first occurrence of the specified [string],\n     */\n    * starting at the specified [startIndex].\n    * Returns `-1` if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun indexOf(string: String, startIndex: Int): Int = this.string.asDynamic().indexOf(string, startIndex)\n    /**\n     * Returns the index within this string builder of the last occurrence of the specified [string].\n     */\n    * The last occurrence of empty string `""` is considered to be at the index equal to `this.length`.\n    * Returns `-1` if the specified [string] does not occur in this string builder.\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun lastIndexOf(string: String): Int = this.string.asDynamic().lastIndexOf(string)\n    /**\n     * Returns the index within this string builder of the last occurrence of the specified [string],\n     */\n    * starting from the specified [startIndex] toward the beginning.\n    * Returns `-1` if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun lastIndexOf(string: String, startIndex: Int): Int {\n        if (string.isEmpty() && startIndex < 0) return -1\n        return this.string.asDynamic().lastIndexOf(string, startIndex)\n    }\n    /**\n     * Inserts the string representation of the specified boolean [value] into this string builder at the specified [index] and returns this instance.\n     */\n    * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n    * and then that string was inserted into this string builder at the specified [index].\n    * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n    */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: Boolean): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n        string = string.substring(0, index) + value +

```

```

string.substring(index)\n    return this\n    }\n\n /**\n * Inserts the specified character [value] into this string
builder at the specified [index] and
returns this instance.\n * \n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than
the length of this string builder.\n * ^\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: Char): StringBuilder {\n
    AbstractList.checkPositionIndex(index, length)\n\n    string = string.substring(0, index) + value +
string.substring(index)\n    return this\n    }\n\n /**\n * Inserts characters in the specified character array
[value] into this string builder at the specified [index] and returns this instance.\n * \n * The inserted characters
go in same order as in the [value] character array, starting at [index].\n * \n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n * ^\n
@SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value:
CharArray): StringBuilder {\n    AbstractList.checkPositionIndex(index, length)\n\n    string =
string.substring(0, index) + value.concatToString() + string.substring(index)\n    return this\n    }\n\n /**\n *
Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and
returns this instance.\n * \n * The inserted characters go in the same order as in the [value] character sequence,
starting at [index].\n * \n * @param index the position in this string builder to insert at.\n * @param value the
character sequence from which characters are inserted. If [value] is `null`, then the four characters `"\null"` are
inserted.\n * \n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n * ^\n @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: CharSequence?):
StringBuilder
{\n    AbstractList.checkPositionIndex(index, length)\n\n    string = string.substring(0, index) +
value.toString() + string.substring(index)\n    return this\n    }\n\n /**\n * Inserts the string representation of
the specified object [value] into this string builder at the specified [index] and returns this instance.\n * \n * The
overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then
that string was inserted into this string builder at the specified [index].\n * \n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n * ^\n
@SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value:
Any?): StringBuilder {\n    AbstractList.checkPositionIndex(index, length)\n\n    string = string.substring(0,
index) + value.toString() + string.substring(index)\n
return this\n    }\n\n @Deprecated("Provided for binary compatibility.", level =
DeprecationLevel.HIDDEN)\n    fun insert(index: Int, value: String): StringBuilder = insert(index, value)\n\n /**\n
* Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n * \n * If
[value] is `null`, then the four characters `"\null"` are inserted.\n * \n * @throws IndexOutOfBoundsException
if [index] is less than zero or greater than the length of this string builder.\n * ^\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: String?): StringBuilder
{\n    AbstractList.checkPositionIndex(index, length)\n\n    val toInsert = value ?: "\null"\n    this.string =
this.string.substring(0, index) + toInsert + this.string.substring(index)\n    return this\n    }\n\n /**\n * Sets
the length of this string builder to the specified [newLength].\n
*\n * If the [newLength] is less than the current length, it is changed to the specified [newLength].\n *
Otherwise, null characters '\u0000' are appended to this string builder until its length is less than the [newLength].\n
*\n * Note that in Kotlin/JS [set] operator function has non-constant execution time complexity.\n *
Therefore, increasing length of this string builder and then updating each character by index may slow down your
program.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less
than zero.\n * ^\n @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun
setLength(newLength: Int) {\n    if (newLength < 0) {\n        throw IllegalArgumentException("Negative new
length: $newLength.")\n    }\n\n    if (newLength <= length) {\n        string = string.substring(0,
newLength)\n    } else {\n        for (i in length

```



```

until newLength) {\n      string += "\u0000"\n    }\n  }\n  }\n  /**\n   * Returns a new [String]
that contains characters in this string builder at [startIndex] (inclusive) and up to the [length] (exclusive).\n   *\n
* @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of this string
builder.\n   *\n   @SinceKotlin("1.4")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   actual fun
substring(startIndex: Int): String {\n    AbstractList.checkPositionIndex(startIndex, length)\n    return
string.substring(startIndex)\n  }\n  /**\n   * Returns a new [String] that contains characters in this string builder
at [startIndex] (inclusive) and up to the [endIndex] (exclusive).\n   *\n   * @throws IndexOutOfBoundsException
or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when
`startIndex > endIndex`.\n   *\n   @SinceKotlin("1.4")\n
   @WasExperimental(ExperimentalStdlibApi::class)\n   actual fun substring(startIndex: Int, endIndex: Int): String
{\n    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n    return string.substring(startIndex,
endIndex)\n  }\n  /**\n   * Attempts to reduce storage used for this string builder.\n   *\n   * If the backing
storage of this string builder is larger than necessary to hold its current contents,\n   * then it may be resized to
become more space efficient.\n   * Calling this method may, but is not required to, affect the value of the [capacity]
property.\n   *\n   * In Kotlin/JS implementation of StringBuilder the size of the backing storage is always equal
to the length of the string builder.\n   *\n   @SinceKotlin("1.4")\n
   @WasExperimental(ExperimentalStdlibApi::class)\n   actual fun trimToSize() {\n  }\n  override fun toString():
String = string\n  /**\n   * Clears the content of this string
builder making it empty and returns this instance.\n   *\n   * @sample samples.text.Strings.clearStringBuilder\n
*\n   @SinceKotlin("1.3")\n   public fun clear(): StringBuilder {\n    string = ""\n    return this\n  }\n
  /**\n   * Sets the character at the specified [index] to the specified [value].\n   *\n   * @throws
IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n   *\n   @SinceKotlin("1.4")\n
   @WasExperimental(ExperimentalStdlibApi::class)\n   public operator fun set(index: Int, value: Char) {\n
AbstractList.checkElementIndex(index, length)\n    string = string.substring(0, index) + value +
string.substring(index + 1)\n  }\n  /**\n   * Replaces characters in the specified range of this string builder with
characters in the specified string [value] and returns this instance.\n   *\n   * @param startIndex the beginning
(inclusive) of the range to replace.\n   * @param endIndex
the end (exclusive) of the range to replace.\n   * @param value the string to replace with.\n   *\n   * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length
of this string builder, or `startIndex > endIndex`.\n   *\n   @SinceKotlin("1.4")\n
   @WasExperimental(ExperimentalStdlibApi::class)\n   public fun setRange(startIndex: Int, endIndex: Int, value:
String): StringBuilder {\n    checkReplaceRange(startIndex, endIndex, length)\n    this.string =
this.string.substring(0, startIndex) + value + this.string.substring(endIndex)\n    return this\n  }\n  private fun
checkReplaceRange(startIndex: Int, endIndex: Int, length: Int) {\n    if (startIndex < 0 || startIndex > length) {\n
    throw IndexOutOfBoundsException("startIndex: $startIndex, length: $length")\n    }\n    if (startIndex >
endIndex) {\n    throw IllegalArgumentException("startIndex($startIndex) >
endIndex($endIndex)")\n    }\n  }\n  /**\n   * Removes the character at the specified [index] from this
string builder and returns this instance.\n   *\n   * If the `Char` at the specified [index] is part of a supplementary
code point, this method does not remove the entire supplementary character.\n   *\n   * @param index the index of
`Char` to remove.\n   *\n   * @throws IndexOutOfBoundsException if [index] is out of bounds of this string
builder.\n   *\n   @SinceKotlin("1.4")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   public fun
deleteAt(index: Int): StringBuilder {\n    AbstractList.checkElementIndex(index, length)\n    string =
string.substring(0, index) + string.substring(index + 1)\n    return this\n  }\n  /**\n   * Removes characters in
the specified range from this string builder and returns this instance.\n   *\n   * @param startIndex the beginning
(inclusive) of the range to remove.\n   * @param endIndex
the end (exclusive) of the range to remove.\n   *\n   * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex >
endIndex`.\n   *\n   @SinceKotlin("1.4")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   public fun

```

```

deleteRange(startIndex: Int, endIndex: Int): StringBuilder {\n
    checkReplaceRange(startIndex, endIndex,
length)\n\n
    string = string.substring(0, startIndex) + string.substring(endIndex)\n
    return this\n
}\n\n
/**\n
 * Copies characters from this string builder into the [destination] character array.\n
 * \n
 * @param
destination the array to copy to.\n
 * @param destinationOffset the position in the array to copy to, 0 by default.\n
 * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n
 * @param endIndex the end
(exclusive) of the range to copy, length of this string builder by default.\n
 * \n
 * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is
out of range of this string builder indices or when `startIndex > endIndex`.\n
 * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n
 * or when that index is out of the [destination] array indices range.\n
 */\n
@SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
public fun
toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) {\n
    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n
AbstractList.checkBoundsIndexes(destinationOffset, destinationOffset + endIndex - startIndex, destination.size)\n\n
    var dstIndex = destinationOffset\n
    for (index in startIndex until endIndex) {\n
        destination[dstIndex++]
= string[index]\n
    }\n
}\n\n
/**\n
 * Appends characters in a subarray of the specified character array [value] to this string builder and returns this
instance.\n
 * \n
 * Characters are appended in order, starting at specified [startIndex].\n
 * \n
 * @param value
the array from which characters are appended.\n
 * @param startIndex the beginning (inclusive) of the subarray to
append.\n
 * @param endIndex the end (exclusive) of the subarray to append.\n
 * \n
 * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] array indices or when `startIndex > endIndex`.\n
 * \n
 * @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
public fun appendRange(value: CharArray, startIndex: Int,
endIndex: Int): StringBuilder {\n
    string += value.concatToString(startIndex, endIndex)\n
    return this\n
}\n\n
/**\n
 * Appends a subsequence of the specified character sequence [value] to this
string builder and returns this instance.\n
 * \n
 * @param value the character sequence from which a
subsequence is appended.\n
 * @param startIndex the beginning (inclusive) of the subsequence to append.\n
 * @param endIndex the end (exclusive) of the subsequence to append.\n
 * \n
 * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.\n
 * \n
 * @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
public fun appendRange(value: CharSequence, startIndex:
Int, endIndex: Int): StringBuilder {\n
    val stringCsq = value.toString()\n
AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n\n
    string +=
stringCsq.substring(startIndex, endIndex)\n
    return this\n
}\n\n
/**\n
 * Inserts characters in a subarray of
the specified character array [value] into this string
builder at the specified [index] and returns this instance.\n
 * \n
 * The inserted characters go in same order as in
the [value] array, starting at [index].\n
 * \n
 * @param index the position in this string builder to insert at.\n
 * @param value the array from which characters are inserted.\n
 * @param startIndex the beginning (inclusive) of
the subarray to insert.\n
 * @param endIndex the end (exclusive) of the subarray to insert.\n
 * \n
 * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] array indices or when `startIndex > endIndex`.\n
 * @throws IndexOutOfBoundsException if [index] is
less than zero or greater than the length of this string builder.\n
 * \n
 * @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
public fun insertRange(index: Int, value: CharArray,
startIndex: Int, endIndex: Int): StringBuilder {\n
    AbstractList.checkPositionIndex(index,
this.length)\n\n
    string = string.substring(0, index) + value.concatToString(startIndex, endIndex) +
string.substring(index)\n
    return this\n
}\n\n
/**\n
 * Inserts characters in a subsequence of the specified
character sequence [value] into this string builder at the specified [index] and returns this instance.\n
 * \n
 * The
inserted characters go in the same order as in the [value] character sequence, starting at [index].\n
 * \n
 *

```

@param index the position in this string builder to insert at.\n * @param value the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning (inclusive) of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n * @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n val stringCsq = value.toString()\n AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n string = string.substring(0, index) + stringCsq.substring(startIndex, endIndex) + string.substring(index)\n return this\n }\n}\n\n/**\n * Clears the content of this string builder making it empty and returns this instance.\n * @sample samples.text.Strings.clearStringBuilder\n */\n@SinceKotlin("1.3")\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.clear(): StringBuilder = this.clear()\n\n/**\n * Sets the character at the specified [index] to the specified [value].\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline operator fun StringBuilder.set(index: Int, value: Char) = this.set(index, value)\n\n/**\n * Replaces characters in the specified range of this string builder with characters in the specified string [value] and returns this instance.\n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param value the string to replace with.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder = this.setRange(startIndex, endIndex, value)\n\n/**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.\n * @param index the index of `Char` to remove.\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.deleteAt(index: Int): StringBuilder = this.deleteAt(index)\n\n/**\n * Removes characters in the specified range from this string builder and returns this instance.\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder = this.deleteRange(startIndex, endIndex)\n\n/**\n * Copies characters from this string builder into the [destination] character array.\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n * @throws

IndexOutOfBoundsException

or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.
.* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],.* or when that index is out of the [destination] array indices range.

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA  
DOWED_BY_MEMBER", "NOTHING_TO_INLINE",
```

```
"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun
```

```
StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =  
this.length) =\n this.toCharArray(destination, destinationOffset, startIndex, endIndex)\n\n/**\n * Appends  
characters in a subarray of the specified character array [value] to this string builder and returns this instance.\n *\n * Characters are appended in order, starting at specified [startIndex].
```

```
\n *\n * @param value the array from which characters are appended.\n * @param startIndex the beginning  
(inclusive) of the subarray to append.\n * @param endIndex the end (exclusive) of the subarray to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of  
range of the [value] array indices or when `startIndex > endIndex`.
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA  
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
```

```
StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\n
```

```
this.appendRange(value, startIndex, endIndex)\n\n/**\n * Appends a subsequence of the specified character  
sequence [value] to this string builder and returns this instance.\n *\n * @param value the character sequence from  
which a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws
```

```
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the  
[value] character sequence indices or when `startIndex > endIndex`.
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA  
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
```

```
StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\n
```

```
this.appendRange(value, startIndex, endIndex)\n\n/**\n * Inserts characters in a subarray of the specified character  
array [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters  
go in same order as in the [value] array, starting at [index].\n *\n * @param index the position in this string builder  
to insert at.\n * @param value the array from which characters are inserted.\n * @param startIndex the  
beginning (inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of the subarray to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out  
of range of the [value] array indices or when `startIndex > endIndex`.\n *\n * @throws IndexOutOfBoundsException if  
[index] is less than zero or greater than the length of this string builder.
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA  
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
```

```
StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\n
```

```
this.insertRange(index, value, startIndex, endIndex)\n\n/**\n * Inserts characters in a subsequence of the specified  
character sequence [value] into this string builder at the specified [index] and returns this instance.\n *\n * The  
inserted characters go in the same order as in the [value] character  
sequence, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value  
the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning (inclusive) of the  
subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n *\n * @throws  
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the  
[value] character sequence indices or when `startIndex > endIndex`.\n *\n * @throws IndexOutOfBoundsException if  
[index] is less than zero or greater than the length of this string builder.
```

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*\/n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\n
this.insertRange(index, value, startIndex, endIndex)\n", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\/n\npackage kotlin.text\n\n/**\n *
Returns `true` if the content of this string is equal to the word `true`, ignoring case, and `false` otherwise.\n
*\/n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
warning.")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\n@kotlin.internal.InlineOnly\npublic actual inline
fun String.toBoolean(): Boolean = this.toBoolean()\n\n/**\n * Returns `true` if this string is not `null` and its content
is equal to the word `true`, ignoring case, and `false` otherwise.\n *\/n * There are also strict versions of the
function available on non-nullable String, [toBooleanStrict] and [toBooleanStrictOrNull].\n
*\/n@SinceKotlin("1.4")\npublic actual fun String?.toBoolean(): Boolean = this != null && this.lowercase() ==
`true`\n\n/**\n * Parses the string as
a signed [Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n *\/npublic actual fun String.toByte(): Byte = toByteOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n *\/npublic actual fun
String.toByte(radix: Int): Byte = toByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a
[Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n *\/npublic actual fun String.toShort(): Short = toShortOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid
representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to
number conversion.\n *\/npublic actual fun String.toShort(radix: Int): Short = toShortOrNull(radix) ?:
numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n *\/npublic actual fun
String.toInt(): Int = toIntOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n *\/npublic
actual fun String.toInt(radix: Int): Int = toIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string
as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation
of a number.\n *\/npublic actual fun String.toLong(): Long = toLongOrNull() ?: numberFormatError(this)\n\n/**\n *
Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is
not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for
string to number conversion.\n *\/npublic actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Double] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n *\/npublic actual fun
String.toDouble(): Double = +(this.asDynamic()).unsafeCast<Double>().also { \n    if (it.isNaN() && !this.isNaN())
|| it == 0.0 && this.isBlank())\n        numberFormatError(this)\n}\n\n/**\n * Parses the string as a [Float] number
and returns the result.\n * @throws NumberFormatException if the string is not a valid representation
of a number.\n *\/n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloat(): Float =
toDouble().unsafeCast<Float>()\n\n/**\n * Parses the string as a [Double] number and returns the result\n * or `null`
if the string is not a valid representation of a number.\n *\/npublic actual fun String.toDoubleOrNull(): Double? =
+(this.asDynamic()).unsafeCast<Double>().takeIf { \n    !it.isNaN() && !this.isNaN() || it == 0.0 &&
this.isBlank()\n}\n\n/**\n * Parses the string as a [Float] number and returns the result\n * or `null` if the string is

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not a valid representation of a number.\n *\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.toFloatOrNull(): Float? = toDoubleOrNull().unsafeCast<Float?>()\n\n/**\n * Returns a string representation
of this [Byte] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n *\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic
actual inline fun Byte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string
representation of this [Short] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Short.toString(radix: Int): String =
this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Int] value in the specified [radix].\n *\n
* @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.2")\npublic actual fun Int.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\n\nprivate fun String.isNaN(): Boolean = when (this.lowercase()) {\n
"nan", "+nan", "-nan" -> true\n else -> false\n}\n\n/**\n * Checks whether the given [radix] is valid radix for
string to number and number to string conversion.\n *\n@PublishedApi\ninternal
actual fun checkRadix(radix: Int): Int {\n if (radix !in 2..36) {\n throw IllegalArgumentException("radix
$radix was not in valid range 2..36")\n } \n return radix\n}\n\ninternal actual fun digitOf(char: Char, radix: Int):
Int = when {\n char >= '0' && char <= '9' -> char - '0'\n char >= 'A' && char <= 'Z' -> char - 'A' + 10\n char >=
'a' && char <= 'z' -> char - 'a' + 10\n char < "\u0080" -> -1\n char >= "\uFF21" && char <= "\uFF3A" -> char -
"\uFF21" + 10 // full-width latin capital letter\n char >= "\uFF41" && char <= "\uFF5A" -> char - "\uFF41" + 10 //
full-width latin small letter\n else -> char.digitToIntImpl()\n}.let { if (it >= radix) -1 else it }\n", "\n" * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\npackage kotlin.text\n\nimport
kotlin.js.RegExp\n\n/**\n
* Provides enumeration values to use to set regular expression options.\n *\npublic actual enum class
RegexOption(val value: String) {\n /** Enables case-insensitive matching. *\n IGNORE_CASE("i"),\n /**
Enables multiline mode.\n *\n * In multiline mode the expressions `^` and `$` match just after or just before,\n
* respectively, a line terminator or the end of the input sequence. *\n MULTILINE("m")\n}\n\nprivate fun
Iterable<RegexOption>.toFlags(prepend: String): String = joinToString("\n", prefix = prepend) { it.value
}\n\n/**\n * Represents the results from a single capturing group within a [MatchResult] of [Regex].\n *\n *
@param value The value of captured group.\n *\npublic actual data class MatchGroup(actual val value:
String)\n\n/**\n * Returns a named group with the specified [name].\n *\n * @return An instance of
[MatchGroup] if the group with the specified [name] was matched or `null` otherwise.\n * @throws
IllegalArgumentException
if there is no group with the specified [name] defined in the regex pattern.\n * @throws
UnsupportedOperationException if this match group collection doesn't support getting match groups by name,\n *
for example, when it's not supported by the current platform.\n *\n@SinceKotlin("1.7")\npublic operator fun
MatchGroupCollection.get(name: String): MatchGroup? {\n val namedGroups = this as?
MatchNamedGroupCollection\n ?: throw UnsupportedOperationException("Retrieving groups by name is not
supported on this platform.")\n return namedGroups[name]\n}\n\n/**\n * Represents a compiled regular
expression.\n * Provides functions to match strings in text with a pattern, replace the found occurrences and split
text around matches.\n *\n * For pattern syntax reference see [MDN RegExp](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp#Special_characters_meaning_in_regular_expressions)\n
*\n * and
[http://www.w3schools.com/jsref/jsref_obj_regexp.asp](https://www.w3schools.com/jsref/jsref_obj_regexp.asp).\n
*\n * Note that `RegExp` objects under the hood are constructed with [the `u`
flag](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp/unicode)\n * that
enables Unicode-related features in regular expressions. This also makes the pattern syntax more strict,\n * for
example, prohibiting unnecessary escape sequences.\n *\n * @constructor Creates a regular expression from the

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specified [pattern] string and the specified set of [options].\n */\npublic actual class Regex actual
constructor(pattern: String, options: Set<RegexOption>) {\n\n    /** Creates a regular expression from the specified
[pattern] string and the specified single [option]. */\n    public actual constructor(pattern: String, option:
RegexOption) : this(pattern, setOf(option))\n\n    /** Creates a regular expression from the specified [pattern] string
and the default options. */\n    public actual constructor(pattern:
String) : this(pattern, emptySet())\n\n\n    /** The pattern string of this regular expression. */\n    public actual val
pattern: String = pattern\n\n    /** The set of options that were used to create this regular expression. */\n    public
actual val options: Set<RegexOption> = options.toSet()\n\n    private val nativePattern: RegExp = RegExp(pattern,
options.toFlags("\gu"))\n\n    private var nativeStickyPattern: RegExp? = null\n\n    private fun initStickyPattern():
RegExp =\n        nativeStickyPattern ?: RegExp(pattern, options.toFlags("\yu")).also { nativeStickyPattern = it }\n\n\n    private var nativeMatchesEntirePattern: RegExp? = null\n\n    private fun initMatchesEntirePattern(): RegExp =\n        nativeMatchesEntirePattern ?: run {\n            if (pattern.startsWith('^') && pattern.endsWith('$'))\n                nativePattern\n            else\n                return RegExp("\^${pattern.trimStart('^').trimEnd('$')}\$"),
options.toFlags("\gu"))\n        }.also { nativeMatchesEntirePattern
= it }\n\n\n    /** Indicates whether the regular expression matches the entire [input]. */\n    public actual infix fun
matches(input: CharSequence): Boolean {\n        nativePattern.reset()\n        val match =
nativePattern.exec(input.toString())\n        return match != null && match.index == 0 && nativePattern.lastIndex ==
input.length\n    }\n\n\n    /** Indicates whether the regular expression can find at least one match in the specified
[input]. */\n    public actual fun containsMatchIn(input: CharSequence): Boolean {\n        nativePattern.reset()\n
return nativePattern.test(input.toString())\n    }\n\n\n    @SinceKotlin("1.7")\n\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public actual fun matchesAt(input: CharSequence, index:
Int): Boolean {\n        if (index < 0 || index > input.length) {\n            throw IndexOutOfBoundsException("\index
out of bounds: $index, input length: ${input.length}")\n        }\n        val pattern = initStickyPattern()\n
        pattern.lastIndex = index\n        return pattern.test(input.toString())\n    }\n\n\n    /**\n     * Returns the first match
of a regular expression in the [input], beginning at the specified [startIndex].\n     *\n     * @param startIndex An
index to start search with, by default 0. Must be not less than zero and not greater than `input.length()`\n     *
@return An instance of [MatchResult] if match was found or `null` otherwise.\n     * @throws
IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of the [input] char
sequence.\n     * @sample samples.text.Regexps.find\n     */\n\n    @Suppress("\ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n    public actual fun find(input:
CharSequence, startIndex: Int = 0): MatchResult? {\n        if (startIndex < 0 || startIndex > input.length) {\n
            throw IndexOutOfBoundsException("\Start index out of bounds: $startIndex, input length: ${input.length}")\n
        }\n        return nativePattern.findNext(input.toString(),
startIndex, nativePattern)\n    }\n\n\n    /**\n     * Returns a sequence of all occurrences of a regular expression within
the [input] string, beginning at the specified [startIndex].\n     *\n     * @throws IndexOutOfBoundsException if
[startIndex] is less than zero or greater than the length of the [input] char sequence.\n     *\n     * @sample
samples.text.Regexps.findAll\n     */\n\n    @Suppress("\ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n    public actual fun findAll(input:
CharSequence, startIndex: Int = 0): Sequence<MatchResult> {\n        if (startIndex < 0 || startIndex > input.length)
{\n            throw IndexOutOfBoundsException("\Start index out of bounds: $startIndex, input length:
${input.length}")\n        }\n        return generateSequence({ find(input, startIndex) }, { match -> match.next() })\n
    }\n\n\n    /**\n     * Attempts to match the entire [input] CharSequence against the pattern.\n     *\n     * @return An
instance of [MatchResult] if the
entire input matches or `null` otherwise.\n     */\n    public actual fun matchEntire(input: CharSequence):
MatchResult? =\n        initMatchesEntirePattern().findNext(input.toString(), 0, nativePattern)\n\n\n    @SinceKotlin("1.7")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public actual fun matchAt(input:
CharSequence, index: Int): MatchResult? {\n        if (index < 0 || index > input.length) {\n            throw
IndexOutOfBoundsException("\index out of bounds: $index, input length: ${input.length}")\n        }\n        return

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initStickyPattern().findNext(input.toString(), index, nativePattern)\n }
\n\n /**
 * Replaces all occurrences
of this regular expression in the specified [input] string with specified [replacement] expression.
 * The
replacement string may contain references to the captured groups during a match. Occurrences of `${name}` or
`$index`
 * in the replacement string will be substituted with the subsequences corresponding
to the captured groups with the specified name or index.
 * In case of `$index`, the first digit after '$' is always
treated as a part of group reference. Subsequent digits are incorporated
 * into `index` only if they would form a
valid group reference. Only the digits '0'..'9' are considered as potential components
 * of the group reference.
Note that indexes of captured groups start from 1, and the group with index 0 is the whole match.
 * In case of
`${name}`, the `name` can consist of latin letters 'a'..'z' and 'A'..'Z', or digits '0'..'9'. The first character must be
 *
a letter.
 * Backslash character '\\' can be used to include the succeeding character as a literal in the
replacement string, e.g. `\\$` or `\\\\`.
 * [Regex.escapeReplacement] can be used if [replacement] have to be
treated as a literal string.
 * @param input the char sequence to find matches of this regular expression
in
 * @param replacement the expression
to replace found matches with
 * @return the result of replacing each occurrence of this regular expression in
[input] with the result of evaluating the [replacement] expression
 * @throws RuntimeException if
[replacement] expression is malformed, or capturing group with specified `name` or `index` does not exist
 */
public actual fun replace(input: CharSequence, replacement: String): String {
    if (!replacement.contains("\\\\")
    && !replacement.contains('$')) {
        return input.toString().nativeReplace(nativePattern, replacement)
    }
    return replace(input) { substituteGroupRefs(it, replacement) }
\n\n /**
 * Replaces all
occurrences of this regular expression in the specified [input] string with the result of
 * the given function
[transform] that takes [MatchResult] and returns a string to be used as a
 * replacement for that match.
 */
public actual fun replace(input: CharSequence, transform:
(MatchResult) -> CharSequence): String {
    var match = find(input)
    if (match == null) return
input.toString()
    var lastStart = 0
    val length = input.length
    val sb = StringBuilder(length)
do {
    val foundMatch = match!!
    sb.append(input, lastStart, foundMatch.range.start)
sb.append(transform(foundMatch))
    lastStart = foundMatch.range.endInclusive + 1
    match =
foundMatch.next()
} while (lastStart < length && match != null)
    if (lastStart < length) {
sb.append(input, lastStart, length)
    }
    return sb.toString()
\n\n /**
 * Replaces the first
occurrence of this regular expression in the specified [input] string with specified [replacement] expression.
 * The
replacement string may contain references to the captured groups during a match. Occurrences of `${name}`
 * or `$index`
 * in the replacement string
will be substituted with the subsequences corresponding to the captured groups with the specified name or index.
 * In case of `$index`, the first digit after '$' is always treated as a part of group reference. Subsequent digits are
incorporated
 * into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered
as potential components
 * of the group reference. Note that indexes of captured groups start from 1, and the
group with index 0 is the whole match.
 * In case of `${name}`, the `name` can consist of latin letters 'a'..'z' and
'A'..'Z', or digits '0'..'9'. The first character must be
 * a letter.
 * Backslash character '\\' can be used to
include the succeeding character as a literal in the replacement string, e.g. `\\$` or `\\\\`.
 *
[Regex.escapeReplacement] can be used if [replacement] have to be treated as a literal string.
 * @param
input the char sequence to find a match of
this regular expression in
 * @param replacement the expression to replace the found match with
 * @return
the result of replacing the first occurrence of this regular expression in [input] with the result of evaluating the
[replacement] expression
 * @throws RuntimeException if [replacement] expression is malformed, or capturing
group with specified `name` or `index` does not exist
 */
public actual fun replaceFirst(input: CharSequence,
replacement: String): String {
    if (!replacement.contains("\\\\") && !replacement.contains('$')) {
        val
nonGlobalOptions = options.toFlags("\\u")
        return input.toString().nativeReplace(RegExp(pattern,
nonGlobalOptions), replacement)
    }
    val match = find(input) ?: return input.toString()
    return
buildString {
        append(input.substring(0, match.range.first))
        append(substituteGroupRefs(match,

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replacement))\n      append(input.substring(match.range.last
+ 1, input.length))\n    }\n  }\n\n  /**\n   * Splits the [input] CharSequence to a list of strings around matches
of this regular expression.\n   *\n   * @param limit Non-negative value specifying the maximum number of
substrings the string can be split to.\n   * Zero by default means no limit is set.\n   */\n  @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n  public actual fun split(input:
CharSequence, limit: Int = 0): List<String> {\n    requireNonNegativeLimit(limit)\n    val matches =
findAll(input).let { if (limit == 0) it else it.take(limit - 1) }\n    val result = mutableListOf<String>()\n    var
lastStart = 0\n    for (match in matches) {\n      result.add(input.subSequence(lastStart,
match.range.start).toString())\n      lastStart = match.range.endInclusive + 1\n    }\n    result.add(input.subSequence(lastStart, input.length).toString())\n    return result\n  }\n\n  /**\n   * Splits the
[input] CharSequence to a sequence of strings around matches of this regular expression.\n   *\n   * @param limit
Non-negative value specifying the maximum number of substrings the string can be split to.\n   * Zero by default
means no limit is set.\n   * @sample samples.text.Regexps.splitToSequence\n   */\n  @SinceKotlin("1.6")\n  @WasExperimental(ExperimentalStdlibApi::class)\n  @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n  public actual fun
splitToSequence(input: CharSequence, limit: Int = 0): Sequence<String> {\n
requireNonNegativeLimit(limit)\n    return sequence {\n      var match = find(input)\n      if (match ==
null || limit == 1) {\n        yield(input.toString())\n        return@sequence\n      }\n      var
nextStart = 0\n      var splitCount = 0\n      do {\n        val foundMatch = match!!\n        yield(input.substring(nextStart, foundMatch.range.first))\n
        nextStart = foundMatch.range.endInclusive + 1\n        match = foundMatch.next()\n      } while
(++splitCount != limit - 1 && match != null)\n      yield(input.substring(nextStart, input.length))\n    }\n  }\n\n  /**\n   * Returns the string representation of this regular expression, namely the [pattern] of this regular
expression.\n   *\n   * Note that another regular expression constructed from the same pattern string may have
different [options]\n   * and may match strings differently.\n   */\n  public override fun toString(): String =
nativePattern.toString()\n\n  actual companion object {\n    /**\n     * Returns a regular expression that
matches the specified [literal] string literally.\n     * No characters of that string will have special meaning when
searching for an occurrence of the regular expression.\n     */\n    public actual fun fromLiteral(literal: String):
Regex = Regex(escape(literal))\n\n    /**\n     * Returns a regular expression pattern string that matches the specified [literal] string literally.\n     * No characters of that string will have special meaning when searching for an occurrence of the regular
expression.\n     */\n    public actual fun escape(literal: String): String = literal.nativeReplace(patternEscape,
"\\\\\\\$&\\")\n\n    /**\n     * Returns a literal replacement expression for the specified [literal] string.\n     * No
characters of that string will have special meaning when it is used as a replacement string in [Regex.replace]
function.\n     */\n    public actual fun escapeReplacement(literal: String): String =
literal.nativeReplace(replacementEscape, "\\\\\\\$&\\")\n\n    private val patternEscape =
Regex("\\\\|\\\\\\\$|\\\\\\\\")\n    private val replacementEscape = Regex("\\\\|\\\\\\\$|\\\\\\\\",
"\\\\g")\n\n    internal fun nativeEscapeReplacement(literal: String): String =
literal.nativeReplace(nativeReplacementEscape,
"\\\\\\\\\\\\\\\\")\n    private val nativeReplacementEscape = Regex("\\\\|\\\\\\\$|\\\\\\\\",
"\\\\g")\n  }\n\n  private fun
Regex.findNext(input: String, from: Int, nextPattern: Regex): MatchResult? {\n    this.lastIndex = from\n    val
match = exec(input)\n    if (match == null) return null\n    val range = match.index..lastIndex - 1\n    return object :
MatchResult {\n      override val range: IntRange = range\n      override val value: String\n        get() =
match[0]!!\n      override val groups: MatchGroupCollection = object : MatchNamedGroupCollection,
AbstractCollection<MatchGroup?>() {\n        override val size: Int get() = match.length\n        override fun
iterator(): Iterator<MatchGroup?> = indices.asSequence().map { this[it] }.iterator()\n        override fun get(index:
Int): MatchGroup? = match[index]?.let { MatchGroup(it) }\n        override fun get(name: String): MatchGroup?
{\n          // An object

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of named capturing groups whose keys are the names and values are the capturing groups\n      // or undefined
if no named capturing groups were defined.\n      val groups = match.asDynamic().groups\n      ?:
throw IllegalArgumentException("\Capturing group with name {$name} does not exist. No named capturing group
was defined in Regex")\n      // If the match was successful but the group specified failed to match any part
of the input sequence,\n      // the associated value is 'undefined'. Value for a non-existent key is also
'undefined'. Thus, explicitly check if the key exists.\n      if (!hasOwnProperty(groups, name))\n      throw IllegalArgumentException("\Capturing group with name {$name} does not exist")\n      val
value = groups[name]\n      return if (value == undefined) null else MatchGroup(value as String)\n      }\n
}\n\n    private fun hasOwnProperty(o:
Any?, name: String): Boolean {\n      return js("Object").prototype.hasOwnProperty.call(o,
name).unsafeCast<Boolean>()\n    }\n\n    private var groupValues_: List<String>? = null\n    override
val groupValues: List<String>\n      get() {\n      if (groupValues_ == null) {\n      groupValues_ =
object : AbstractList<String>() {\n      override val size: Int get() = match.length\n      override
fun get(index: Int): String = match[index] ?: ""\n      }\n      }\n      return groupValues_!!\n    }
}\n\n    override fun next(): MatchResult? =\n      nextPattern.findNext(input, if (range.isEmpty())
advanceToNextCharacter(range.start) else range.endInclusive + 1, nextPattern)\n\n    private fun
advanceToNextCharacter(index: Int): Int {\n      if (index < input.lastIndex) {\n      val code1 =
input.asDynamic().charCodeAt(index).unsafeCast<Int>()\n      if (code1 in 0xD800..0xDBFF) {\n      val code2 = input.asDynamic().charCodeAt(index +
1).unsafeCast<Int>()\n      if (code2 in 0xDC00..0xDFFF) {\n      return index + 2\n      }\n      }\n      return index + 1\n    }\n  }\n}\n\n// The same code from K/N
Regex.kt\nprivate fun substituteGroupRefs(match: MatchResult, replacement: String): String {\n  var index = 0\n
val result = StringBuilder()\n  while (index < replacement.length) {\n    val char = replacement[index++]\n
if (char == "\\") {\n    if (index == replacement.length)\n      throw IllegalArgumentException("\The Char
to be escaped is missing")\n    result.append(replacement[index++])\n    } else if (char == '$') {\n    if
(index == replacement.length)\n      throw IllegalArgumentException("\Capturing group index
is missing")\n    if (replacement[index] == '{') {\n    val endIndex =
replacement.readGroupName(++index)\n    if (index == endIndex)\n      throw
IllegalArgumentException("\Named capturing group reference should have a non-empty name")\n    if
(endIndex == replacement.length || replacement[endIndex] != '}')\n      throw
IllegalArgumentException("\Named capturing group reference is missing trailing '}")\n    val groupName
= replacement.substring(index, endIndex)\n    result.append(match.groups[groupName]?.value ?: "")\n
    index = endIndex + 1 // skip past '{'\n    } else {\n    if (replacement[index] !in '0'..'9')\n
throw IllegalArgumentException("\Invalid capturing group reference")\n    val groups = match.groups\n
    val endIndex = replacement.readGroupIndex(index, groups.size)\n
    val groupIndex = replacement.substring(index, endIndex).toInt()\n    if (groupIndex >= groups.size)\n
throw IndexOutOfBoundsException("\Group with index $groupIndex does not exist")\n    result.append(groups[groupIndex]?.value ?: "")\n    index = endIndex\n    }\n    } else {\n
result.append(char)\n    }\n  }\n  return result.toString()\n}\n\n// The name must be a legal JavaScript identifier.
See https://262.ecma-international.org/5.1/#sec-7.6\n// Don't try to validate the referenced group name as it may be
time-consuming.\n// If the name is invalid, it won't be found in `match.groups` anyway and will throw.\n// Group
names in the target Regex are validated at creation time.\nprivate fun String.readGroupName(startIndex: Int): Int {\n
var index = startIndex\n  while (index < length) {\n    if (this[index] == '{') {\n    break\n    } else {\n
index++\n    }\n  }\n  return index\n}\n\nprivate fun String.readGroupIndex(startIndex: Int, groupCount: Int): Int {\n // at least
one digit after '$' is always captured\n  var index = startIndex + 1\n  var groupIndex = this[startIndex] - '0'\n //
capture the largest valid group index\n  while (index < length && this[index] in '0'..'9') {\n    val newGroupIndex
= (groupIndex * 10) + (this[index] - '0')\n    if (newGroupIndex in 0 until groupCount) {\n    groupIndex =

```

```

newGroupIndex\n        index++\n        } else {\n            break\n        }\n    }\n    return index\n}", /*\n * Copyright
2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n@file:Suppress("EXTENSI
ON_SHADOWED_BY_MEMBER")\n\npackage kotlin.text\n\nimport kotlin.contracts.*\n\n/*\n * A mutable sequence of characters.\n * String builder can be used to efficiently perform multiple string
manipulation operations.\n */\nexpect class StringBuilder : Appendable, CharSequence {\n    /** Constructs an
empty string builder. */\n    constructor()\n\n    /** Constructs an empty string builder with the specified initial
[capacity]. */\n    constructor(capacity: Int)\n\n    /** Constructs a string builder that contains the same characters as
the specified [content] char sequence. */\n    constructor(content: CharSequence)\n\n    /** Constructs a string
builder that contains the same characters as the specified [content] string. */\n    @SinceKotlin("1.3")\n//
@ExperimentalStdlibApi\n    constructor(content: String)\n\n    override val length: Int\n\n    override operator fun
get(index: Int): Char\n\n    override fun subSequence(startIndex: Int, endIndex: Int): CharSequence\n\n    override
fun append(value: Char): StringBuilder\n    override fun append(value: CharSequence?):
StringBuilder\n    override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder\n\n
/**\n * Reverses the contents of this string builder and returns this instance.\n * Surrogate pairs included
in this string builder are treated as single characters.\n * Therefore, the order of the high-low surrogates is never
reversed.\n * Note that the reverse operation may produce new surrogate pairs that were unpaired low-
surrogates and high-surrogates before the operation.\n * For example, reversing "\uDC00\uD800" produces
"\uD800\uDC00" which is a valid surrogate pair.\n */\n    fun reverse(): StringBuilder\n\n    /**\n *
Appends the string representation of the specified object [value] to this string builder and returns this instance.\n
* The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n
* and then that string was appended
to this string builder.\n */\n    fun append(value: Any?): StringBuilder\n\n    /**\n * Appends the string
representation of the specified boolean [value] to this string builder and returns this instance.\n * The
overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n
* and then that string was appended to this string builder.\n */\n    @SinceKotlin("1.3")\n    fun append(value: Boolean):
StringBuilder\n\n    /**\n * Appends characters in the specified character array [value] to this string builder and
returns this instance.\n * Characters are appended in order, starting at the index 0.\n */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    fun append(value: CharArray):
StringBuilder\n\n    /**\n * Appends the specified string [value] to this string builder and returns this instance.\n
* If [value] is `null`, then the four characters `null`
are appended.\n */\n    @SinceKotlin("1.3")\n    fun append(value: String?): StringBuilder\n\n    /**\n *
Returns the current capacity of this string builder.\n * The capacity is the maximum length this string
builder can have before an allocation occurs.\n */\n    @SinceKotlin("1.3")\n// @ExperimentalStdlibApi\n
@Deprecated("Obtaining StringBuilder capacity is not supported in JS and common code.", level =
DeprecationLevel.ERROR)\n    fun capacity(): Int\n\n    /**\n * Ensures that the capacity of this string builder is
at least equal to the specified [minimumCapacity].\n * If the current capacity is less than the
[minimumCapacity], a new backing storage is allocated with greater capacity.\n * Otherwise, this method takes
no action and simply returns.\n */\n    @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n    fun ensureCapacity(minimumCapacity: Int)\n\n    /**\n *
Returns the index
within this string builder of the first occurrence of the specified [string].\n * Returns `-1` if the specified
[string] does not occur in this string builder.\n */\n    @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n    fun indexOf(string: String): Int\n\n    /**\n * Returns the
index within this string builder of the first occurrence of the specified [string],\n * starting at the specified
[startIndex].\n * Returns `-1` if the specified [string] does not occur in this string builder starting at the
specified [startIndex].\n */\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n

```

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fun indexOf(string: String, startIndex: Int): Int\n\n /**\n * Returns the index within this string builder of the last
occurrence of the specified [string].\n * The last occurrence of empty string `""` is considered to be at the index
equal to `this.length`.\n *\n * Returns `-1` if the specified
[string] does not occur in this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String): Int\n\n /**\n * Returns
the index within this string builder of the last occurrence of the specified [string],\n * starting from the specified
[startIndex] toward the beginning.\n *\n * Returns `-1` if the specified [string] does not occur in this string
builder starting at the specified [startIndex].\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String, startIndex: Int): Int\n\n
/**\n * Inserts the string representation of the specified boolean [value] into this string builder at the specified
[index] and returns this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string
by the `value.toString()` method,\n * and then that string was inserted into this string builder
at the specified [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater
than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: Boolean): StringBuilder\n\n
/**\n * Inserts the specified character [value] into this string builder at the specified [index] and returns this
instance.\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n */\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun
insert(index: Int, value: Char): StringBuilder\n\n /**\n * Inserts characters in the specified character array
[value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters
go in same order as in the [value] character array, starting at [index].\n *\n *
@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n
*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int,
value: CharArray): StringBuilder\n\n /**\n * Inserts characters in the specified character sequence [value] into
this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in the
same order as in the [value] character sequence, starting at [index].\n *\n * @param index the position in this
string builder to insert at.\n * @param value the character sequence from which characters are inserted. If [value]
is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are inserted.\n *\n * @throws IndexOutOfBoundsException if
[index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: CharSequence?): StringBuilder\n\n
/**\n * Inserts the string representation of the
specified object [value] into this string builder at the specified [index] and returns this instance.\n *\n * The
overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then
that string was inserted into this string builder at the specified [index].\n *\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value:
Any?): StringBuilder\n\n /**\n * Inserts the string [value] into this string builder at the specified [index] and
returns this instance.\n *\n * If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are inserted.\n *\n *
@throws IndexOutOfBoundsException if [index] is less than zero
or greater than the length of this string builder.\n */\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: String?): StringBuilder\n\n
/**\n * Sets the length of this string builder to the specified [newLength].\n *\n * If the [newLength] is less
than the current length, it is changed to the specified [newLength].\n * Otherwise, null characters `'\u0000'` are
appended to this string builder until its length is less than the [newLength].\n *\n * Note that in Kotlin/JS [set]
operator function has non-constant execution time complexity.\n * Therefore, increasing length of this string
builder and then updating each character by index may slow down your program.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun setLength(newLength:

```

Int)\n\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [length] (exclusive).\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of this string builder.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun substring(startIndex: Int): String\n\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex] (exclusive).\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun substring(startIndex: Int, endIndex: Int): String\n\n /**\n * Attempts to reduce storage used for this string builder.\n * If the backing storage of this string builder is larger than necessary to hold its current contents, then it may be resized to become more space efficient.\n * Calling this method may, but is not required to, affect the value of the [capacity] property.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun trimToSize()\n\n /**\n * Clears the content of this string builder making it empty and returns this instance.\n * @sample samples.text.Strings.clearStringBuilder\n * ^\n @SinceKotlin("1.3")\n public expect fun StringBuilder.clear(): StringBuilder\n\n /**\n * Sets the character at the specified [index] to the specified [value].\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect operator fun StringBuilder.set(index: Int, value: Char)\n\n /**\n * Replaces characters in the specified range of this string builder with characters in the specified string [value] and returns this instance.\n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param value the string to replace with.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder\n\n /**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.\n * @param index the index of `Char` to remove.\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun StringBuilder.deleteAt(index: Int): StringBuilder\n\n /**\n * Removes characters in the specified range from this string builder and returns this instance.\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder\n\n /**\n * Copies characters from this string builder into the [destination] character array.\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * ^\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public expect fun StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length)\n\n /**\n * Appends characters in a subarray of the specified character array [value] to this string builder

and returns this instance.

`* Characters are appended in order, starting at specified [startIndex].`

`@param value the array from which characters are appended.`

`@param startIndex the beginning (inclusive) of the subarray to append.`

`@param endIndex the end (exclusive) of the subarray to append.`

`@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.`

`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun`

`StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder`

`* Appends a subsequence of the specified character sequence [value] to this string builder and returns this instance.`

`@param value the character sequence from which a subsequence is appended.`

`@param startIndex the beginning (inclusive) of the subsequence to append.`

`@param endIndex the end (exclusive) of the subsequence to append.`

`* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.`

`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun`

`StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder`

`* Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.`

`* The inserted characters go in same order as in the [value] array, starting at [index].`

`@param index the position in this string builder to insert at.`

`@param value the array from which characters are inserted.`

`@param startIndex the beginning (inclusive) of the subarray to insert.`

`@param endIndex the end (exclusive) of the subarray to insert.`

`* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.`

`@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.`

`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun`

`StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder`

`* Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified [index] and returns this instance.`

`* The inserted characters go in the same order as in the [value] character sequence, starting at [index].`

`@param index the position in this string builder to insert at.`

`@param value the character sequence from which a subsequence is inserted.`

`@param startIndex the beginning (inclusive) of the subsequence to insert.`

`@param endIndex the end (exclusive) of the subsequence to insert.`

`* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.`

`@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.`

`*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun`

`StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int):`

`StringBuilder`

`@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n@Deprecated("Use append(value: Any?) instead", ReplaceWith("append(value = obj)"), DeprecationLevel.WARNING)\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.append(obj: Any?):`

`StringBuilder = this.append(obj)`

`* Builds new string by populating newly created [StringBuilder] using provided [builderAction] and then converting it to [String].`

`*\n@kotlin.internal.InlineOnly\npublic inline fun buildString(builderAction: String Builder.() -> Unit):`

`String {`

`contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }`

`return`

`StringBuilder().apply(builderAction).toString()`

`* Builds new string by populating newly created [StringBuilder] initialized with the given [capacity] using provided [builderAction] and then converting it to [String].`

`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int, builderAction: String Builder.() -> Unit): String {`

`contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }`

`return`

```

StringBuilder(capacity).apply(builderAction).toString()\n\n/**\n * Appends all arguments to the given
StringBuilder.\n *^\npublic fun StringBuilder.append(vararg value: String?): StringBuilder {\n for (item in
value)\n append(item)\n return this\n}\n\n/**\n * Appends all arguments to the given StringBuilder.\n
*^\npublic fun StringBuilder.append(vararg value: Any?): StringBuilder {\n for (item in value)\n
append(item)\n return this\n}\n\n/** Appends a line feed character (`\n`) to this StringBuilder.
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine():
StringBuilder = append("\n")\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character
(`\n`). *^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
CharSequence?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder],
followed by a line feed character (`\n`). *^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: String?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to
this [StringBuilder], followed by a line feed character (`\n`).
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Any?):
StringBuilder = append(value).appendLine()\n\n/**
Appends [value] to this [StringBuilder], followed by a line feed character (`\n`).
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
CharArray): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed
by a line feed character (`\n`). *^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: Char): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this
[StringBuilder], followed by a line feed character (`\n`).
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
Boolean): StringBuilder = append(value).appendLine()\n\n/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^\n\npackage kotlin.text\nimport
kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\ninternal
actual inline fun String.nativeIndexOf(ch: Char, fromIndex: Int): Int = nativeIndexOf(ch.toString(),
fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(ch: Char,
fromIndex: Int): Int = nativeLastIndexOf(ch.toString(), fromIndex)\n\n/**\n * Returns `true` if this string starts with
the specified prefix.\n *^\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return
nativeStartsWith(prefix, 0)\n else\n return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n *
Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified
prefix.\n *^\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean
{\n if (!ignoreCase)\n return nativeStartsWith(prefix, startIndex)\n else\n return
regionMatches(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this string ends with
the specified suffix.\n *^\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun String.endsWith(suffix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return
nativeEndsWith(suffix)\n else\n return regionMatches(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n@Deprecated("Use Regex.matches() instead",
ReplaceWith("regex.toRegex().matches(this)")\n@DeprecatedSinceKotlin(warningSince = "1.6")\npublic fun
String.matches(regex: String): Boolean {\n @Suppress("DEPRECATION")\n val result = this.match(regex)\n
return result != null && result.size != 0\n}\n\n/**\n * Returns `true` if this string is empty or consists solely of
whitespace characters.\n *^\n * @sample samples.text.Strings.stringIsBlank\n
*^\npublic actual fun CharSequence.isBlank(): Boolean = length == 0 || indices.all { this[it].isWhitespace()
}\n\n/**\n * Returns `true` if this string is equal to [other], optionally ignoring character case.\n *^\n * Two strings
are considered to be equal if they have the same length and the same character at the same index.\n *^\n * If [ignoreCase]
is true, the result of `Char.uppercaseChar().lowercaseChar()` on each character is compared.\n *^\n * @param

```

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ignoreCase `true` to ignore character case when comparing strings. By default `false`.
*/@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String?.equals(other: String?, ignoreCase: Boolean = false): Boolean {
    if (this == null) return other == null
    if (other == null) return false
    if (!ignoreCase) return this == other
    if (this.length != other.length) return
    false
    for (index in 0 until this.length) {
        val thisChar = this[index]
        val otherChar
        = other[index]
        if (!thisChar.equals(otherChar, ignoreCase)) {
            return false
        }
    }
    return
    true
}
*/@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
CharSequence.regionMatches(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase:
Boolean = false): Boolean =
    regionMatchesImpl(thisOffset, other, otherOffset, length, ignoreCase)
*/
Returns a copy of this string having its first letter titlecased using the rules of the default locale,
or the original
string if it's empty or already starts with a title case letter.
*/
The title case of a character is usually the same as
its upper case with several exceptions.
*/
The particular list of characters with the special title case form depends
on the underlying platform.
*/
@sample samples.text.Strings.capitalize
*/@Deprecated("Use
replaceFirstChar instead.", ReplaceWith("replaceFirstChar { if (it.isLowerCase()) it.titlecase()
else it.toString() }"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic actual fun String.capitalize():
String {
    return if (isEmpty()) substring(0, 1).uppercase() + substring(1) else this
}
*/
Returns a
copy of this string having its first letter lowercased using the rules of the default locale,
or the original string if
it's empty or already starts with a lower case letter.
*/
@sample samples.text.Strings.decapsialize
*/@Deprecated("Use replaceFirstChar instead.", ReplaceWith("replaceFirstChar { it.lowercase()
}"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic actual fun String.decapsialize(): String {
    return
    if (isEmpty()) substring(0, 1).lowercase() + substring(1) else this
}
*/
Returns a string containing this
char sequence repeated [n] times.
*/
@throws [IllegalArgumentException] when n < 0.
*/
@sample
samples.text.Strings.repeat
*/\npublic actual fun CharSequence.repeat(n: Int): String {
    require(n
    >= 0) { "Count 'n' must be non-negative, but was $n." }
    return when (n) {
        0 -> ""
        1 ->
        this.toString()
        else -> {
            var result = ""
            if (!isEmpty()) {
                var s = this.toString()
                var count = n
                while (true) {
                    if ((count and 1) == 1) {
                        result += s
                    }
                    count = count ushr 1
                    if (count == 0) {
                        break
                    }
                    s += s
                }
            }
            return result
        }
    }
}
*/
Returns a new string
obtained by replacing all occurrences of the [oldValue] substring in this string
with the specified [newValue]
string.
*/
@sample samples.text.Strings.replace
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.replace(oldValue: String, newValue: String,
ignoreCase: Boolean = false): String =
    nativeReplace(Regex(Regex.escape(oldValue), if (ignoreCase) "gui"
else "gu"), Regex.nativeEscapeReplacement(newValue))
*/
Returns a new string with all occurrences of
[oldChar] replaced with [newChar].
*/
@sample samples.text.Strings.replace
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =
    nativeReplace(Regex(Regex.escape(oldChar.toString()), if (ignoreCase) "gui" else "gu"),
newChar.toString())
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual
fun String.replaceFirst(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =
    nativeReplace(Regex(Regex.escape(oldValue), if (ignoreCase) "ui" else "u"),
Regex.nativeEscapeReplacement(newValue))
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGU
MENTS")\npublic actual fun String.replaceFirst(oldChar: Char, newChar:
Char, ignoreCase: Boolean = false): String =
    nativeReplace(Regex(Regex.escape(oldChar.toString()), if
(ignoreCase) "ui" else "u"), newChar.toString())
*/
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Programming Language contributors.
*/
Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.
*/\npackage kotlin.text\n*/
Returns the negative [size] if
[throwOnMalformed] is false, throws [CharacterCodingException] otherwise.
*/\nprivate fun malformed(size: Int,

```



```

index: Int, throwOnMalformed: Boolean): Int {\n  if (throwOnMalformed) throw
CharacterCodingException(\"Malformed sequence starting at ${index - 1}\")\n  return -size}\n\n/**\n * Returns
code point corresponding to UTF-16 surrogate pair,\n * where the first of the pair is the [high] and the second is in
the [string] at the [index].\n * Returns zero if the pair is malformed and [throwOnMalformed] is false.\n *\n *
@throws CharacterCodingException
  if the pair is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFromSurrogate(string: String,
high: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n  if (high !in 0xD800..0xDBFF || index
>= endIndex) {\n    return malformed(0, index, throwOnMalformed)\n  }\n  val low = string[index].code\n  if
(low !in 0xDC00..0xDFFF) {\n    return malformed(0, index, throwOnMalformed)\n  }\n  return 0x10000 +
((high and 0x3FF) shl 10) or (low and 0x3FF)\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of
two bytes,\n * where the first byte of the sequence is the [byte1] and the second byte is in the [bytes] array at the
[index].\n * Returns zero if the sequence is malformed and [throwOnMalformed] is false.\n *\n * @throws
CharacterCodingException if the sequence of two bytes is malformed and [throwOnMalformed] is true.\n
*/\nprivate fun codePointFrom2(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed:
Boolean): Int {\n  if (byte1 and 0x1E == 0 || index >= endIndex) {\n    return malformed(0, index,
throwOnMalformed)\n  }\n  val byte2 = bytes[index].toInt()\n  if (byte2 and 0xC0 != 0x80) {\n    return
malformed(0, index, throwOnMalformed)\n  }\n  return (byte1 shl 6) xor byte2 xor 0xF80}\n\n/**\n * Returns
code point corresponding to UTF-8 sequence of three bytes,\n * where the first byte of the sequence is the [byte1]
and the others are in the [bytes] array starting from the [index].\n * Returns a non-positive value indicating number
of bytes from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is
false.\n *\n * @throws CharacterCodingException if the sequence of three bytes is malformed and
[throwOnMalformed] is true.\n */\nprivate fun codePointFrom3(bytes: ByteArray, byte1: Int, index: Int, endIndex:
Int, throwOnMalformed: Boolean): Int {\n  if (index >= endIndex) {\n    return malformed(0, index,
throwOnMalformed)\n  }\n\n  val byte2 = bytes[index].toInt()\n  if (byte1 and 0xF == 0) {\n    if (byte2 and 0xE0 != 0xA0) {\n
// Non-shortest form\n      return malformed(0, index, throwOnMalformed)\n    }\n  } else if (byte1 and 0xF
== 0xD) {\n    if (byte2 and 0xE0 != 0x80) {\n      // Surrogate code point\n      return malformed(0, index,
throwOnMalformed)\n    }\n  } else if (byte2 and 0xC0 != 0x80) {\n    return malformed(0, index,
throwOnMalformed)\n  }\n\n  if (index + 1 == endIndex) {\n    return malformed(1, index,
throwOnMalformed)\n  }\n  val byte3 = bytes[index + 1].toInt()\n  if (byte3 and 0xC0 != 0x80) {\n    return
malformed(1, index, throwOnMalformed)\n  }\n\n  return (byte1 shl 12) xor (byte2 shl 6) xor byte3 xor -
0x1E080}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of four bytes,\n * where the first byte
of the sequence is the [byte1] and the others are in the [bytes]
array starting from the [index].\n * Returns a non-positive value indicating number of bytes from [bytes] included in
malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is false.\n *\n * @throws
CharacterCodingException if the sequence of four bytes is malformed and [throwOnMalformed] is true.\n
*/\nprivate fun codePointFrom4(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed:
Boolean): Int {\n  if (index >= endIndex) {\n    malformed(0, index, throwOnMalformed)\n  }\n\n  val byte2 =
bytes[index].toInt()\n  if (byte1 and 0xF == 0x0) {\n    if (byte2 and 0xF0 <= 0x80) {\n      // Non-shortest
form\n      return malformed(0, index, throwOnMalformed)\n    }\n  } else if (byte1 and 0xF == 0x4) {\n
if (byte2 and 0xF0 != 0x80) {\n      // Out of Unicode code points domain (larger than U+10FFFF)\n      return
malformed(0, index, throwOnMalformed)\n    }\n  } else if (byte1 and 0xF > 0x4)
{\n    return malformed(0, index, throwOnMalformed)\n  } else if (byte2 and 0xC0 != 0x80) {\n    return
malformed(0, index, throwOnMalformed)\n  }\n\n  if (index + 1 == endIndex) {\n    return malformed(1, index,
throwOnMalformed)\n  }\n  val byte3 = bytes[index + 1].toInt()\n  if (byte3 and 0xC0 != 0x80) {\n    return
malformed(1, index, throwOnMalformed)\n  }\n\n  if (index + 2 == endIndex) {\n    return malformed(2, index,
throwOnMalformed)\n  }\n  val byte4 = bytes[index + 2].toInt()\n  if (byte4 and 0xC0 != 0x80) {\n    return
malformed(2, index, throwOnMalformed)\n  }\n  return (byte1 shl 18) xor (byte2 shl 12) xor (byte3 shl 6) xor

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byte4 xor 0x381F80)\n\n/**\n * Maximum number of bytes needed to encode a single char.\n * Code points in
`0..0x7F` are encoded in a single byte.\n * Code points in `0x80..0x7FF` are encoded in two bytes.\n * Code points
in `0x800..0xD7FF` or in `0xE000..0xFFFF` are encoded in three bytes.\n * Surrogate
code points in `0xD800..0xDFFF` are not Unicode scalar values, therefore aren't encoded.\n * Code points in
`0x10000..0x10FFFF` are represented by a pair of surrogate `Char`s and are encoded in four bytes.\n */\nprivate
const val MAX_BYTES_PER_CHAR = 3\n\n/**\n * The byte sequence a malformed UTF-16 char sequence is
replaced by.\n */\nprivate val REPLACEMENT_BYTE_SEQUENCE: ByteArray = byteArrayOf(0xEF.toByte(),
0xBF.toByte(), 0xBD.toByte())\n\n/**\n * Encodes the [string] using UTF-8 and returns the resulting [ByteArray].\n
*\n * @param string the string to encode.\n * @param startIndex the start offset (inclusive) of the substring to
encode.\n * @param endIndex the end offset (exclusive) of the substring to encode.\n * @param
throwOnMalformed whether to throw on malformed char sequence or replace by the
[REPLACEMENT_BYTE_SEQUENCE].\n *\n * @throws CharacterCodingException if the char sequence is
malformed and [throwOnMalformed] is true.\n */\ninternal fun encodeUtf8(string: String,
startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): ByteArray {\n    require(startIndex >= 0 &&
endIndex <= string.length && startIndex <= endIndex)\n\n    val bytes = ByteArray((endIndex - startIndex) *
MAX_BYTES_PER_CHAR)\n    var byteIndex = 0\n    var charIndex = startIndex\n\n    while (charIndex <
endIndex) {\n        val code = string[charIndex++].code\n        when {\n            code < 0x80 ->\n
bytes[byteIndex++] = code.toByte()\n            code < 0x800 -> {\n                bytes[byteIndex++] = ((code shr 6) or
0xC0).toByte()\n                bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n            }\n            code <
0xD800 || code >= 0xE000 -> {\n                bytes[byteIndex++] = ((code shr 12) or 0xE0).toByte()\n
bytes[byteIndex++] = (((code shr 6) and 0x3F) or 0x80).toByte()\n                bytes[byteIndex++] = ((code and 0x3F)
or 0x80).toByte()\n            }\n            else -> { // Surrogate char value\n
                val codePoint = codePointFromSurrogate(string, code, charIndex, endIndex, throwOnMalformed)\n
                if (codePoint <= 0) {\n                    bytes[byteIndex++] = REPLACEMENT_BYTE_SEQUENCE[0]\n
bytes[byteIndex++] = REPLACEMENT_BYTE_SEQUENCE[1]\n                    bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[2]\n                } else {\n                    bytes[byteIndex++] = ((codePoint shr
18) or 0xF0).toByte()\n                    bytes[byteIndex++] = (((codePoint shr 12) and 0x3F) or 0x80).toByte()\n
                    bytes[byteIndex++] = (((codePoint shr 6) and 0x3F) or 0x80).toByte()\n                    bytes[byteIndex++] =
((codePoint and 0x3F) or 0x80).toByte()\n                    charIndex++\n                }\n            }\n        }\n    }\n\n    return if (bytes.size == byteIndex) bytes else bytes.copyOf(byteIndex)\n}\n\n/**\n * The character a malformed
UTF-8 byte sequence is replaced by.\n */\nprivate const val REPLACEMENT_CHAR
= "\uFFFF"\n\n/**\n * Decodes the UTF-8 [bytes] array and returns the resulting [String].\n *\n * @param bytes
the byte array to decode.\n * @param startIndex the start offset (inclusive) of the array to be decoded.\n * @param
endIndex the end offset (exclusive) of the array to be encoded.\n * @param throwOnMalformed whether to throw
on malformed byte sequence or replace by the [REPLACEMENT_CHAR].\n *\n * @throws
CharacterCodingException if the array is malformed UTF-8 byte sequence and [throwOnMalformed] is true.\n
*/\ninternal fun decodeUtf8(bytes: ByteArray, startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): String
{\n    require(startIndex >= 0 && endIndex <= bytes.size && startIndex <= endIndex)\n\n    var byteIndex =
startIndex\n    val stringBuilder = StringBuilder()\n\n    while (byteIndex < endIndex) {\n        val byte =
bytes[byteIndex++].toInt()\n        when {\n            byte >= 0 ->\n                stringBuilder.append(byte.toChar())\n
            byte
shr 5 == -2 -> {\n                val code = codePointFrom2(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n
                if (code <= 0) {\n                    stringBuilder.append(REPLACEMENT_CHAR)\n                    byteIndex += -
code\n                } else {\n                    stringBuilder.append(code.toChar())\n                    byteIndex += 1\n
                }\n            }\n            byte shr 4 == -2 -> {\n                val code = codePointFrom3(bytes, byte, byteIndex, endIndex,
throwOnMalformed)\n                if (code <= 0) {\n                    stringBuilder.append(REPLACEMENT_CHAR)\n
                    byteIndex += -code\n                } else {\n                    stringBuilder.append(code.toChar())\n
                    byteIndex += 2\n                }\n            }\n            byte shr 3 == -2 -> {\n                val code = codePointFrom4(bytes,

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byte, byteIndex, endIndex, throwOnMalformed)\n        if (code <= 0) {\n            stringBuilder.append(REPLACEMENT_CHAR)\n                byteIndex += -code\n        } else {\n            val high = (code - 0x10000) shr 10 or 0xD800\n                val low = (code and 0x3FF) or 0xDC00\n            stringBuilder.append(high.toChar())\n                stringBuilder.append(low.toChar())\n                byteIndex +=\n3\n        }\n        } else -> {\n            malformed(0, byteIndex, throwOnMalformed)\n        }\n        stringBuilder.append(REPLACEMENT_CHAR)\n        }\n        }\n        }\n        return\n        stringBuilder.toString()\n    }"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language\n contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Returns the detailed description of this throwable with\n its stack trace.\n */\n * The detailed description includes:\n * - the short\n description (see [Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed descriptions\n of the exceptions that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed\n description of each throwable in the [Throwable.cause] chain.\n */\n\n@SinceKotlin("1.4")\npublic actual fun\n Throwable.stackTraceToString(): String = ExceptionTraceBuilder().buildFor(this)\n\n/**\n * Prints the [detailed\n description][Throwable.stackTraceToString] of this throwable to console error output.\n */\n\n@SinceKotlin("1.4")\npublic actual fun Throwable.printStackTrace() {\n    console.error(this.stackTraceToString())\n}\n\n/**\n * Adds the specified exception to the list of exceptions that\n were\n * suppressed in order to deliver this exception.\n */\n\n@SinceKotlin("1.4")\npublic actual fun\n Throwable.addSuppressed(exception: Throwable) {\n    if (this !== exception) {\n        val suppressed =\n this.asDynamic()._suppressed.unsafeCast<MutableList<Throwable>?>()\n        if (suppressed == null) {\n            this.asDynamic()._suppressed = mutableListOf(exception)\n        } else {\n            suppressed.add(exception)\n        }\n    }\n}\n\n/**\n * Returns a list of all exceptions that were suppressed in\n order to deliver this exception.\n */\n\n@SinceKotlin("1.4")\npublic actual val Throwable.suppressedExceptions:\n List<Throwable>\n    get() {\n        return this.asDynamic()._suppressed?.unsafeCast<List<Throwable>>() ?:\n emptyList()\n    }\n\nprivate class ExceptionTraceBuilder {\n    private val target = StringBuilder()\n    private val\n visited = arrayOf<Throwable>()\n    private var topStack: String = ""\n    private var topStackStart: Int = 0\n\n    fun buildFor(exception: Throwable): String {\n        exception.dumpFullTrace("", "")\n        return\n target.toString()\n    }\n\n    private fun hasSeen(exception: Throwable): Boolean = visited.any { it === exception\n }\n\n    private fun Throwable.dumpFullTrace(indent:\n String, qualifier: String) {\n        this.dumpSelfTrace(indent, qualifier) || return\n        var cause = this.cause\n        while (cause != null) {\n            cause.dumpSelfTrace(indent, "Caused by: ") || return\n            cause =\n cause.cause\n        }\n    }\n\n    private fun Throwable.dumpSelfTrace(indent: String, qualifier: String): Boolean {\n        target.append(indent).append(qualifier)\n        val shortInfo = this.toString()\n        if (hasSeen(this)) {\n            target.append("[CIRCULAR REFERENCE, SEE ABOVE: ").append(shortInfo).append("\\n")\n            return\n false\n        }\n        visited.asDynamic().push(this)\n        var stack = this.asDynamic().stack as String?\n        if\n (stack != null) {\n            val stackStart = stack.indexOf(shortInfo).let { if (it < 0) 0 else it + shortInfo.length }\n            if (stackStart == 0) target.append(shortInfo).append("\\n")\n            if (topStack.isEmpty()) {\n                topStack\n = stack\n            }\n            topStackStart = stackStart\n        } else {\n            stack = dropCommonFrames(stack, stackStart)\n        }\n        if (indent.isNotEmpty()) {\n            // indent stack, but avoid indenting exception message lines\n            val messageLines = if (stackStart == 0) 0 else 1 + shortInfo.count { c -> c == '\\n' }\n            stack.lineSequence().forEachIndexed { index: Int, line: String -> }\n                if (index >= messageLines)\n                target.append(indent)\n                    target.append(line).append("\\n")\n                } else {\n                    target.append(stack).append("\\n")\n                }\n        } else {\n            target.append(shortInfo).append("\\n")\n        }\n        val suppressed = suppressedExceptions\n        if (suppressed.isNotEmpty()) {\n            val\n suppressedIndent = indent + "\\n" + "\\n"\n            for (s in suppressed) {\n                s.dumpFullTrace(suppressedIndent,\n \\nSuppressed:\n
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    })\n    }\n    }\n    return true\n }\n\n private fun dropCommonFrames(stack: String, stackStart: Int):
String {\n    var commonFrames: Int = 0\n    var lastBreak: Int = 0\n    var preLastBreak: Int = 0\n    for
(pos in 0 until minOf(topStack.length - topStackStart, stack.length - stackStart)) {\n        val c =
stack[stack.lastIndex - pos]\n        if (c != topStack[topStack.lastIndex - pos]) break\n        if (c == '\n') {\n
        commonFrames += 1\n        preLastBreak = lastBreak\n        lastBreak = pos\n        }\n    }\n
if (commonFrames <= 1) return stack\n    while (preLastBreak > 0 && stack[stack.lastIndex - (preLastBreak - 1)]
== '\n')\n        preLastBreak -= 1\n        // leave 1 common frame to ease matching with the top exception stack\n
return stack.dropLast(preLastBreak) + "... and ${commonFrames - 1} more common stack frames skipped"\n
}\n},"/*\n
* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\nimport kotlin.js.json\nimport kotlin.math.*\n\ninternal actual inline val durationAssertionsEnabled:
Boolean get() = true\n\ninternal actual fun formatToExactDecimals(value: Double, decimals: Int): String {\n    val
rounded = if (decimals == 0) {\n        value\n    } else {\n        val pow = 10.0.pow(decimals)\n
JsMath.round(abs(value) * pow) / pow * sign(value)\n    }\n    return if (abs(rounded) < 1e21) {\n        // toFixed
switches to scientific format after 1e21\n        rounded.asDynamic().toFixed(decimals).unsafeCast<String>()\n    }
else {\n        // toPrecision outputs the specified number of digits, but only for positive numbers\n        val positive =
abs(rounded)\n        val positiveString = positive.asDynamic().toPrecision(ceil(log10(positive))
+ decimals).unsafeCast<String>()\n        if (rounded < 0) "$-$positiveString" else positiveString\n
}\n}\n\ninternal actual fun formatUpToDecimals(value: Double, decimals: Int): String {\n    return
value.asDynamic().toLocaleString("en-us", json("maximumFractionDigits" to
decimals)).unsafeCast<String>()\n}\n},"/*\n
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Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic actual enum class
DurationUnit(internal val scale: Double) {\n    /**\n     * Time unit representing one nanosecond, which is 1/1000 of
a microsecond.\n     */\n    NANOSECONDS(1e0),\n    /**\n     * Time unit representing one microsecond, which is
1/1000 of a millisecond.\n     */\n    MICROSECONDS(1e3),\n    /**\n     * Time unit representing one millisecond,
which is 1/1000 of a second.\n     */\n    MILLISECONDS(1e6),\n    /**\n     * Time unit representing one second.\n
*/\n    SECONDS(1e9),\n    /**\n     * Time unit representing one minute.\n     */\n    MINUTES(60e9),\n    /**\n
     * Time unit representing one hour.\n     */\n    HOURS(3600e9),\n    /**\n     * Time unit representing one day,
which is always equal to 24 hours.\n     */\n    DAYS(86400e9);\n}\n\n@SinceKotlin("1.3")\ninternal actual fun
convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double {\n    val
sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n    return when {\n
sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale)\n        sourceCompareTarget < 0 -> value /
(targetUnit.scale / sourceUnit.scale)\n        else -> value\n    }\n}\n\n@SinceKotlin("1.5")\ninternal actual fun
convertDurationUnitOverflow(value: Long, sourceUnit: DurationUnit, targetUnit: DurationUnit):
Long {\n    val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n    return when {\n
sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale).toLong()\n        sourceCompareTarget < 0
-> value / (targetUnit.scale / sourceUnit.scale).toLong()\n        else -> value\n    }\n}\n\n@SinceKotlin("1.5")\ninternal actual fun convertDurationUnit(value: Long, sourceUnit: DurationUnit,
targetUnit: DurationUnit): Long {\n    val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n
return when {\n        sourceCompareTarget > 0 -> {\n            val scale = (sourceUnit.scale /
targetUnit.scale).toLong()\n            val result = value * scale\n            when {\n                result / scale == value ->
result\n                value > 0 -> Long.MAX_VALUE\n                else -> Long.MIN_VALUE\n            }\n        }\n
sourceCompareTarget < 0 -> value / (targetUnit.scale / sourceUnit.scale).toLong()\n        else -> value\n
}\n}\n}\n\n},"/*\n
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*/\n\npackage kotlin.time\n\nimport org.w3c.performance.GlobalPerformance\nimport
org.w3c.performance.Performance\nimport kotlin.math.truncate\nimport
kotlin.time.Duration.Companion.milliseconds\nimport
kotlin.time.TimeSource.Monotonic.ValueTimeMark\n\n@Suppress(\n"ACTUAL_WITHOUT_EXPECT\n") //
visibility\n\ninternal actual typealias ValueTimeMarkReading = Any\n\n@ExperimentalTime\n\ninternal interface
DefaultTimeSource : TimeSource {\n    override fun markNow(): ValueTimeMark\n    fun elapsedFrom(timeMark:
ValueTimeMark): Duration\n    fun adjustReading(timeMark: ValueTimeMark, duration: Duration):
ValueTimeMark\n}\n\n@SinceKotlin(\n"1.3\n")\n\n@ExperimentalTime\n\ninternal actual object MonotonicTimeSource
: DefaultTimeSource, TimeSource { // TODO: interface should not be
required here\n\n    private val actualSource: DefaultTimeSource = run {\n        val isNode: Boolean = js(\n"typeof
process !== 'undefined' && process.versions && !process.versions.node\n")\n        if (isNode)\n            HrTimeSource(js(\n"process\n").unsafeCast<Process>())\n        else\n            js(\n"self\n").unsafeCast<GlobalPerformance?>()??.performance?.let(::PerformanceTimeSource)\n        ?:
DateNowTimeSource\n    }\n\n    actual override fun markNow(): ValueTimeMark = actualSource.markNow()\n    actual
override fun elapsedFrom(timeMark: ValueTimeMark): Duration = actualSource.elapsedFrom(timeMark)\n    actual
override fun adjustReading(timeMark: ValueTimeMark, duration: Duration): ValueTimeMark =\n        actualSource.adjustReading(timeMark, duration)\n}\n\n\ninternal external interface Process {\n    fun hrtime(time:
Array<Double> = definedExternally): Array<Double>\n}\n\n@SinceKotlin(\n"1.3\n")\n\n@ExperimentalTime\n\ninternal
class HrTimeSource(private val process: Process)
: DefaultTimeSource {\n\n    override fun markNow(): ValueTimeMark = ValueTimeMark(process.hrtime())\n    override
fun elapsedFrom(timeMark: ValueTimeMark): Duration =\n        @Suppress(\n"UNCHECKED_CAST\n")\n        process.hrtime(timeMark.reading as Array<Double>)\n        .let { (seconds, nanos) ->
seconds.toDuration(DurationUnit.SECONDS) + nanos.toDuration(DurationUnit.NANOSECONDS) }\n\n    override fun
adjustReading(timeMark: ValueTimeMark, duration: Duration): ValueTimeMark =\n        @Suppress(\n"UNCHECKED_CAST\n")\n        (timeMark.reading as Array<Double>).let { (seconds, nanos) ->\n            duration.toComponents { _, addNanos ->\n                arrayOf<Double>(sumCheckNaN(seconds +
truncate(duration.toDouble(DurationUnit.SECONDS))), nanos + addNanos)\n            }\n        }.let(TimeSource.Monotonic::ValueTimeMark)\n}\n\n\n    override fun toString(): String =
\n"TimeSource(process.hrtime())\n"}\n\n\n@SinceKotlin(\n"1.3\n")\n\n@ExperimentalTime\n\ninternal class
PerformanceTimeSource(val
performance: Performance) : DefaultTimeSource { // AbstractDoubleTimeSource(unit =
DurationUnit.MILLISECONDS) {\n    private fun read(): Double = performance.now()\n\n    override fun
markNow(): ValueTimeMark = ValueTimeMark(read())\n    override fun elapsedFrom(timeMark:
ValueTimeMark): Duration = (read() - timeMark.reading as Double).milliseconds\n    override fun
adjustReading(timeMark: ValueTimeMark, duration: Duration): ValueTimeMark =\n        ValueTimeMark(sumCheckNaN(timeMark.reading as Double +
duration.toDouble(DurationUnit.MILLISECONDS)))\n\n    override fun toString(): String =
\n"TimeSource(self.performance.now())\n"}\n\n\n@SinceKotlin(\n"1.3\n")\n\n@ExperimentalTime\n\ninternal object
DateNowTimeSource : DefaultTimeSource {\n    private fun read(): Double = kotlin.js.Date.now()\n\n    override
fun markNow(): ValueTimeMark = ValueTimeMark(read())\n    override fun elapsedFrom(timeMark:
ValueTimeMark): Duration = (read() - timeMark.reading as Double).milliseconds\n    override fun
adjustReading(timeMark: ValueTimeMark, duration: Duration): ValueTimeMark =\n        ValueTimeMark(sumCheckNaN(timeMark.reading as Double +
duration.toDouble(DurationUnit.MILLISECONDS)))\n\n    override fun toString(): String =
\n"TimeSource(Date.now())\n"}\n\n\nprivate fun sumCheckNaN(value: Double): Double = value.also { if (it.isNaN())
throw IllegalArgumentException(\n"Summing infinities of different signs\n") }\n\n\n/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport

```

```

org.w3c.dom.*\nimport kotlin.contracts.*\n\n/**\n * Creates a new element with the specified [name].\n * The element is initialized with the specified [init] function.\n */\n@SinceKotlin("1.4")\npublic fun Document.createElement(name: String, init: Element.() -> Unit): Element {\n    contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }\n    return createElement(name).apply(init)\n}\n\n/**\n * Appends a newly created element with the specified [name] to this element.\n * The element is initialized with the specified [init] function.\n */\n@SinceKotlin("1.4")\npublic fun Element.appendChild(name: String, init: Element.() -> Unit): Element {\n    contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }\n    return ownerDocument!!.createElement(name, init).also { appendChild(it) }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/**\n * Returns true if the element has the given CSS class style in its 'class' attribute\n */\n@SinceKotlin("1.4")\nfun Element.hasClass(cssClass: String): Boolean = className.matches("\\\\s*(^|\\s+)$cssClass(\\s+|$)".toRegex())\n\n/**\n * Adds CSS class to element. Has no effect if all specified classes are already in class attribute of the element\n */\n * @return true if at least one class has been added\n */\n@SinceKotlin("1.4")\nfun Element.addClass(vararg cssClasses: String): Boolean {\n    val missingClasses = cssClasses.filterNot { hasClass(it) }\n    if (missingClasses.isNotEmpty()) {\n        val presentClasses = className.trim()\n        className = buildString {\n            append(presentClasses)\n            if (!presentClasses.isEmpty()) {\n                append(" ")\n            }\n            missingClasses.joinTo(this, " ")\n        }\n        return true\n    }\n    return false\n}\n\n/**\n * Removes all [cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n */\n * @return true if at least one class has been removed\n */\n@SinceKotlin("1.4")\nfun Element.removeClass(vararg cssClasses: String): Boolean {\n    if (cssClasses.any { hasClass(it) }) {\n        val toBeRemoved = cssClasses.toSet()\n        className = className.trim().split("\\\\s+").toRegex().filter { it !in toBeRemoved }.joinToString(" ")\n        return true\n    }\n    return false\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage kotlin.text\n\n/**\n * Converts the string into a regular expression [Regex] with the default options.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(): Regex = Regex(this)\n\n/**\n * Converts the string into a regular expression [Regex] with the specified single [option].\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(option: RegexOption): Regex = Regex(this, option)\n\n/**\n * Converts the string into a regular expression [Regex] with the specified set of [options].\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a CDATA_SECTION_NODE.\n */\n@SinceKotlin("1.4")\npublic val Node.isText: Boolean\n    get() = nodeType == Node.TEXT_NODE || nodeType == Node.CDATA_SECTION_NODE\n\n/**\n * Gets a value indicating whether this node is an [Element].\n */\n@SinceKotlin("1.4")\npublic val Node.isElement: Boolean\n    get() = nodeType == Node.ELEMENT_NODE\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/**\n * Removes all the children from this node. \n */\n@SinceKotlin("1.4")\npublic fun Node.clear() {\n    while (hasChildNodes()) {\n        removeChild(firstChild!!)\n    }\n}\n\n/**\n * Creates text node and append it to the element.\n */\n * @return this element\n */\n@SinceKotlin("1.4")\nfun Element.appendText(text: String): Element {\n    appendChild(ownerDocument!!.createTextNode(text))\n    return this\n}\n\n"/*\n * Copyright 2010-

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2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
org.w3c.dom\n\n@Deprecated(\n    "Use UnionMessagePortOrWindowProxy instead.\n",
    ReplaceWith(\n        "UnionMessagePortOrWindowProxy\n    ")\n    )\n    typealias UnionMessagePortOrWindow =
UnionMessagePortOrWindowProxy\n\n@Deprecated(\n    "Use `as` instead.\n",
    ReplaceWith(\n        "`as`\n    ")\n    )\n    nvar
HTMLLinkElement.as_ get() = `as`\n    set(value) {\n        `as` = value\n    }\n\n@Deprecated(\n    "Use `is`
instead.\n",
    ReplaceWith(\n        "`is`\n    ")\n    )\n    nvar ElementCreationOptions.is_ get() = `is`\n    set(value) {\n        `is` =
value\n    }\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for
details\n\npackage org.khronos.webgl\n\nimport kotlin.js.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.events.*\n\npublic external interface WebGLContextAttributes {\n    var alpha: Boolean? /* = true */\n
    get() = definedExternally\n    set(value) = definedExternally\n    var depth: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var stencil: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var antialias: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var premultipliedAlpha: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var preserveDrawingBuffer: Boolean? /* =
false */\n    get() = definedExternally\n    set(value) = definedExternally\n    var
preferLowPowerToHighPerformance: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var failIfMajorPerformanceCaveat: Boolean? /* = false */\n    get() = definedExternally\n
    set(value) = definedExternally\n}\n\n@Suppress(\n    "INVISIBLE_REFERENCE",
    "INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n    public inline fun WebGLContextAttributes(alpha:
Boolean? = true, depth: Boolean? = true, stencil: Boolean? = false, antialias: Boolean? = true, premultipliedAlpha:
Boolean? = true, preserveDrawingBuffer:
Boolean? = false, preferLowPowerToHighPerformance: Boolean? = false, failIfMajorPerformanceCaveat:
Boolean? = false): WebGLContextAttributes {\n    val o = js("{}")\n    o["alpha"] = alpha\n    o["depth"] =
depth\n    o["stencil"] = stencil\n    o["antialias"] = antialias\n    o["premultipliedAlpha"] = premultipliedAlpha\n
    o["preserveDrawingBuffer"] = preserveDrawingBuffer\n    o["preferLowPowerToHighPerformance"] =
preferLowPowerToHighPerformance\n    o["failIfMajorPerformanceCaveat"] = failIfMajorPerformanceCaveat\n
    return o\n}\n\npublic external abstract class WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\n\npublic external
abstract class WebGLBuffer : WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\n\npublic
external abstract class WebGLFramebuffer : WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\n\npublic external
abstract class WebGLProgram : WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\n\npublic
external abstract class WebGLRenderbuffer : WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\n\npublic external
abstract class WebGLShader : WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\n\npublic external
abstract class WebGLTexture : WebGLObject\n\n/*\n * Exposes the JavaScript
[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin\n */\n\npublic
external abstract class WebGLUniformLocation\n\n/*\n * Exposes the JavaScript
[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo)
to Kotlin\n */\n\npublic external abstract class WebGLActiveInfo {\n    open val size: Int\n    open val type: Int\n
    open val name: String\n}\n\n/*\n * Exposes the JavaScript
[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to

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Kotlin\n */\npublic external abstract class WebGLShaderPrecisionFormat {\n    open val rangeMin: Int\n    open val rangeMax: Int\n    open val precision: Int\n}\n\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface WebGLRenderingContextBase {\n    val canvas: HTMLCanvasElement\n    val drawingBufferWidth: Int\n    val drawingBufferHeight: Int\n    fun getContextAttributes(): WebGLContextAttributes?\n    fun isContextLost(): Boolean\n    fun getSupportedExtensions(): Array<String>?\n    fun getExtension(name: String): dynamic\n    fun activeTexture(texture: Int)\n    fun attachShader(program: WebGLProgram?, shader: WebGLShader?)\n        fun bindAttribLocation(program: WebGLProgram?, index: Int, name: String)\n        fun bindBuffer(target: Int, buffer: WebGLBuffer?)\n        fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?)\n        fun bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?)\n        fun bindTexture(target: Int, texture: WebGLTexture?)\n        fun blendColor(red: Float, green: Float, blue: Float, alpha: Float)\n        fun blendEquation(mode: Int)\n        fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int)\n        fun blendFunc(sfactor: Int, dfactor: Int)\n        fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha: Int)\n        fun bufferData(target: Int, size: Int, usage: Int)\n        fun bufferData(target: Int, data: BufferDataSource?, usage: Int)\n        fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?)\n        fun checkFramebufferStatus(target: Int): Int\n        fun clear(mask: Int)\n        fun clearColor(red: Float, green: Float, blue: Float, alpha: Float)\n        fun clearDepth(depth: Float)\n        fun clearStencil(s: Int)\n        fun colorMask(red: Boolean, green: Boolean, blue: Boolean, alpha: Boolean)\n        fun compileShader(shader: WebGLShader?)\n        fun compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data: ArrayBufferView)\n        fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int, format: Int, data: ArrayBufferView)\n        fun copyTexImage2D(target: Int, level: Int, internalformat: Int, x: Int, y: Int, width: Int, height: Int, border: Int)\n        fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, x: Int, y: Int, width: Int, height: Int)\n        fun createBuffer(): WebGLBuffer?\n        fun createFramebuffer(): WebGLFramebuffer?\n        fun createProgram(): WebGLProgram?\n        fun createRenderbuffer(): WebGLRenderbuffer?\n        fun createShader(type: Int): WebGLShader?\n        fun createTexture(): WebGLTexture?\n        fun cullFace(mode: Int)\n        fun deleteBuffer(buffer: WebGLBuffer?)\n        fun deleteFramebuffer(framebuffer: WebGLFramebuffer?)\n        fun deleteProgram(program: WebGLProgram?)\n        fun deleteRenderbuffer(renderbuffer: WebGLRenderbuffer?)\n        fun deleteShader(shader: WebGLShader?)\n        fun deleteTexture(texture: WebGLTexture?)\n        fun depthFunc(func: Int)\n        fun depthMask(flag: Boolean)\n        fun depthRange(zNear: Float, zFar: Float)\n        fun detachShader(program: WebGLProgram?, shader: WebGLShader?)\n        fun disable(cap: Int)\n        fun disableVertexAttribArray(index: Int)\n        fun drawArrays(mode: Int, first: Int, count: Int)\n        fun drawElements(mode: Int, count: Int, type: Int, offset: Int)\n        fun enable(cap: Int)\n        fun enableVertexAttribArray(index: Int)\n        fun finish()\n        fun flush()\n        fun framebufferRenderbuffer(target: Int, attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?)\n        fun framebufferTexture2D(target: Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int)\n        fun frontFace(mode: Int)\n        fun generateMipmap(target: Int)\n        fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n        fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n        fun getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>\n        fun getAttribLocation(program: WebGLProgram?, name: String): Int\n        fun getBufferParameter(target: Int, pname: Int): Any?\n        fun getParameter(pname: Int): Any?\n        fun getError(): Int\n        fun getFramebufferAttachmentParameter(target: Int, attachment: Int, pname: Int): Any?\n        fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n        fun getProgramInfoLog(program: WebGLProgram?): String?\n        fun getRenderbufferParameter(target: Int, pname: Int): Any?\n        fun getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n        fun getShaderPrecisionFormat(shaderType: Int, precisionType: Int): WebGLShaderPrecisionFormat?\n        fun getShaderInfoLog(shader: WebGLShader?): String?\n        fun getShaderSource(shader: WebGLShader?): String?\n        fun getTexParameter(target: Int, pname: Int): Any?\n        fun getUniform(program: WebGLProgram?, location: WebGLUniformLocation?): Any?\n        fun

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getUniformLocation(program: WebGLProgram?, name: String): WebGLUniformLocation?\n fun
getVertexAttrib(index: Int, pname: Int): Any?\n fun getVertexAttribOffset(index: Int, pname: Int): Int\n fun
hint(target: Int, mode: Int)\n fun isBuffer(buffer: WebGLBuffer?): Boolean\n fun isEnabled(cap: Int): Boolean\n
fun isFramebuffer(framebuffer: WebGLFramebuffer?): Boolean\n fun isProgram(program: WebGLProgram?):
Boolean\n fun isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n fun isShader(shader:
WebGLShader?): Boolean\n fun isTexture(texture: WebGLTexture?): Boolean\n fun lineWidth(width: Float)\n
fun linkProgram(program: WebGLProgram?)\n fun pixelStorei(pname: Int, param: Int)\n fun
polygonOffset(factor: Float, units: Float)\n
fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun
renderbufferStorage(target: Int, internalformat: Int, width: Int, height: Int)\n fun sampleCoverage(value: Float,
invert: Boolean)\n fun scissor(x: Int, y: Int, width: Int, height: Int)\n fun shaderSource(shader: WebGLShader?,
source: String)\n fun stencilFunc(func: Int, ref: Int, mask: Int)\n fun stencilFuncSeparate(face: Int, func: Int, ref:
Int, mask: Int)\n fun stencilMask(mask: Int)\n fun stencilMaskSeparate(face: Int, mask: Int)\n fun
stencilOp(fail: Int, zfail: Int, zpass: Int)\n fun stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int)\n fun
texImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels:
ArrayBufferView?)\n fun texImage2D(target: Int, level: Int, internalformat: Int, format: Int, type: Int, source:
TexImageSource?)\n fun texParameterf(target:
Int, pname: Int, param: Float)\n fun texParameteri(target: Int, pname: Int, param: Int)\n fun
texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int, format: Int, type: Int, pixels:
ArrayBufferView?)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, format: Int, type: Int,
source: TexImageSource?)\n fun uniform1f(location: WebGLUniformLocation?, x: Float)\n fun
uniform1fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform1fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform1i(location: WebGLUniformLocation?, x: Int)\n fun
uniform1iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform1iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform2f(location: WebGLUniformLocation?, x: Float, y:
Float)\n fun uniform2fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform2fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform2i(location:
WebGLUniformLocation?, x: Int, y: Int)\n fun uniform2iv(location: WebGLUniformLocation?, v: Int32Array)\n
fun uniform2iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun uniform3f(location:
WebGLUniformLocation?, x: Float, y: Float, z: Float)\n fun uniform3fv(location: WebGLUniformLocation?, v:
Float32Array)\n fun uniform3fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun
uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z: Int)\n fun uniform3iv(location:
WebGLUniformLocation?, v: Int32Array)\n fun uniform3iv(location: WebGLUniformLocation?, v: Array<Int>)\n
fun uniform4f(location: WebGLUniformLocation?, x: Float, y: Float, z: Float, w: Float)\n fun
uniform4fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform4fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform4i(location: WebGLUniformLocation?, x: Int, y: Int, z:
Int, w: Int)\n fun uniform4iv(location: WebGLUniformLocation?, v: Int32Array)\n
fun uniform4iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun uniformMatrix2fv(location:
WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun uniformMatrix2fv(location:
WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun uniformMatrix3fv(location:
WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun uniformMatrix3fv(location:
WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun uniformMatrix4fv(location:
WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun uniformMatrix4fv(location:
WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun useProgram(program:
WebGLProgram?)\n fun validateProgram(program: WebGLProgram?)\n fun vertexAttrib1f(index: Int, x:
Float)\n fun vertexAttrib1fv(index: Int, values: dynamic)\n fun vertexAttrib2f(index: Int, x: Float, y: Float)\n
fun vertexAttrib2fv(index: Int, values: dynamic)\n fun vertexAttrib3f(index:

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Int, x: Float, y: Float, z: Float)\n fun vertexAttrib3fv(index: Int, values: dynamic)\n fun vertexAttrib4f(index:
 Int, x: Float, y: Float, z: Float, w: Float)\n fun vertexAttrib4fv(index: Int, values: dynamic)\n fun
 vertexAttribPointer(index: Int, size: Int, type: Int, normalized: Boolean, stride: Int, offset: Int)\n fun viewport(x:
 Int, y: Int, width: Int, height: Int)\n\n companion object {\n val DEPTH_BUFFER_BIT: Int\n val
 STENCIL_BUFFER_BIT: Int\n val COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES: Int\n
 val LINE_LOOP: Int\n val LINE_STRIP: Int\n val TRIANGLES: Int\n val TRIANGLE_STRIP:
 Int\n val TRIANGLE_FAN: Int\n val ZERO: Int\n val ONE: Int\n val SRC_COLOR: Int\n val
 ONE_MINUS_SRC_COLOR: Int\n val SRC_ALPHA: Int\n val ONE_MINUS_SRC_ALPHA: Int\n
 val DST_ALPHA: Int\n val ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n
 val ONE_MINUS_DST_COLOR: Int\n val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n
 val BLEND_EQUATION: Int\n val BLEND_EQUATION_RGB: Int\n val
 BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT: Int\n val FUNC_REVERSE_SUBTRACT:
 Int\n val BLEND_DST_RGB: Int\n val BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n
 val BLEND_SRC_ALPHA: Int\n val CONSTANT_COLOR: Int\n val
 ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA: Int\n val
 ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val ARRAY_BUFFER: Int\n
 val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING: Int\n val
 ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val STATIC_DRAW: Int\n
 val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val BUFFER_USAGE: Int\n val
 CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK: Int\n val
 FRONT_AND_BACK: Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER: Int\n val
 STENCIL_TEST: Int\n val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val
 POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE: Int\n val
 SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val
 INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW:
 Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val
 ALIASED_LINE_WIDTH_RANGE: Int\n val CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n
 val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val
 DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val
 STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS:
 Int\n
 val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK: Int\n
 val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val
 STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val
 STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val
 STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val
 COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n
 val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n
 val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n
 val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val
 POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val
 TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n
 val SAMPLES: Int\n val SAMPLE_COVERAGE_VALUE: Int\n val
 SAMPLE_COVERAGE_INVERT: Int\n val COMPRESSED_TEXTURE_FORMATS: Int\n val
 DONT_CARE: Int\n val FASTEST: Int\n val NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n
 val BYTE: Int\n val UNSIGNED_BYTE: Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n
 val INT: Int\n val UNSIGNED_INT: Int\n val FLOAT: Int\n val DEPTH_COMPONENT: Int\n
 val ALPHA: Int\n val RGB: Int\n val RGBA: Int\n val LUMINANCE: Int\n val

LUMINANCE_ALPHA: Int\n val UNSIGNED_SHORT_4_4_4_4: Int\n val
 UNSIGNED_SHORT_5_5_5_1: Int\n val UNSIGNED_SHORT_5_6_5: Int\n val
 FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n val MAX_VERTEX_ATTRIBS: Int\n
 val MAX_VERTEX_UNIFORM_VECTORS: Int\n val MAX_VARYING_VECTORS: Int\n val
 MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val MAX_VERTEX_TEXTURE_IMAGE_UNITS:
 Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val MAX_FRAGMENT_UNIFORM_VECTORS:
 Int\n val SHADER_TYPE: Int\n val DELETE_STATUS: Int\n val LINK_STATUS: Int\n val
 VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n val ACTIVE_UNIFORMS: Int\n val
 ACTIVE_ATTRIBUTES: Int\n val SHADING_LANGUAGE_VERSION: Int\n val
 CURRENT_PROGRAM: Int\n val NEVER: Int\n val LESS: Int\n val EQUAL: Int\n val
 LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n val GEQUAL: Int\n val ALWAYS:
 Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n val DECR: Int\n val INVERT:
 Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val VENDOR: Int\n val RENDERER: Int\n
 val VERSION: Int\n val NEAREST: Int\n val LINEAR: Int\n val
 NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST:
 Int\n val NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val
 TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n
 val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val
 TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val
 MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val
 TEXTURE10: Int\n val TEXTURE11:
 Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val TEXTURE14: Int\n val TEXTURE15:
 Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val TEXTURE18: Int\n val TEXTURE19:
 Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val TEXTURE22: Int\n val TEXTURE23:
 Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val TEXTURE26: Int\n val TEXTURE27:
 Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val TEXTURE30: Int\n val TEXTURE31:
 Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n val CLAMP_TO_EDGE: Int\n val
 MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val FLOAT_VEC3: Int\n val FLOAT_VEC4:
 Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val INT_VEC4: Int\n val BOOL: Int\n val
 BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n
 val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n val SAMPLER_2D: Int\n val
 SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED: Int\n val
 VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n val
 VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n val
 VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING: Int\n
 val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val
 IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val
 LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n
 val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:
 Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val DEPTH_COMPONENT16:
 Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val DEPTH_STENCIL:
 Int\n val RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val
 RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val

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RENDERBUFFER_GREEN_SIZE: Int\n    val RENDERBUFFER_BLUE_SIZE: Int\n    val
RENDERBUFFER_ALPHA_SIZE: Int\n    val RENDERBUFFER_DEPTH_SIZE: Int\n    val
RENDERBUFFER_STENCIL_SIZE: Int\n    val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n    val COLOR_ATTACHMENT0:
Int\n    val DEPTH_ATTACHMENT: Int\n    val STENCIL_ATTACHMENT: Int\n    val
DEPTH_STENCIL_ATTACHMENT: Int\n    val NONE: Int\n    val FRAMEBUFFER_COMPLETE: Int\n
val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n
val FRAMEBUFFER_UNSUPPORTED: Int\n    val FRAMEBUFFER_BINDING: Int\n    val
RENDERBUFFER_BINDING: Int\n    val MAX_RENDERBUFFER_SIZE: Int\n    val
INVALID_FRAMEBUFFER_OPERATION: Int\n    val UNPACK_FLIP_Y_WEBGL: Int\n    val
UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n    val CONTEXT_LOST_WEBGL: Int\n    val
UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n    val BROWSER_DEFAULT_WEBGL: Int\n
}\n}\n\n/**\n * Exposes the JavaScript
[WebGLRenderingContext](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderingContext) to Kotlin\n
*\npublic external abstract class WebGLRenderingContext : WebGLRenderingContextBase, RenderingContext {\n
companion object {\n    val DEPTH_BUFFER_BIT: Int\n    val STENCIL_BUFFER_BIT: Int\n    val
COLOR_BUFFER_BIT: Int\n    val POINTS: Int\n    val LINES: Int\n    val LINE_LOOP: Int\n    val
LINE_STRIP: Int\n    val TRIANGLES: Int\n    val TRIANGLE_STRIP: Int\n    val TRIANGLE_FAN:
Int\n
    val ZERO: Int\n    val ONE: Int\n    val SRC_COLOR: Int\n    val ONE_MINUS_SRC_COLOR: Int\n
    val SRC_ALPHA: Int\n    val ONE_MINUS_SRC_ALPHA: Int\n    val DST_ALPHA: Int\n    val
ONE_MINUS_DST_ALPHA: Int\n    val DST_COLOR: Int\n    val ONE_MINUS_DST_COLOR: Int\n
val SRC_ALPHA_SATURATE: Int\n    val FUNC_ADD: Int\n    val BLEND_EQUATION: Int\n    val
BLEND_EQUATION_RGB: Int\n    val BLEND_EQUATION_ALPHA: Int\n    val FUNC_SUBTRACT:
Int\n    val FUNC_REVERSE_SUBTRACT: Int\n    val BLEND_DST_RGB: Int\n    val
BLEND_SRC_RGB: Int\n    val BLEND_DST_ALPHA: Int\n    val BLEND_SRC_ALPHA: Int\n    val
CONSTANT_COLOR: Int\n    val ONE_MINUS_CONSTANT_COLOR: Int\n    val CONSTANT_ALPHA:
Int\n    val ONE_MINUS_CONSTANT_ALPHA: Int\n    val BLEND_COLOR: Int\n    val
ARRAY_BUFFER: Int\n    val ELEMENT_ARRAY_BUFFER: Int\n    val ARRAY_BUFFER_BINDING:
Int\n    val ELEMENT_ARRAY_BUFFER_BINDING:
Int\n    val STREAM_DRAW: Int\n    val STATIC_DRAW: Int\n    val DYNAMIC_DRAW: Int\n    val
BUFFER_SIZE: Int\n    val BUFFER_USAGE: Int\n    val CURRENT_VERTEX_ATTRIB: Int\n    val
FRONT: Int\n    val BACK: Int\n    val FRONT_AND_BACK: Int\n    val CULL_FACE: Int\n    val
BLEND: Int\n    val DITHER: Int\n    val STENCIL_TEST: Int\n    val DEPTH_TEST: Int\n    val
SCISSOR_TEST: Int\n    val POLYGON_OFFSET_FILL: Int\n    val SAMPLE_ALPHA_TO_COVERAGE:
Int\n    val SAMPLE_COVERAGE: Int\n    val NO_ERROR: Int\n    val INVALID_ENUM: Int\n    val
INVALID_VALUE: Int\n    val INVALID_OPERATION: Int\n    val OUT_OF_MEMORY: Int\n    val CW:
Int\n    val CCW: Int\n    val LINE_WIDTH: Int\n    val ALIASED_POINT_SIZE_RANGE: Int\n    val
ALIASED_LINE_WIDTH_RANGE: Int\n    val CULL_FACE_MODE: Int\n    val FRONT_FACE: Int\n
val DEPTH_RANGE: Int\n    val DEPTH_WRITEMASK:
Int\n    val DEPTH_CLEAR_VALUE: Int\n    val DEPTH_FUNC: Int\n    val STENCIL_CLEAR_VALUE:
Int\n    val STENCIL_FUNC: Int\n    val STENCIL_FAIL: Int\n    val STENCIL_PASS_DEPTH_FAIL:
Int\n    val STENCIL_PASS_DEPTH_PASS: Int\n    val STENCIL_REF: Int\n    val
STENCIL_VALUE_MASK: Int\n    val STENCIL_WRITEMASK: Int\n    val STENCIL_BACK_FUNC:

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Int\n val STENCIL_BACK_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val
 STENCIL_BACK_PASS_DEPTH_PASS: Int\n val STENCIL_BACK_REF: Int\n val
 STENCIL_BACK_VALUE_MASK: Int\n val STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT:
 Int\n val SCISSOR_BOX: Int\n val COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK:
 Int\n val UNPACK_ALIGNMENT: Int\n val PACK_ALIGNMENT: Int\n val
 MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n val SUBPIXEL_BITS: Int\n val
 RED_BITS: Int\n val GREEN_BITS:
 Int\n val BLUE_BITS: Int\n val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val
 STENCIL_BITS: Int\n val POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n
 val TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val
 SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val
 COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val
 NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n val BYTE: Int\n val UNSIGNED_BYTE:
 Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n val INT: Int\n val UNSIGNED_INT: Int\n
 val FLOAT: Int\n val DEPTH_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val
 RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val
 UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val
 UNSIGNED_SHORT_5_6_5:
 Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n val
 MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val
 MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS:
 Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n
 val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val
 SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val
 LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n
 val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n
 val DECR: Int\n
 val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val VENDOR: Int\n val
 RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR: Int\n val
 NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val
 NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val
 TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n
 val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val
 TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val
 MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val
 TEXTURE1: Int\n val TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val
 TEXTURE5: Int\n val TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val
 TEXTURE9: Int\n val TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val
 TEXTURE13: Int\n val TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val
 TEXTURE17: Int\n val TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val
 TEXTURE21: Int\n val TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val
 TEXTURE25: Int\n val TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val
 TEXTURE29: Int\n val TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE_TEXTURE: Int\n

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val REPEAT: Int\n    val CLAMP_TO_EDGE: Int\n    val MIRRORED_REPEAT: Int\n    val
FLOAT_VEC2: Int\n
    val FLOAT_VEC3: Int\n    val FLOAT_VEC4: Int\n    val INT_VEC2: Int\n    val INT_VEC3: Int\n
val INT_VEC4: Int\n    val BOOL: Int\n    val BOOL_VEC2: Int\n    val BOOL_VEC3: Int\n    val
BOOL_VEC4: Int\n    val FLOAT_MAT2: Int\n    val FLOAT_MAT3: Int\n    val FLOAT_MAT4: Int\n
val SAMPLER_2D: Int\n    val SAMPLER_CUBE: Int\n    val VERTEX_ATTRIB_ARRAY_ENABLED:
Int\n    val VERTEX_ATTRIB_ARRAY_SIZE: Int\n    val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n
val VERTEX_ATTRIB_ARRAY_TYPE: Int\n    val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n
val VERTEX_ATTRIB_ARRAY_POINTER: Int\n    val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING:
Int\n    val IMPLEMENTATION_COLOR_READ_TYPE: Int\n    val
IMPLEMENTATION_COLOR_READ_FORMAT: Int\n    val COMPILE_STATUS: Int\n    val
LOW_FLOAT: Int\n    val MEDIUM_FLOAT: Int\n    val HIGH_FLOAT: Int\n    val LOW_INT: Int\n
val MEDIUM_INT: Int\n
    val HIGH_INT: Int\n    val FRAMEBUFFER: Int\n    val RENDERBUFFER: Int\n    val RGBA4: Int\n
val RGB5_A1: Int\n    val RGB565: Int\n    val DEPTH_COMPONENT16: Int\n    val STENCIL_INDEX:
Int\n    val STENCIL_INDEX8: Int\n    val DEPTH_STENCIL: Int\n    val RENDERBUFFER_WIDTH:
Int\n    val RENDERBUFFER_HEIGHT: Int\n    val RENDERBUFFER_INTERNAL_FORMAT: Int\n
val RENDERBUFFER_RED_SIZE: Int\n    val RENDERBUFFER_GREEN_SIZE: Int\n    val
RENDERBUFFER_BLUE_SIZE: Int\n    val RENDERBUFFER_ALPHA_SIZE: Int\n    val
RENDERBUFFER_DEPTH_SIZE: Int\n    val RENDERBUFFER_STENCIL_SIZE: Int\n    val
FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n    val
FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n    val COLOR_ATTACHMENT0:
Int\n    val DEPTH_ATTACHMENT: Int\n    val STENCIL_ATTACHMENT: Int\n
    val DEPTH_STENCIL_ATTACHMENT: Int\n    val NONE: Int\n    val FRAMEBUFFER_COMPLETE:
Int\n    val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n    val FRAMEBUFFER_UNSUPPORTED: Int\n
val FRAMEBUFFER_BINDING: Int\n    val RENDERBUFFER_BINDING: Int\n    val
MAX_RENDERBUFFER_SIZE: Int\n    val INVALID_FRAMEBUFFER_OPERATION: Int\n    val
UNPACK_FLIP_Y_WEBGL: Int\n    val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n    val
CONTEXT_LOST_WEBGL: Int\n    val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n    val
BROWSER_DEFAULT_WEBGL: Int\n    }\n}\n\n/**\n * Exposes the JavaScript
[WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n
*/\n\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =
definedExternally) : Event {\n    open val statusMessage: String\n\n    companion
object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface WebGLContextEventInit : EventInit {\n    var
statusMessage: String? /* = "" */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
WebGLContextEventInit(statusMessage: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): WebGLContextEventInit {\n    val o = js("{}")\n    o["statusMessage"] =
statusMessage\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n
*/\n\npublic external open class ArrayBuffer(length: Int) : BufferDataSource {\n    open

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val byteLength: Int\n fun slice(begin: Int, end: Int = definedExternally): ArrayBuffer\n\n companion object {\n
fun isView(value: Any?): Boolean\n } \n\n/**\n * Exposes the JavaScript
[ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to Kotlin\n */\n\npublic
external interface ArrayBufferView : BufferDataSource {\n val buffer: ArrayBuffer\n val byteOffset: Int\n val
byteLength: Int\n} \n\n/**\n * Exposes the JavaScript
[Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n */\n\npublic external open class
Int8Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Int8Array)\n constructor(array:
Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Int8Array, offset:
Int = definedExternally)\n fun set(array: Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int,
end: Int): Int8Array\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n
}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Int8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Int8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value } \n\n/**\n * Exposes the JavaScript
[Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n */\n\npublic external open class
Uint8Array : ArrayBufferView {\n constructor(length: Int)\n constructor(array: Uint8Array)\n
constructor(array: Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n open val length: Int\n override
val buffer: ArrayBuffer\n override val byteOffset: Int\n override val byteLength: Int\n fun set(array:
Uint8Array, offset: Int = definedExternally)\n fun set(array: Array<Byte>, offset: Int = definedExternally)\n fun
subarray(start: Int, end: Int): Uint8Array\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n
}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Uint8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Uint8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value } \n\n/**\n * Exposes the JavaScript
[Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin\n */\n\npublic
external open class Uint8ClampedArray : ArrayBufferView {\n constructor(length: Int)\n constructor(array:
Uint8ClampedArray)\n constructor(array:
Array<Byte>)\n constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n open val length: Int\n override val buffer: ArrayBuffer\n override val byteOffset: Int\n
override val byteLength: Int\n fun set(array: Uint8ClampedArray, offset: Int = definedExternally)\n fun
set(array: Array<Byte>, offset: Int = definedExternally)\n fun subarray(start: Int, end: Int):
Uint8ClampedArray\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n
}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
Uint8ClampedArray.get(index: Int): Byte = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
Uint8ClampedArray.set(index: Int, value: Byte) { asDynamic()[index] = value } \n\n/**\n * Exposes the JavaScript
[Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array)
to Kotlin\n */\n\npublic external open class Int16Array : ArrayBufferView {\n constructor(length: Int)\n
constructor(array: Int16Array)\n constructor(array: Array<Short>)\n constructor(buffer: ArrayBuffer,
byteOffset: Int = definedExternally, length: Int = definedExternally)\n open val length: Int\n override val buffer:
ArrayBuffer\n override val byteOffset: Int\n override val byteLength: Int\n fun set(array: Int16Array, offset:
Int = definedExternally)\n fun set(array: Array<Short>, offset: Int = definedExternally)\n fun subarray(start: Int,
end: Int): Int16Array\n\n companion object {\n val BYTES_PER_ELEMENT: Int\n
}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
Int16Array.get(index: Int): Short = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
Int16Array.set(index: Int, value: Short) { asDynamic()[index] = value } \n\n/**\n * Exposes the JavaScript

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end: Int): Int16Array\n\n companion object {\n    val BYTES_PER_ELEMENT: Int\n}\n}\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.get(index: Int): Short = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.set(index: Int, value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin\n */\npublic external open class Uint16Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Uint16Array)\n    constructor(array: Array<Short>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n    override val byteLength: Int\n    fun set(array: Uint16Array, offset: Int = definedExternally)\n    fun set(array: Array<Short>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Uint16Array\n\n    companion object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.get(index: Int): Short = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.set(index: Int, value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin\n */\npublic external open class Int32Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Int32Array)\n    constructor(array: Array<Int>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n    override val byteLength: Int\n    fun set(array: Int32Array, offset: Int = definedExternally)\n    fun set(array: Array<Int>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Int32Array\n\n    companion object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.get(index: Int): Int = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.set(index: Int, value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin\n */\npublic external open class Uint32Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Uint32Array)\n    constructor(array: Array<Int>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n    override val byteLength: Int\n    fun set(array: Uint32Array, offset: Int = definedExternally)\n    fun set(array: Array<Int>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Uint32Array\n\n    companion object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint32Array.get(index: Int): Int = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",\n"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint32Array.set(index: Int, value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin\n */\npublic external open class Float32Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Float32Array)\n    constructor(array: Array<Float>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n    override val byteLength: Int\n    fun set(array: Float32Array, offset: Int = definedExternally)\n    fun set(array: Array<Float>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Float32Array\n\n    companion object {\n        val

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BYTES_PER_ELEMENT: Int\n } }\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float32Array.get(index: Int):
Float = asDynamic()[index]\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float32Array.set(index: Int,
value: Float) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin\n */\npublic external open
class Float64Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Float64Array)\n
constructor(array: Array<Double>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n
    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n    override val
byteLength: Int\n    fun set(array: Float64Array, offset: Int = definedExternally)\n    fun set(array: Array<Double>,
offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Float64Array\n\n    companion object {\n
val BYTES_PER_ELEMENT: Int\n } }\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float64Array.get(index: Int):
Double = asDynamic()[index]\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Float64Array.set(index: Int,
value: Double) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin\n */\npublic external open class
DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength:
Int = definedExternally) : ArrayBufferView {\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n
    override val byteLength: Int\n    fun getInt8(byteOffset: Int): Byte\n    fun getUint8(byteOffset: Int): Byte\n
    fun getInt16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short\n    fun getUint16(byteOffset: Int,
littleEndian: Boolean = definedExternally): Short\n    fun getInt32(byteOffset: Int, littleEndian: Boolean =
definedExternally): Int\n    fun getUint32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int\n
    fun getFloat32(byteOffset: Int, littleEndian: Boolean = definedExternally): Float\n    fun getFloat64(byteOffset: Int,
littleEndian: Boolean = definedExternally): Double\n    fun setInt8(byteOffset: Int, value: Byte)\n    fun
setUint8(byteOffset: Int, value: Byte)\n    fun setInt16(byteOffset: Int, value: Short, littleEndian: Boolean =
definedExternally)\n    fun setUint16(byteOffset: Int, value: Short, littleEndian: Boolean
= definedExternally)\n    fun setInt32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)\n
    fun setUint32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)\n    fun setFloat32(byteOffset: Int,
value: Float, littleEndian: Boolean = definedExternally)\n    fun setFloat64(byteOffset: Int, value: Double,
littleEndian: Boolean = definedExternally)\n}\n\npublic external interface BufferDataSource\n\npublic external
interface TexImageSource", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.dom.clipboard\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface
ClipboardEventInit : EventInit {\n
    var clipboardData: DataTransfer? /* = null */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ClipboardEventInit(clipboardData:
DataTransfer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
ClipboardEventInit {\n    val o = js("{}")\n    o["clipboardData"] = clipboardData\n    o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n    o["composed"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\npublic external
open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {\n    open
val clipboardData: DataTransfer?\n\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val

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BUBBLING_PHASE: Short\n } \n\n\n\n * Exposes the JavaScript
[Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to Kotlin\n *\npublic external abstract class
Clipboard : EventTarget {\n fun read(): Promise<DataTransfer>\n fun readText(): Promise<String>\n fun
write(data: DataTransfer): Promise<Unit>\n fun writeText(data: String): Promise<Unit>\n}\n\n\npublic external
interface ClipboardPermissionDescriptor {\n var allowWithoutGesture: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {\n val
o = js("{}")\n o["allowWithoutGesture"] = allowWithoutGesture\n return o\n}, /*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source
code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE:
THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.css\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\npublic external
abstract class MediaList : ItemArrayLike<String> {\n open var mediaText: String\n fun
appendMedium(medium: String)\n fun deleteMedium(medium: String)\n override fun item(index: Int):
String?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun MediaList.get(index: Int):
String? = asDynamic()[index]\n\n\n * Exposes the JavaScript
[StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin\n *\npublic external abstract
class StyleSheet {\n open val type: String\n open val href: String?\n open val ownerNode:
UnionElementOrProcessingInstruction?\n open val parentStyleSheet:
StyleSheet?\n open val title: String?\n open val media: MediaList\n open var disabled: Boolean}\n\n\n\n *
Exposes the JavaScript [CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin\n
*\npublic external abstract class CSSStyleSheet : StyleSheet {\n open val ownerRule: CSSRule?\n open val
cssRules: CSSRuleList\n fun insertRule(rule: String, index: Int): Int\n fun deleteRule(index: Int)\n}\n\n\n\n *
Exposes the JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin\n
*\npublic external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {\n override fun item(index: Int):
StyleSheet?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun StyleSheetList.get(index: Int):
StyleSheet? = asDynamic()[index]\n\n\n\n * Exposes the JavaScript
[LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle)
to Kotlin\n *\npublic external interface LinkStyle {\n val sheet: StyleSheet?\n get() =
definedExternally\n}\n\n\n\n * Exposes the JavaScript
[CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin\n *\npublic external abstract
class CSSRuleList : ItemArrayLike<CSSRule> {\n override fun item(index: Int):
CSSRule?\n}\n\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun CSSRuleList.get(index: Int):
CSSRule? = asDynamic()[index]\n\n\n\n * Exposes the JavaScript
[CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin\n *\npublic external abstract class
CSSRule {\n open val type: Short\n open var cssText: String\n open val parentRule: CSSRule?\n open val
parentStyleSheet: CSSStyleSheet?\n\n companion object {\n val STYLE_RULE: Short\n val
CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val
FONT_FACE_RULE:
Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n
}\n}\n\n\n\n * Exposes the JavaScript
[CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n *\npublic external
abstract class CSSStyleRule : CSSRule {\n open var selectorText: String\n open val style:
CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE:

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Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val FONT_FACE_RULE: Short\n
    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val NAMESPACE_RULE: Short\n
}\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n    open val href: String\n    open val media:
MediaList\n    open val styleSheet: CSSStyleSheet\n    companion object {\n        val STYLE_RULE: Short\n
val CHARSET_RULE: Short\n        val IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val
FONT_FACE_RULE: Short\n        val PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val
NAMESPACE_RULE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n */\n\npublic
external abstract class CSSGroupingRule : CSSRule {\n    open val cssRules: CSSRuleList\n    fun insertRule(rule:
String, index: Int): Int\n    fun deleteRule(index: Int)\n    companion object {\n        val STYLE_RULE: Short\n
val CHARSET_RULE: Short\n        val IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val
FONT_FACE_RULE: Short\n        val PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val
NAMESPACE_RULE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n */\n\npublic external
abstract class CSSMediaRule : CSSGroupingRule {\n    open val media: MediaList\n    companion object {\n
val STYLE_RULE:
Short\n    val CHARSET_RULE: Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val
FONT_FACE_RULE: Short\n    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val
NAMESPACE_RULE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n */\n\npublic external
abstract class CSSPageRule : CSSGroupingRule {\n    open var selectorText: String\n    open val style:
CSSStyleDeclaration\n    companion object {\n        val STYLE_RULE: Short\n        val CHARSET_RULE:
Short\n        val IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val FONT_FACE_RULE: Short\n
val PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val NAMESPACE_RULE: Short\n
}\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n    open val name: String\n    open val style:
CSSStyleDeclaration\n    companion object {\n        val STYLE_RULE: Short\n
val CHARSET_RULE: Short\n        val IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val
FONT_FACE_RULE: Short\n        val PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val
NAMESPACE_RULE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n */\n\npublic
external abstract class CSSNamespaceRule : CSSRule {\n    open val namespaceURI: String\n    open val prefix:
String\n    companion object {\n        val STYLE_RULE: Short\n        val CHARSET_RULE: Short\n        val
IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val FONT_FACE_RULE: Short\n        val
PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val NAMESPACE_RULE: Short\n    }\n}\n\n/**\n *
Exposes the JavaScript
[CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n */\n\npublic
external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n
    open var cssText: String\n    open val parentRule: CSSRule?\n    open var cssFloat: String\n    open var
alignContent: String\n    open var alignItems: String\n    open var alignSelf: String\n    open var animation: String\n
open var animationDelay: String\n    open var animationDirection: String\n    open var animationDuration: String\n
open var animationFillMode: String\n    open var animationIterationCount: String\n    open var animationName:
String\n    open var animationPlayState: String\n    open var animationTimingFunction: String\n    open var
backfaceVisibility: String\n    open var background: String\n    open var backgroundAttachment: String\n    open var
backgroundClip: String\n    open var backgroundColor: String\n    open var backgroundImage: String\n    open var
backgroundOrigin: String\n    open var backgroundPosition: String\n    open var backgroundRepeat: String\n    open
var backgroundSize: String\n    open var border: String\n    open var borderBottom: String\n
    open var borderBottomColor: String\n    open var borderBottomLeftRadius: String\n    open var
borderBottomRightRadius: String\n    open var borderBottomStyle: String\n    open var borderBottomWidth:

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String\n open var borderCollapse: String\n open var borderColor: String\n open var borderImage: String\n open var borderImageOutset: String\n open var borderImageRepeat: String\n open var borderImageSlice: String\n open var borderImageSource: String\n open var borderImageWidth: String\n open var borderLeft: String\n open var borderLeftColor: String\n open var borderLeftStyle: String\n open var borderLeftWidth: String\n open var borderRadius: String\n open var borderRight: String\n open var borderRightColor: String\n open var borderRightStyle: String\n open var borderRightWidth: String\n open var borderSpacing: String\n open var borderStyle: String\n open var borderTop: String\n open var borderTopColor: String\n open var borderTopLeftRadius: String\n open var borderTopRightRadius: String\n open var borderTopStyle: String\n open var borderTopWidth: String\n open var borderWidth: String\n open var bottom: String\n open var boxDecorationBreak: String\n open var boxShadow: String\n open var boxSizing: String\n open var breakAfter: String\n open var breakBefore: String\n open var breakInside: String\n open var captionSide: String\n open var clear: String\n open var clip: String\n open var color: String\n open var columnCount: String\n open var columnFill: String\n open var columnGap: String\n open var columnRule: String\n open var columnRuleColor: String\n open var columnRuleStyle: String\n open var columnRuleWidth: String\n open var columnSpan: String\n open var columnWidth: String\n open var columns: String\n open var content: String\n open var counterIncrement: String\n open var counterReset: String\n open var cursor: String\n open var direction: String\n open var display: String\n open var emptyCells: String\n open var filter: String\n open var flex: String\n open var flexBasis: String\n open var flexDirection: String\n open var flexFlow: String\n open var flexGrow: String\n open var flexShrink: String\n open var flexWrap: String\n open var font: String\n open var fontFamily: String\n open var fontFeatureSettings: String\n open var fontKerning: String\n open var fontLanguageOverride: String\n open var fontSize: String\n open var fontSizeAdjust: String\n open var fontStretch: String\n open var fontStyle: String\n open var fontSynthesis: String\n open var fontVariant: String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open var imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom: String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight: String\n open var maxWidth: String\n open var minHeight: String\n open var minWidth: String\n open var navDown: String\n open var navIndex: String\n open var navLeft: String\n open var navRight: String\n open var navUp: String\n open var objectFit: String\n open var objectPosition: String\n open var opacity: String\n open var order: String\n open var orphans: String\n open var outline: String\n open var outlineColor: String\n open var outlineOffset: String\n open var outlineStyle: String\n open var outlineWidth: String\n open var overflowWrap: String\n open var overflowX: String\n open var overflowY: String\n open var padding: String\n open var paddingBottom: String\n open var paddingLeft: String\n open var paddingRight: String\n open var paddingTop: String\n open var pageBreakAfter: String\n open var pageBreakBefore: String\n open var pageBreakInside: String\n open var perspective: String\n open var perspectiveOrigin: String\n open var phonemes: String\n open var position: String\n open var quotes: String\n open var resize: String\n open var rest: String\n open var restAfter: String\n open var restBefore: String\n open var right: String\n open var tabSize: String\n open var tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n open var textCombineUpright: String\n open var textDecoration: String\n open var

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textDecorationColor: String\n  open var textDecorationLine: String\n  open var textDecorationStyle: String\n
open var textIndent: String\n  open var textJustify: String\n  open var textOrientation: String\n  open var
textOverflow: String\n  open var textShadow: String\n  open var textTransform: String\n  open var
textUnderlinePosition: String\n  open var top: String\n  open var transform:
String\n  open var transformOrigin: String\n  open var transformStyle: String\n  open var transition: String\n
open var transitionDelay: String\n  open var transitionDuration: String\n  open var transitionProperty: String\n
open var transitionTimingFunction: String\n  open var unicodeBidi: String\n  open var verticalAlign: String\n
open var visibility: String\n  open var voiceBalance: String\n  open var voiceDuration: String\n  open var
voicePitch: String\n  open var voicePitchRange: String\n  open var voiceRate: String\n  open var voiceStress:
String\n  open var voiceVolume: String\n  open var whiteSpace: String\n  open var widows: String\n  open var
width: String\n  open var wordBreak: String\n  open var wordSpacing: String\n  open var wordWrap: String\n
open var writingMode: String\n  open var zIndex: String\n  open var _dashed_attribute: String\n  open var
_camel_cased_attribute: String\n  open var _webkit_cased_attribute:
String\n  fun getPropertyValue(property: String): String\n  fun getPropertyPriority(property: String): String\n
fun setProperty(property: String, value: String, priority: String = definedExternally)\n  fun
setPropertyValue(property: String, value: String)\n  fun setPropertyPriority(property: String, priority: String)\n
fun removeProperty(property: String): String\n  override fun item(index: Int):
String\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
CSSStyleDeclaration.get(index: Int): String? = asDynamic()[index]\n\npublic external interface
ElementCSSInlineStyle {\n  val style: CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript
[CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n */\npublic external abstract class CSS {\n
companion object {\n  fun escape(ident: String): String\n  }\n}\n\npublic external interface
UnionElementOrProcessingInstruction\", \"/*\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS
AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.encryptedmedia\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.events.*\n\n/**\n * Exposes the JavaScript
[MediaKeySystemConfiguration](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemConfiguration)
to Kotlin\n */\npublic external interface MediaKeySystemConfiguration {\n  var label: String? /* = \"\" */\n
get() = definedExternally\n  set(value) = definedExternally\n  var initDataTypes: Array<String>? /* = arrayOf()
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var audioCapabilities:
Array<MediaKeySystemMediaCapability>? /* = arrayOf() */\n  get() = definedExternally\n
set(value) = definedExternally\n  var videoCapabilities: Array<MediaKeySystemMediaCapability>? /* =
arrayOf() */\n  get() = definedExternally\n  set(value) = definedExternally\n  var distinctiveIdentifier:
MediaKeysRequirement? /* = MediaKeysRequirement.OPTIONAL */\n  get() = definedExternally\n
set(value) = definedExternally\n  var persistentState: MediaKeysRequirement? /* =
MediaKeysRequirement.OPTIONAL */\n  get() = definedExternally\n  set(value) = definedExternally\n
var sessionTypes: Array<String>?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaKeySystemConfiguration(label:
String? = \"\", initDataTypes: Array<String>? = arrayOf(), audioCapabilities:
Array<MediaKeySystemMediaCapability>? = arrayOf(), videoCapabilities:
Array<MediaKeySystemMediaCapability>? = arrayOf(),
distinctiveIdentifier: MediaKeysRequirement? = MediaKeysRequirement.OPTIONAL, persistentState:
MediaKeysRequirement? = MediaKeysRequirement.OPTIONAL, sessionTypes: Array<String>? = undefined):
MediaKeySystemConfiguration {\n  val o = js(\"{\}\")\n  o[\"label\"] = label\n  o[\"initDataTypes\"] =

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initDataTypes\n  o[\"audioCapabilities\"] = audioCapabilities\n  o[\"videoCapabilities\"] = videoCapabilities\n
o[\"distinctiveIdentifier\"] = distinctiveIdentifier\n  o[\"persistentState\"] = persistentState\n  o[\"sessionTypes\"]
= sessionTypes\n  return o\n}\n\npublic external interface MediaKeySystemMediaCapability {\n  var
contentType: String? /* = \"\" */\n  get() = definedExternally\n  set(value) = definedExternally\n  var
robustness: String? /* = \"\" */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaKeySystemMediaCapability(contentType:
String? = \"\", robustness: String? = \"\"): MediaKeySystemMediaCapability {\n  val o = js(\"({})\")\n
o[\"contentType\"] = contentType\n  o[\"robustness\"] = robustness\n  return o\n}\n\n/**\n * Exposes the
JavaScript [MediaKeySystemAccess](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemAccess) to
Kotlin\n */\npublic external abstract class MediaKeySystemAccess {\n  open val keySystem: String\n  fun
getConfiguration(): MediaKeySystemConfiguration\n  fun createMediaKeys(): Promise<MediaKeys>\n}\n\n/**\n * Exposes the JavaScript [MediaKeys](https://developer.mozilla.org/en/docs/Web/API/MediaKeys) to Kotlin\n
*/\npublic external abstract class MediaKeys {\n  fun createSession(sessionType: MediaKeySessionType =
definedExternally): MediaKeySession\n  fun setServerCertificate(serverCertificate: dynamic):
Promise<Boolean>\n}\n\n/**\n * Exposes the JavaScript
[MediaKeySession](https://developer.mozilla.org/en/docs/Web/API/MediaKeySession)
to Kotlin\n */\npublic external abstract class MediaKeySession : EventTarget {\n  open val sessionId: String\n
open val expiration: Double\n  open val closed: Promise<Unit>\n  open val keyStatuses: MediaKeyStatusMap\n
open var onkeystatuschange: ((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n
fun generateRequest(initDataType: String, initData: dynamic): Promise<Unit>\n  fun load(sessionId: String):
Promise<Boolean>\n  fun update(response: dynamic): Promise<Unit>\n  fun close(): Promise<Unit>\n  fun
remove(): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[MediaKeyStatusMap](https://developer.mozilla.org/en/docs/Web/API/MediaKeyStatusMap) to Kotlin\n */\npublic
external abstract class MediaKeyStatusMap {\n  open val size: Int\n  fun has(keyId: dynamic): Boolean\n  fun
get(keyId: dynamic): Any?\n}\n\n/**\n * Exposes the JavaScript
[MediaKeyMessageEvent](https://developer.mozilla.org/en/docs/Web/API/MediaKeyMessageEvent)
to Kotlin\n */\npublic external open class MediaKeyMessageEvent(type: String, eventInitDict:
MediaKeyMessageEventInit) : Event {\n  open val messageType: MediaKeyMessageType\n  open val message:
ArrayBuffer\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
MediaKeyMessageEventInit : EventInit {\n  var messageType: MediaKeyMessageType?\n  var message:
ArrayBuffer?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaKeyMessageEventInit(messageType: MediaKeyMessageType?, message: ArrayBuffer?, bubbles: Boolean? =
false, cancelable: Boolean? = false, composed: Boolean? = false): MediaKeyMessageEventInit {\n  val o =
js(\"({})\")\n  o[\"messageType\"] = messageType\n  o[\"message\"] = message\n  o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n  o[\"composed\"]
= composed\n  return o\n}\n\npublic external open class MediaEncryptedEvent(type: String, eventInitDict:
MediaEncryptedEventInit = definedExternally) : Event {\n  open val initDataType: String\n  open val initData:
ArrayBuffer?\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
MediaEncryptedEventInit : EventInit {\n  var initDataType: String? /* = \"\" */\n  get() = definedExternally\n
set(value) = definedExternally\n  var initData: ArrayBuffer? /* = null */\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaEncryptedEventInit(initDataType: String? = \"\", initData: ArrayBuffer? = null, bubbles: Boolean? = false,

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cancelable: Boolean? = false, composed: Boolean? = false): MediaEncryptedEventInit
    {\n    val o = js\{"(}\}\")\n    o\["initDataType"] = initDataType\n    o\["initData"] = initData\n    o\["bubbles"] =
bubbles\n    o\["cancelable"] = cancelable\n    o\["composed"] = composed\n    return o\n}\n\n/* please, don't
implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeysRequirement {\n    companion object\n}\n\npublic inline val
MediaKeysRequirement.Companion.REQUIRED: MediaKeysRequirement get() =
"required".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val
MediaKeysRequirement.Companion.OPTIONAL: MediaKeysRequirement get() =
"optional".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val
MediaKeysRequirement.Companion.NOT_ALLOWED: MediaKeysRequirement get() = "not-
allowed".asDynamic().unsafeCast<MediaKeysRequirement>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic
external interface MediaKeySessionType {\n    companion object\n}\n\npublic inline val
MediaKeySessionType.Companion.TEMPORARY: MediaKeySessionType get() =
"temporary".asDynamic().unsafeCast<MediaKeySessionType>()\n\npublic inline val
MediaKeySessionType.Companion.PERSISTENT_LICENSE: MediaKeySessionType get() = "persistent-
license".asDynamic().unsafeCast<MediaKeySessionType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeyStatus {\n    companion object\n}\n\npublic inline val MediaKeyStatus.Companion.USABLE:
MediaKeyStatus get() = "usable".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.EXPIRED: MediaKeyStatus get() =
"expired".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.RELEASED: MediaKeyStatus get() =
"released".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.OUTPUT_RESTRICTED:
MediaKeyStatus get() = "output-restricted".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.OUTPUT_DOWNSCALED: MediaKeyStatus get() = "output-
downscaled".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.STATUS_PENDING: MediaKeyStatus get() = "status-
pending".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.INTERNAL_ERROR: MediaKeyStatus get() = "internal-
error".asDynamic().unsafeCast<MediaKeyStatus>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeyMessageType {\n    companion object\n}\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_REQUEST: MediaKeyMessageType get() = "license-
request".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_RENEWAL: MediaKeyMessageType
get() = "license-renewal".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_RELEASE: MediaKeyMessageType get() = "license-
release".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.INDIVIDUALIZATION_REQUEST: MediaKeyMessageType get() =
"individualization-request".asDynamic().unsafeCast<MediaKeyMessageType>()"/\n\n/* Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n\n/* Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n/* NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.events\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\n/**\n\n/* Exposes
the JavaScript [UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n\n*\n\npublic external

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open class UIEvent(type: String,
    eventInitDict: UIEventInit = definedExternally) : Event {
    open val view: Window?
    open val detail: Int

    companion object {
        val NONE: Short
        val CAPTURING_PHASE: Short
        val AT_TARGET: Short
        val BUBBLING_PHASE: Short
    }

    public external interface UIEventInit : EventInit {
        var view: Window? /* = null */
        get() = definedExternally
        set(value) = definedExternally
        var detail: Int? /* = 0 */
        get() = definedExternally
        set(value) = definedExternally
    }

    @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
    @kotlin.internal.InlineOnly
    public inline fun UIEventInit(view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): UIEventInit {
        val o = js("{}")
        o["view"] = view
        o["detail"] = detail
        o["bubbles"] = bubbles
        o["cancelable"] = cancelable
        o["composed"] = composed
        return o
    }

    /** Exposes the JavaScript [FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent) to Kotlin */
    public external open class FocusEvent(type: String, eventInitDict: FocusEventInit = definedExternally) : UIEvent {
        open val relatedTarget: EventTarget?

        companion object {
            val NONE: Short
            val CAPTURING_PHASE: Short
            val AT_TARGET: Short
            val BUBBLING_PHASE: Short
        }

        public external interface FocusEventInit : UIEventInit {
            var relatedTarget: EventTarget? /* = null */
            get() = definedExternally
            set(value) = definedExternally
        }

        @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
        @kotlin.internal.InlineOnly
        public inline fun FocusEventInit(relatedTarget: EventTarget? = null, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): FocusEventInit {
            val o = js("{}")
            o["relatedTarget"] = relatedTarget
            o["view"] = view
            o["detail"] = detail
            o["bubbles"] = bubbles
            o["cancelable"] = cancelable
            o["composed"] = composed
            return o
        }

        /** Exposes the JavaScript [MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin */
        public external open class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) : UIEvent, UnionElementOrMouseEvent {
            open val screenX: Int
            open val screenY: Int
            open val clientX: Int
            open val clientY: Int
            open val ctrlKey: Boolean
            open val shiftKey: Boolean
            open val altKey: Boolean
            open val metaKey: Boolean
            open val button: Short
            open val buttons: Short
            open val relatedTarget: EventTarget?
            open val region: String?
            open val pageX: Double
            open val pageY: Double
            open val x: Double
            open val y: Double
            open val offsetX: Double
            open val offsetY: Double
            fun getModifierState(keyArg: String): Boolean

            companion object {
                val NONE: Short
                val CAPTURING_PHASE: Short
                val AT_TARGET: Short
                val BUBBLING_PHASE: Short
            }

            public external interface MouseEventInit : EventModifierInit {
                var screenX: Int? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var screenY: Int? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var clientX: Int? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var clientY: Int? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var button: Short? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var buttons: Short? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var relatedTarget: EventTarget? /* = null */
                get() = definedExternally
                set(value) = definedExternally
                var region: String? /* = null */
                get() = definedExternally
                set(value) = definedExternally
            }

            @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
            @kotlin.internal.InlineOnly
            public inline fun MouseEventInit(screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false,

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modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false,
modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false,
modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean?
= false): MouseEventInit {
    val o = js("{}")
    o["screenX"] = screenX
    o["screenY"] = screenY
    o["clientX"] = clientX
    o["clientY"] = clientY
    o["button"] = button
    o["buttons"] = buttons
    o["relatedTarget"] = relatedTarget
    o["region"] = region
    o["ctrlKey"] = ctrlKey
    o["shiftKey"] =
    shiftKey
    o["altKey"] = altKey
    o["metaKey"] = metaKey
    o["modifierAltGraph"] =
    modifierAltGraph
    o["modifierCapsLock"] = modifierCapsLock
    o["modifierFn"] = modifierFn
    o["modifierFnLock"] = modifierFnLock
    o["modifierHyper"] = modifierHyper
    o["modifierNumLock"] =
    modifierNumLock
    o["modifierScrollLock"] = modifierScrollLock
    o["modifierSuper"] = modifierSuper
    o["modifierSymbol"] = modifierSymbol
    o["modifierSymbolLock"] = modifierSymbolLock
    o["view"] =
    view
    o["detail"] = detail
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}

public external interface EventModifierInit : UIEventInit {
    var ctrlKey: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var shiftKey: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var altKey: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var metaKey: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var modifierAltGraph: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var modifierCapsLock: Boolean? /* = false */
    get() = definedExternally
    set(value) =
    definedExternally
    var modifierFn: Boolean? /* = false */
    get() = definedExternally
    set(value) =
    definedExternally
    var modifierFnLock: Boolean? /* = false */
    get()
    = definedExternally
    set(value) = definedExternally
    var modifierHyper: Boolean? /* = false */
    get()
    = definedExternally
    set(value) = definedExternally
    var modifierNumLock: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var modifierScrollLock: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var modifierSuper: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var modifierSymbol: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
    var modifierSymbolLock: Boolean? /* = false
    */
    get() = definedExternally
    set(value) =
    definedExternally
}

@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun EventModifierInit(ctrlKey: Boolean? =
false, shiftKey: Boolean? = false, altKey:
Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? =
false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false,
modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false,
modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): EventModifierInit {
    val o
    = js("{}")
    o["ctrlKey"] = ctrlKey
    o["shiftKey"] = shiftKey
    o["altKey"] = altKey
    o["metaKey"] = metaKey
    o["modifierAltGraph"] = modifierAltGraph
    o["modifierCapsLock"] =
    modifierCapsLock
    o["modifierFn"] = modifierFn
    o["modifierFnLock"] = modifierFnLock
    o["modifierHyper"] = modifierHyper
    o["modifierNumLock"] = modifierNumLock
    o["modifierScrollLock"] = modifierScrollLock
    o["modifierSuper"] = modifierSuper
    o["modifierSymbol"] = modifierSymbol
    o["modifierSymbolLock"] = modifierSymbolLock
    o["view"] = view
    o["detail"] = detail
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return
    o
}

/** Exposes the JavaScript [WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent)
to Kotlin */
public external open class WheelEvent(type: String, eventInitDict: WheelEventInit =
definedExternally) : MouseEvent {
    open val deltaX: Double
    open val deltaY: Double
    open val deltaZ:

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Double\n    open val deltaMode: Int\n\n    companion object {\n        val DOM_DELTA_PIXEL: Int\n        val DOM_DELTA_LINE: Int\n        val DOM_DELTA_PAGE: Int\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n\n    public external interface WheelEventInit : MouseEventInit {\n        var deltaX: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) = definedExternally\n        var deltaY: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) = definedExternally\n        var deltaZ: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) = definedExternally\n        var deltaMode: Int? /* = 0 */\n        get() = definedExternally\n        set(value) = definedExternally\n    }\n\n    @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun WheelEventInit(deltaX: Double? = 0.0, deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n        val o = js(\"({})\")\n        o[\"deltaX\"] = deltaX\n        o[\"deltaY\"] = deltaY\n        o[\"deltaZ\"] = deltaZ\n        o[\"deltaMode\"] = deltaMode\n        o[\"screenX\"] = screenX\n        o[\"screenY\"] = screenY\n        o[\"clientX\"] = clientX\n        o[\"clientY\"] = clientY\n        o[\"button\"] = button\n        o[\"buttons\"] = buttons\n        o[\"relatedTarget\"] = relatedTarget\n        o[\"region\"] = region\n        o[\"ctrlKey\"] = ctrlKey\n        o[\"shiftKey\"] = shiftKey\n        o[\"altKey\"] = altKey\n        o[\"metaKey\"] = metaKey\n        o[\"modifierAltGraph\"] = modifierAltGraph\n        o[\"modifierCapsLock\"] = modifierCapsLock\n        o[\"modifierFn\"] = modifierFn\n        o[\"modifierFnLock\"] = modifierFnLock\n        o[\"modifierHyper\"] = modifierHyper\n        o[\"modifierNumLock\"] = modifierNumLock\n        o[\"modifierScrollLock\"] = modifierScrollLock\n        o[\"modifierSuper\"] = modifierSuper\n        o[\"modifierSymbol\"] = modifierSymbol\n        o[\"modifierSymbolLock\"] = modifierSymbolLock\n        o[\"view\"] = view\n        o[\"detail\"] = detail\n        o[\"bubbles\"] = bubbles\n        o[\"cancelable\"] = cancelable\n        o[\"composed\"] = composed\n        return o\n    }\n\n    /**\n     * Exposes the JavaScript [MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin\n     */\n\n    public external open class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) : UIEvent {\n        open val data: String\n        open val isComposing: Boolean\n\n        companion object {\n            val NONE: Short\n            val CAPTURING_PHASE: Short\n            val AT_TARGET: Short\n            val BUBBLING_PHASE: Short\n        }\n\n        public external interface MouseEventInit : UIEventInit {\n            var data: String? /* = \"\" */\n            get() = definedExternally\n            set(value) = definedExternally\n            var isComposing: Boolean? /* = false */\n            get() = definedExternally\n            set(value) = definedExternally\n        }\n\n        @Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n        @kotlin.internal.InlineOnly\n        public inline fun MouseEventInit(data: String? = \"\", isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MouseEventInit {\n            val o = js(\"({})\")\n            o[\"data\"] = data\n            o[\"isComposing\"] = isComposing\n            o[\"view\"] = view\n            o[\"detail\"] = detail\n            o[\"bubbles\"] = bubbles\n            o[\"cancelable\"] = cancelable\n            o[\"composed\"] = composed\n            return o\n        }\n\n        /**\n         * Exposes the JavaScript [KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin\n         */\n\n        public external open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n            open val key: String\n            open val code: String\n            open val location: Int\n            open val ctrlKey: Boolean\n            open val shiftKey: Boolean\n            open val altKey: Boolean\n            open val metaKey: Boolean\n            open val repeat: Boolean\n            open val isComposing: Boolean\n            open val charCode: Int\n            open val keyCode: Int\n            open val which: Int\n            fun getModifierState(keyArg: String): Boolean\n\n            companion object {\n                val DOM_KEY_LOCATION_STANDARD: Int\n                val DOM_KEY_LOCATION_LEFT: Int\n                val DOM_KEY_LOCATION_RIGHT: Int\n                val DOM_KEY_LOCATION_NUMPAD: Int\n                val NONE: Int

```

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Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE:
Short\n } }\n\npublic external interface KeyboardEventInit : EventModifierInit {\n    var key: String? /* = "" */
*\n    get() = definedExternally\n        set(value) = definedExternally\n    var code: String? /* = "" */\n    get() = definedExternally\n
set(value) = definedExternally\n    var location: Int? /* = 0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var repeat: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var isComposing: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun KeyboardEventInit(key: String? = "",
code: String? = "", location: Int? = 0, repeat: Boolean? = false, isComposing: Boolean? = false, ctrlKey: Boolean?
= false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper:
Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper:
Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? =
null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
KeyboardEventInit {\n    val o = js("{}")\n    o["key"] = key\n    o["code"] = code\n    o["location"] =
location\n    o["repeat"] = repeat\n    o["isComposing"] = isComposing\n    o["ctrlKey"] = ctrlKey\n
o["shiftKey"] = shiftKey\n    o["altKey"] = altKey\n    o["metaKey"] = metaKey\n    o["modifierAltGraph"] =
modifierAltGraph\n    o["modifierCapsLock"] = modifierCapsLock\n    o["modifierFn"] = modifierFn\n
o["modifierFnLock"] = modifierFnLock\n    o["modifierHyper"] = modifierHyper\n    o["modifierNumLock"] =
modifierNumLock\n    o["modifierScrollLock"] = modifierScrollLock\n    o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"]
= modifierSymbol\n    o["modifierSymbolLock"] = modifierSymbolLock\n    o["view"] = view\n    o["detail"]
= detail\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] = composed\n    return
o\n}\n\n/**\n * Exposes the JavaScript
[CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n *\n\npublic
external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) :
UIEvent {\n    open val data: String\n\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n
}\n}\n\n\npublic external interface CompositionEventInit : UIEventInit {\n    var data: String? /* = "" */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun CompositionEventInit(data:
String? = "", view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): CompositionEventInit {\n    val o = js("{}")\n    o["data"] = data\n    o["view"] =
view\n    o["detail"] = detail\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] =
composed\n    return o\n}\n\n\n/**\n * Exposes the JavaScript
[Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n *\n\npublic external open class
Event(type: String, eventInitDict: EventInit = definedExternally) {\n    open val type: String\n    open val target:
EventTarget?\n    open val currentTarget: EventTarget?\n    open val eventPhase: Short\n    open val bubbles:
Boolean\n    open val cancelable: Boolean\n    open val defaultPrevented: Boolean\n    open val composed:
Boolean\n    open val isTrusted: Boolean\n    open val timeStamp: Number\n    fun composedPath():
Array<EventTarget>\n    fun stopPropagation()\n
    fun stopImmediatePropagation()\n    fun preventDefault()\n    fun initEvent(type: String, bubbles: Boolean,
cancelable: Boolean)\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n
        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\n\n/**\n * Exposes the JavaScript
[EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n *\n\npublic external abstract
class EventTarget {\n    fun addEventListener(type: String, callback: EventListener?, options: dynamic =

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definedExternally)\n fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n fun removeEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n fun dispatchEvent(event: Event): Boolean\n}\n\n/**\n * Exposes the JavaScript
[EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener)
to Kotlin\n *\npublic external interface EventListener {\n fun handleEvent(event: Event)\n}", "/*\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS
AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.clipboard.*\nimport
org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.performance.*\nimport
org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external abstract class HTMLAllCollection {\n open val
length: Int\n fun item(nameOrIndex: String = definedExternally): UnionElementOrHTMLCollection?\n fun
namedItem(name: String): UnionElementOrHTMLCollection?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLAllCollection.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n/**\n *
Exposes the JavaScript
[HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection)
to Kotlin\n *\npublic external abstract class HTMLFormControlsCollection : HTMLCollection\n\n/**\n * Exposes
the JavaScript [RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n
*\npublic external abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n open
var value: String\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n
*\npublic external abstract class HTMLOptionsCollection : HTMLCollection {\n override var length: Int\n open
var selectedIndex: Int\n fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before:
dynamic = definedExternally)\n fun remove(index: Int)\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n *
Exposes the JavaScript [HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to
Kotlin\n *\npublic external abstract class HTMLInputElement : Element, GlobalEventHandlers,
DocumentAndElementEventHandlers, ElementContentEditable, ElementCSSInlineStyle {\n open var title:
String\n open var lang: String\n open var
translate: Boolean\n open var dir: String\n open val dataset: DOMStringMap\n open var hidden: Boolean\n
open var tabIndex: Int\n open var accessKey: String\n open val accessKeyLabel: String\n open var draggable:
Boolean\n open val dropzone: DOMTokenList\n open var contextMenu: HTMLMenuElement?\n open var
spellcheck: Boolean\n open var innerText: String\n open val offsetParent: Element?\n open val offsetTop: Int\n
open val offsetLeft: Int\n open val offsetWidth: Int\n open val offsetHeight: Int\n fun click()\n fun focus()\n
fun blur()\n fun forceSpellCheck()\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:

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Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLUnknownElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUnknownElement) to Kotlin\n
*\npublic external abstract class HTMLUnknownElement : HTMLElement {\n    companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[DOMStringMap](https://developer.mozilla.org/en/docs/Web/API/DOMStringMap) to Kotlin\n
*\npublic external
abstract class DOMStringMap\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMStringMap.get(name:
String): String? = asDynamic()[name]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMStringMap.set(name:
String, value: String) { asDynamic()[name] = value }\n\n\n/**\n * Exposes the JavaScript
[HTMLHtmlElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHtmlElement)
to Kotlin\n
*\npublic external abstract class HTMLHtmlElement : HTMLElement {\n    open var version:
String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
            val DOCUMENT_FRAGMENT_NODE: Short\n            val NOTATION_NODE: Short\n            val
DOCUMENT_POSITION_DISCONNECTED: Short\n            val DOCUMENT_POSITION_PRECEDING: Short\n
            val DOCUMENT_POSITION_FOLLOWING: Short\n            val DOCUMENT_POSITION_CONTAINS: Short\n
            val DOCUMENT_POSITION_CONTAINED_BY: Short\n            val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n            }\n}\n\n\n/**\n * Exposes the JavaScript
[HTMLHeadElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadElement)
to Kotlin\n
*\npublic external abstract class HTMLHeadElement : HTMLElement {\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n\n/**\n * Exposes the JavaScript
[HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement)
to Kotlin\n
*\npublic external abstract class HTMLTitleElement : HTMLElement {\n    open var text: String\n\n
    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:

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Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLBaseElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBaseElement)
to Kotlin\n *\npublic external abstract class HTMLBaseElement : HTMLElement {\n    open var href: String\n
open var target: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[HTMLLinkElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLinkElement)
to Kotlin\n *\npublic external abstract class HTMLLinkElement : HTMLElement, LinkStyle {\n    open var href:
String\n    open var crossOrigin: String?\n    open var rel: String\n    open var `as`: RequestDestination\n    open val
relList: DOMTokenList\n    open var media: String\n    open var nonce: String\n    open var hreflang: String\n
open var type: String\n    open val sizes: DOMTokenList\n    open varreferrerPolicy: String\n    open var charset:
String\n    open var rev: String\n    open var target: String\n    open var scope: String\n    open var workerType:
WorkerType\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE:
Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n
        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes
the JavaScript [HTMLMetaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMetaElement) to
Kotlin\n *\npublic external abstract class HTMLMetaElement : HTMLElement {\n    open var name: String\n
open var httpEquiv: String\n    open var content: String\n    open var scheme: String\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n
Short\n
        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript

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[HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin\n *\npublic
external abstract class HTMLStyleElement : HTMLElement, LinkStyle {\n  open var media: String\n  open var
nonce: String\n  open var type: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n *\npublic
external abstract class HTMLBodyElement : HTMLElement, WindowEventHandlers {\n  open var text: String\n
open var link: String\n  open var vLink: String\n  open var aLink: String\n  open var bgColor: String\n  open
var background:
String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n
*\npublic external abstract class HTMLHeadingElement : HTMLElement
{\n  open var align: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n
*\npublic external abstract class HTMLParagraphElement
: HTMLElement {\n  open var align: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n
    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement) to Kotlin\n *\n\npublic external abstract class HTMLHRElement

: HTMLElement {\n open var align: String\n open var color: String\n open var noShade: Boolean\n open var size: String\n open var width: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n *\n\npublic external abstract class HTMLPreElement : HTMLElement {\n open var width: Int\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n *\n\npublic external abstract class HTMLQuoteElement : HTMLElement {\n open var cite: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\n\n * Exposes the JavaScript [HTMLLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLOListElement) to Kotlin\n *\n\npublic external abstract class HTMLLOListElement : HTMLElement {\n open var reversed: Boolean\n\n open var start: Int\n open var type: String\n open var compact: Boolean\n\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLUListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUListElement) to Kotlin\n */\n\npublic external abstract class HTMLUListElement : HTMLElement {\n open var compact: Boolean\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLLIElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLIElement) to Kotlin\n */\n\npublic external abstract class HTMLLIElement : HTMLElement {\n open var value: Int\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLDListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDListElement) to Kotlin\n */\n\npublic external abstract class HTMLDListElement : HTMLElement {\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLDivElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDivElement) to Kotlin\n */\n\npublic external abstract class HTMLDivElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n */\n\npublic external abstract class HTMLAnchorElement : HTMLElement, HTMLHyperlinkElementUtils {\n open var target: String\n open var download: String\n open var ping: String\n open var rel: String\n open val

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relList: DOMTokenList\n  open var hreflang: String\n  open var type: String\n  open var text: String\n  open
var referrerPolicy: String\n  open var coords: String\n  open var charset: String\n  open var name: String\n
open var rev: String\n  open var shape: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n *\npublic
external abstract class HTMLDataElement : HTMLElement {\n  open var value: String\n\n  companion object {\n
val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n
val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin\n *\npublic
external abstract class HTMLTimeElement : HTMLElement {\n  open var dateTime: String\n\n  companion
object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE:
Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n
val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin\n *\npublic
external abstract class HTMLSpanElement : HTMLElement {\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin\n *\npublic
external abstract class HTMLBRElement : HTMLElement {\n  open var clear: String\n\n  companion object {\n
val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val

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CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
 Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
 DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
 [HTMLHyperlinkElementUtils](https://developer.mozilla.org/en/docs/Web/API/HTMLHyperlinkElementUtils) to
 Kotlin \n * \n public external interface HTMLHyperlinkElementUtils { \n var href: String \n val origin: String \n
 var protocol: String \n var username: String \n var password: String \n var host: String \n var hostname:
 String \n var port: String \n var pathname: String \n var search:
 String \n var hash: String \n} \n \n /** \n * Exposes the JavaScript
 [HTMLModElement](https://developer.mozilla.org/en/docs/Web/API/HTMLModElement) to Kotlin \n * \n public
 external abstract class HTMLModElement : HTMLElement { \n open var cite: String \n open var dateTime:
 String \n \n companion object { \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n
 val TEXT_NODE: Short \n val CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE:
 Short \n val ENTITY_NODE: Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val
 COMMENT_NODE: Short \n val DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n
 val DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
 DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n } \n} \n \n /** \n * Exposes the
 JavaScript [HTMLPictureElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPictureElement) to
 Kotlin \n * \n public external abstract class HTMLPictureElement : HTMLElement { \n companion object { \n
 val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val
 CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE:
 Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
 DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
 DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
 DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING: Short \n val DOCUMENT_POSITION_CONTAINS: Short \n
 val DOCUMENT_POSITION_CONTAINED_BY: Short \n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
 Short \n } \n} \n \n /** \n * Exposes the JavaScript
 [HTMLSourceElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSourceElement) to Kotlin \n
 * \n public external abstract class HTMLSourceElement : HTMLElement { \n open var src: String \n open var
 type: String \n open var srcset: String \n open var sizes: String \n open var media: String \n \n companion object
 { \n val ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n
 val CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val
 ENTITY_NODE: Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE:
 Short \n val DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
 DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
 DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n
 val DOCUMENT_POSITION_FOLLOWING:
 Short \n val DOCUMENT_POSITION_CONTAINS: Short \n val
 DOCUMENT_POSITION_CONTAINED_BY: Short \n val

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin\n
*\npublic external abstract class HTMLImageElement : HTMLDivElement, HTMLImageElement,
TexImageSource {\n open var alt: String\n open var src: String\n open var srcset: String\n open var sizes:
String\n open var crossOrigin: String?\n open var useMap: String\n open var isMap: Boolean\n open var
width: Int\n open var height: Int\n open val naturalWidth: Int\n open val naturalHeight: Int\n open val
complete: Boolean\n open val currentSrc: String\n open var referrerPolicy: String\n open var name: String\n
open var lowsrc: String\n open var align: String\n open var hspace: Int\n open var vspace: Int\n open var
longDesc: String\n
open var border: String\n open val x: Int\n open val y: Int\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin\n
*\npublic external
abstract class HTMLIFrameElement : HTMLDivElement {\n open var src: String\n open var srcdoc: String\n
open var name: String\n open val sandbox: DOMTokenList\n open var allowFullscreen: Boolean\n open var
allowUserMedia: Boolean\n open var width: String\n open var height: String\n open var referrerPolicy:
String\n open val contentDocument: Document?\n open val contentWindow: Window?\n open var align:
String\n open var scrolling: String\n open var frameborder: String\n open var longDesc: String\n open var
marginHeight: String\n open var marginWidth: String\n fun getSVGDocument(): Document?\n\n companion
object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE:
Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val
ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
Short\n val DOCUMENT_NODE: Short\n
val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val
NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val
DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes
the JavaScript [HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to
Kotlin\n *\npublic external abstract class HTMLEmbedElement : HTMLDivElement {\n open var src: String\n
open var type: String\n open var width: String\n open var height: String\n open var align: String\n open var
name: String\n fun getSVGDocument(): Document?\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

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val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n
*\npublic external abstract class HTMLElement : HTMLElement {\n    open var data: String\n    open var
type: String\n    open var typeMustMatch: Boolean\n    open var name: String\n    open var useMap: String\n    open
val form: HTMLFormElement?\n
    open var width: String\n    open var height: String\n    open val contentDocument: Document?\n    open val
contentWindow: Window?\n    open val willValidate: Boolean\n    open val validity: ValidityState\n    open val
validationMessage: String\n    open var align: String\n    open var archive: String\n    open var code: String\n    open
var declare: Boolean\n    open var hspace: Int\n    open var standby: String\n    open var vspace: Int\n    open var
codeBase: String\n    open var codeType: String\n    open var border: String\n    fun getSVGDocument():
Document?\n    fun checkValidity(): Boolean\n    fun reportValidity(): Boolean\n    fun setCustomValidity(error:
String)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLParamElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParamElement) to Kotlin\n
*\npublic external abstract class HTMLParamElement : HTMLElement {\n    open var name: String\n    open var
value: String\n    open var type: String\n    open var valueType: String\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n
        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLVideoElement](https://developer.mozilla.org/en/docs/Web/API/HTMLVideoElement) to Kotlin\n
*\npublic external abstract class HTMLVideoElement : HTMLMediaElement, CanvasImageSource, TexImageSource {\n
    open var width: Int\n    open var height: Int\n    open val videoWidth: Int\n    open val videoHeight: Int\n    open var
poster: String\n    open var playsInline: Boolean\n\n    companion
object {\n        val NETWORK_EMPTY: Short\n        val NETWORK_IDLE: Short\n        val
NETWORK_LOADING: Short\n        val NETWORK_NO_SOURCE: Short\n        val HAVE_NOTHING: Short\n
        val HAVE_METADATA: Short\n        val HAVE_CURRENT_DATA: Short\n        val
HAVE_FUTURE_DATA: Short\n        val HAVE_ENOUGH_DATA: Short\n        val ELEMENT_NODE: Short\n
        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n

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    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY:
Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [HTMLAudioElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAudioElement) to
Kotlin\n */\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n    companion object {\n
    val NETWORK_EMPTY: Short\n    val NETWORK_IDLE: Short\n    val NETWORK_LOADING: Short\n
    val NETWORK_NO_SOURCE: Short\n    val HAVE_NOTHING: Short\n    val HAVE_METADATA:
Short\n    val HAVE_CURRENT_DATA: Short\n    val HAVE_FUTURE_DATA: Short\n    val
HAVE_ENOUGH_DATA: Short\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n */\npublic
external abstract class HTMLTrackElement : HTMLMediaElement {\n    open var kind: String\n    open var src: String\n
    open var srclang: String\n    open var label: String\n    open var default: Boolean\n    open val readyState: Short\n
    open val track: TextTrack\n\n    companion object {\n        val NONE: Short\n        val LOADING: Short\n        val
LOADED: Short\n        val ERROR: Short\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLMediaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMediaElement) to Kotlin\n
*/\npublic external abstract class HTMLMediaElement : HTMLMediaElement {\n    open val error: MediaError?\n    open
var src: String\n    open var srcObject: MediaProvider?\n    open val currentSrc:
String\n    open var crossOrigin: String?\n    open val networkState: Short\n    open var preload: String\n    open val
buffered: TimeRanges\n    open val readyState: Short\n    open val seeking: Boolean\n    open var currentTime:
Double\n    open val duration: Double\n    open val paused: Boolean\n    open var defaultPlaybackRate: Double\n
    open var playbackRate: Double\n    open val played: TimeRanges\n    open val seekable: TimeRanges\n    open val
ended: Boolean\n    open var autoplay: Boolean\n    open var loop: Boolean\n    open var controls: Boolean\n    open
var volume: Double\n    open var muted: Boolean\n    open var defaultMuted: Boolean\n    open val audioTracks:
AudioTrackList\n    open val videoTracks: VideoTrackList\n    open val textTracks: TextTrackList\n    open val
mediaKeys: MediaKeys?\n    open var onencrypted: ((Event) -> dynamic)?\n    open var onwaitingforkey: ((Event) -
> dynamic)?\n    fun load()\n    fun canPlayType(type: String): CanPlayTypeResult\n
    fun fastSeek(time: Double)\n    fun getStartDate(): dynamic\n    fun play(): Promise<Unit>\n    fun pause()\n    fun
addTextTrack(kind: TextTrackKind, label: String = definedExternally, language: String = definedExternally):
TextTrack\n    fun setMediaKeys(mediaKeys: MediaKeys?): Promise<Unit>\n\n    companion object {\n        val
NETWORK_EMPTY: Short\n        val NETWORK_IDLE: Short\n        val NETWORK_LOADING: Short\n

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val NETWORK_NO_SOURCE: Short\n    val HAVE_NOTHING: Short\n    val HAVE_METADATA:
Short\n    val HAVE_CURRENT_DATA: Short\n    val HAVE_FUTURE_DATA: Short\n    val
HAVE_ENOUGH_DATA: Short\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE:
Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[MediaError](https://developer.mozilla.org/en/docs/Web/API/MediaError) to Kotlin\n */\npublic external abstract
class MediaError {\n    open val code: Short\n\n    companion object {\n        val MEDIA_ERR_ABORTED: Short\n        val MEDIA_ERR_NETWORK: Short\n        val MEDIA_ERR_DECODE: Short\n        val
MEDIA_ERR_SRC_NOT_SUPPORTED: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[AudioTrackList](https://developer.mozilla.org/en/docs/Web/API/AudioTrackList) to Kotlin\n */\npublic external
abstract class AudioTrackList : EventTarget {\n    open val
length: Int\n    open var onchange: ((Event) -> dynamic)?\n    open var onaddtrack: ((TrackEvent) -> dynamic)?\n
open var onremovetrack: ((TrackEvent) -> dynamic)?\n    fun getTrackById(id: String):
AudioTrack?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun AudioTrackList.get(index:
Int): AudioTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[AudioTrack](https://developer.mozilla.org/en/docs/Web/API/AudioTrack) to Kotlin\n */\npublic external abstract
class AudioTrack : UnionAudioTrackOrTextTrackOrVideoTrack {\n    open val id: String\n    open val kind:
String\n    open val label: String\n    open val language: String\n    open var enabled: Boolean\n    open val
sourceBuffer: SourceBuffer?\n}\n\n/**\n * Exposes the JavaScript
[VideoTrackList](https://developer.mozilla.org/en/docs/Web/API/VideoTrackList) to Kotlin\n */\npublic external
abstract class VideoTrackList : EventTarget {\n    open val length:
Int\n    open val selectedIndex: Int\n    open var onchange: ((Event) -> dynamic)?\n    open var onaddtrack:
((TrackEvent) -> dynamic)?\n    open var onremovetrack: ((TrackEvent) -> dynamic)?\n    fun getTrackById(id:
String): VideoTrack?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun VideoTrackList.get(index:
Int): VideoTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[VideoTrack](https://developer.mozilla.org/en/docs/Web/API/VideoTrack) to Kotlin\n */\npublic external abstract
class VideoTrack : UnionAudioTrackOrTextTrackOrVideoTrack {\n    open val id: String\n    open val kind:
String\n    open val label: String\n    open val language: String\n    open var selected: Boolean\n    open val
sourceBuffer: SourceBuffer?\n}\n\npublic external abstract class TextTrackList : EventTarget {\n    open val length:
Int\n    open var onchange: ((Event) -> dynamic)?\n    open var onaddtrack: ((TrackEvent) ->
dynamic)?\n    open var onremovetrack: ((TrackEvent) -> dynamic)?\n    fun getTrackById(id: String):
TextTrack?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun TextTrackList.get(index: Int):
TextTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[TextTrack](https://developer.mozilla.org/en/docs/Web/API/TextTrack) to Kotlin\n */\npublic external abstract
class TextTrack : EventTarget, UnionAudioTrackOrTextTrackOrVideoTrack {\n    open val kind: TextTrackKind\n
open val label: String\n    open val language: String\n    open val id: String\n    open val
inBandMetadataTrackDispatchType: String\n    open var mode: TextTrackMode\n    open val cues:
TextTrackCueList?\n    open val activeCues: TextTrackCueList?\n    open var oncuechange: ((Event) ->
dynamic)?\n    open val sourceBuffer: SourceBuffer?\n    fun addCue(cue: TextTrackCue)\n    fun removeCue(cue:

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TextTrackCue)\n}\n\npublic external abstract class
TextTrackCueList {\n  open val length: Int\n  fun getCueById(id: String):
TextTrackCue?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun TextTrackCueList.get(index:
Int): TextTrackCue? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[TextTrackCue](https://developer.mozilla.org/en/docs/Web/API/TextTrackCue) to Kotlin\n */\npublic external
abstract class TextTrackCue : EventTarget {\n  open val track: TextTrack?\n  open var id: String\n  open var
startTime: Double\n  open var endTime: Double\n  open var pauseOnExit: Boolean\n  open var onenter: ((Event)
-> dynamic)?\n  open var onexit: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[TimeRanges](https://developer.mozilla.org/en/docs/Web/API/TimeRanges) to Kotlin\n */\npublic external abstract
class TimeRanges {\n  open val length: Int\n  fun start(index: Int): Double\n  fun end(index: Int):
Double\n}\n\n/**\n * Exposes the JavaScript
[TrackEvent](https://developer.mozilla.org/en/docs/Web/API/TrackEvent) to Kotlin\n */\npublic external open
class TrackEvent(type: String, eventInitDict: TrackEventInit = definedExternally) : Event {\n  open val track:
UnionAudioTrackOrTextTrackOrVideoTrack?\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface TrackEventInit : EventInit {\n  var track:
UnionAudioTrackOrTextTrackOrVideoTrack? /* = null */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun TrackEventInit(track:
UnionAudioTrackOrTextTrackOrVideoTrack? = null, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): TrackEventInit {\n  val o = js("{}")\n  o["track"] = track\n  o["bubbles"] =
bubbles\n
  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[HTMLMapElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMapElement) to Kotlin\n */\npublic
external abstract class HTMLMapElement : HTMLElement {\n  open var name: String\n  open val areas:
HTMLCollection\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAreaElement) to Kotlin\n */\npublic
external abstract class HTMLAreaElement : HTMLElement, HTMLHyperlinkElementUtils {\n  open var alt:
String\n  open var coords: String\n  open var shape: String\n  open var target: String\n  open var download:
String\n  open var ping: String\n  open var rel: String\n  open val relList: DOMTokenList\n  open var
referrerPolicy: String\n  open var noHref: Boolean\n\n  companion object {\n    val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE:
Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n
    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val
NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val
DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n

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val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY:
Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [HTMLTableElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableElement) to
Kotlin\n */\npublic external abstract class HTMLTableElement : HTMLInputElement {\n    open var caption:
HTMLTableCaptionElement?\n    open var tHead: HTMLTableSectionElement?\n    open var tFoot:
HTMLTableSectionElement?\n    open val tBodies: HTMLCollection\n    open val rows: HTMLCollection\n    open
var align: String\n    open var border: String\n    open var frame: String\n    open var rules: String\n    open var
summary: String\n    open var width:
String\n    open var bgColor: String\n    open var cellPadding: String\n    open var cellSpacing: String\n    fun
createCaption(): HTMLTableCaptionElement\n    fun deleteCaption()\n    fun createTHead():
HTMLTableSectionElement\n    fun deleteTHead()\n    fun createTFoot(): HTMLTableSectionElement\n    fun
deleteTFoot()\n    fun createTBody(): HTMLTableSectionElement\n    fun insertRow(index: Int =
definedExternally): HTMLTableRowElement\n    fun deleteRow(index: Int)\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n
        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING:
Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val
DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableCaptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCaptionElement) to
Kotlin\n */\npublic external abstract class HTMLTableCaptionElement : HTMLInputElement {\n    open var align:
String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED:
Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val
DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableColElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableColElement) to Kotlin\n
*/\npublic external abstract class HTMLTableColElement : HTMLInputElement {\n    open var span: Int\n    open var
align: String\n    open var ch: String\n    open var chOff: String\n    open var vAlign: String\n    open var width:
String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE:
Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n
        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript

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[HTMLTableSectionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableSectionElement) to Kotlin\n
 *\\npublic external abstract class HTMLTableSectionElement : HTMLInputElement {\n
 open val rows: HTMLCollection\n
 open var align: String\n
 open var ch: String\n
 open var chOff: String\n
 open var vAlign: String\n
 fun insertRow(index: Int = definedExternally): HTMLInputElement\n
 fun deleteRow(index: Int)\n\n
 companion object {\n
 val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n
 val ENTITY_NODE: Short\n
 val PROCESSING_INSTRUCTION_NODE: Short\n
 val COMMENT_NODE: Short\n
 val DOCUMENT_NODE: Short\n
 val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n
 val NOTATION_NODE: Short\n
 val DOCUMENT_POSITION_DISCONNECTED: Short\n
 val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
 }\n\n\n
 * Exposes the JavaScript [HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin\n
 *\\npublic external abstract class HTMLTableRowElement : HTMLInputElement {\n
 open val rowIndex: Int\n
 open val sectionRowIndex: Int\n
 open val cells: HTMLCollection\n
 open var align: String\n
 open var ch: String\n
 open var chOff: String\n
 open var vAlign: String\n
 open var bgColor: String\n
 fun insertCell(index: Int = definedExternally): HTMLInputElement\n
 fun deleteCell(index: Int)\n\n
 companion object {\n
 val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n
 val ENTITY_NODE: Short\n
 val PROCESSING_INSTRUCTION_NODE: Short\n
 val COMMENT_NODE: Short\n
 val DOCUMENT_NODE: Short\n
 val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n
 val NOTATION_NODE: Short\n
 val DOCUMENT_POSITION_DISCONNECTED: Short\n
 val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
 }\n\n\n
 * Exposes the JavaScript [HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin\n
 *\\npublic external abstract class HTMLTableCellElement : HTMLInputElement {\n
 open var colSpan: Int\n
 open var rowSpan: Int\n
 open var headers: String\n
 open val cellIndex: Int\n
 open var scope: String\n
 open var abbr: String\n
 open var align: String\n
 open var axis: String\n
 open var height: String\n
 open var width: String\n
 open var ch: String\n
 open var chOff: String\n
 open var noWrap: Boolean\n
 open var vAlign: String\n
 open var bgColor: String\n\n
 companion object {\n
 val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n
 val TEXT_NODE: Short\n
 val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n
 val ENTITY_NODE: Short\n
 val PROCESSING_INSTRUCTION_NODE: Short\n
 val COMMENT_NODE: Short\n
 val DOCUMENT_NODE: Short\n
 val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n
 val NOTATION_NODE: Short\n
 val DOCUMENT_POSITION_DISCONNECTED: Short\n
 val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n
 val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n
 val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
 }\n\n\n
 * Exposes the JavaScript [HTMLFormElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFormElement) to Kotlin\n
 *\\npublic external abstract class HTMLFormElement : HTMLInputElement {\n
 open var acceptCharset: String\n
 open var action: String\n
 open var autocomplete: String\n
 open var enctype: String\n
 open var encoding: String\n
 open var method: String\n
 open var name: String\n
 open var noValidate: Boolean\n
 open

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var target: String\n  open val elements: HTMLFormControlsCollection\n  open val length: Int\n  fun submit()\n  fun reset()\n  fun checkValidity(): Boolean\n  fun reportValidity(): Boolean\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n  @kotlin.internal.InlineOnly\n  public inline operator fun HTMLFormElement.get(index: Int): Element? = asDynamic()[index]\n\n  @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\n  @kotlin.internal.InlineOnly\n  public inline operator fun HTMLFormElement.get(name: String): UnionElementOrRadioNodeList? = asDynamic()[name]\n\n  /**\n   * Exposes the JavaScript [HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to Kotlin\n   */\n  public external abstract class HTMLLabelElement : HTMLElement {\n    open val form: HTMLFormElement?\n    open var htmlFor: String\n    open val control: HTMLFormElement?\n\n    companion object {\n      val ELEMENT_NODE: Short\n      val ATTRIBUTE_NODE: Short\n      val TEXT_NODE: Short\n      val CDATA_SECTION_NODE: Short\n      val ENTITY_REFERENCE_NODE: Short\n      val ENTITY_NODE: Short\n      val PROCESSING_INSTRUCTION_NODE: Short\n      val COMMENT_NODE: Short\n      val DOCUMENT_NODE: Short\n      val DOCUMENT_TYPE_NODE: Short\n      val DOCUMENT_FRAGMENT_NODE: Short\n      val NOTATION_NODE: Short\n      val DOCUMENT_POSITION_DISCONNECTED: Short\n      val DOCUMENT_POSITION_PRECEDING: Short\n      val DOCUMENT_POSITION_FOLLOWING: Short\n      val DOCUMENT_POSITION_CONTAINS: Short\n      val DOCUMENT_POSITION_CONTAINED_BY: Short\n      val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n    /**\n     * Exposes the JavaScript [HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n     */\n    public external abstract class HTMLInputElement : HTMLFormElement {\n      open var accept: String\n      open var alt: String\n      open var autocomplete: String\n      open var autofocus: Boolean\n      open var defaultChecked: Boolean\n      open var checked: Boolean\n      open var dirName: String\n      open var disabled: Boolean\n      open val form: HTMLFormElement?\n      open val files: FileList?\n      open var formAction: String\n      open var formEnctype: String\n      open var formMethod: String\n      open var formNoValidate: Boolean\n      open var formTarget: String\n      open var height: Int\n      open var indeterminate: Boolean\n      open var inputMode: String\n      open val list: HTMLFormElement?\n      open var max: String\n      open var maxLength: Int\n      open var min: String\n      open var minLength: Int\n      open var multiple: Boolean\n      open var name: String\n      open var pattern: String\n      open var placeholder: String\n      open var readOnly: Boolean\n      open var required: Boolean\n      open var size: Int\n      open var src: String\n      open var step: String\n      open var type: String\n      open var defaultValue: String\n      open var value: String\n      open var valueAsDate: dynamic\n      open var valueAsNumber: Double\n      open var width: Int\n      open val willValidate: Boolean\n      open val validity: ValidityState\n      open val validationMessage: String\n      open val labels: NodeList\n      open var selectionStart: Int?\n      open var selectionEnd: Int?\n      open var selectionDirection: String?\n      open var align: String\n      open var useMap: String\n      fun stepUp(n: Int = definedExternally)\n      fun stepDown(n: Int = definedExternally)\n      fun checkValidity(): Boolean\n      fun reportValidity(): Boolean\n      fun setCustomValidity(error: String)\n      fun select()\n      fun setRangeText(replacement: String)\n      fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)\n      fun

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setSelectionRange(start: Int, end: Int, direction: String = definedExternally)\n\n companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED:
Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val
DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }
}\n\n/**\n * Exposes the JavaScript
[HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to Kotlin\n
*\npublic external abstract class HTMLButtonElement : HTMLInputElement {\n    open var autofocus: Boolean\n
open var disabled: Boolean\n    open val form: HTMLFormElement?\n    open var formAction: String\n    open var
formEnctype: String\n    open var formMethod: String\n    open var formNoValidate: Boolean\n    open var
formTarget: String\n    open var name: String\n    open var type: String\n    open var value: String\n    open var
menu: HTMLMenuElement?\n    open val willValidate: Boolean\n    open val validity: ValidityState\n    open val
validationMessage: String\n    open val labels:
NodeList\n    fun checkValidity(): Boolean\n    fun reportValidity(): Boolean\n    fun setCustomValidity(error:
String)\n\n companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }
}\n\n/**\n * Exposes the JavaScript
[HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement)
to Kotlin\n *\npublic external abstract class HTMLSelectElement : HTMLInputElement, ItemArrayLike<Element> {\n
open var autocomplete: String\n    open var autofocus: Boolean\n    open var disabled: Boolean\n    open val form:
HTMLFormElement?\n    open var multiple: Boolean\n    open var name: String\n    open var required: Boolean\n
open var size: Int\n    open val type: String\n    open val options: HTMLCollection\n    override var length:
Int\n    open val selectedOptions: HTMLCollection\n    open var selectedIndex: Int\n    open var value: String\n
open val willValidate: Boolean\n    open val validity: ValidityState\n    open val validationMessage: String\n    open
val labels: NodeList\n    fun namedItem(name: String): HTMLOptionElement?\n    fun add(element:
UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n    fun
remove(index: Int)\n    fun checkValidity(): Boolean\n    fun reportValidity(): Boolean\n
fun setCustomValidity(error: String)\n    override fun item(index: Int): Element?\n\n companion object {\n
val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n

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}\n\n@Suppress(\n\n"INVISIBLE_REFERENCE",
\n\n"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
HTMLSelectElement.get(index:
Int): Element? = asDynamic()[index]\n\n@Suppress(\n\n"INVISIBLE_REFERENCE",
\n\n"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
HTMLSelectElement.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n\n *
Exposes the JavaScript
[HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin\n\n
*\n\npublic external abstract class HTMLDataListElement : HTMLElement {\n\n    open val options:
HTMLCollection\n\n    companion object {\n\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED:
Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val
DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n}\n\n/**\n\n * Exposes the JavaScript
[HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin\n\n
*\n\npublic external abstract class HTMLOptGroupElement : HTMLElement,
UnionHTMLOptGroupElementOrHTMLOptionElement {\n\n    open var disabled: Boolean\n    open var label:
String\n\n    companion object {\n\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n}\n\n/**\n\n * Exposes the JavaScript
[HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin\n\n
*\n\npublic external abstract class HTMLOptionElement : HTMLElement,
UnionHTMLOptGroupElementOrHTMLOptionElement {\n\n    open var disabled: Boolean\n    open var form:
HTMLFormElement?\n    open var label: String\n    open var defaultSelected: Boolean\n    open var selected:
Boolean\n    open var value: String\n    open var text: String\n    open val index: Int\n\n    companion object {\n\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n\n}\n\n}\n\n/**\n\n * Exposes the JavaScript
[HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin\n\n

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*\npublic external abstract class HTMLTextAreaElement : HTMLInputElement {\n  open var autocomplete: String\n  open var autofocus: Boolean\n  open var cols: Int\n  open var dirName: String\n  open var disabled: Boolean\n  open val form: HTMLFormElement?\n  open var inputMode: String\n  open var maxLength: Int\n  open var minLength: Int\n  open var name: String\n  open var placeholder: String\n  open var readOnly: Boolean\n  open var required: Boolean\n  open var rows: Int\n  open var wrap: String\n  open val type: String\n  open var defaultValue: String\n  open var value: String\n  open val maxLength: Int\n  open val willValidate: Boolean\n  open val validity: ValidityState\n  open val validationMessage: String\n  open val labels: NodeList\n  open var selectionStart: Int?\n  open var selectionEnd: Int?\n  open var selectionDirection: String?\n  fun checkValidity(): Boolean\n  fun reportValidity(): Boolean\n  fun setCustomValidity(error: String)\n  fun select()\n  fun setRangeText(replacement: String)\n  fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)\n  fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally)\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript [HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin\n */\n\n*\npublic external abstract class HTMLKeygenElement : HTMLInputElement {\n  open var autofocus: Boolean\n  open var challenge: String\n  open var disabled: Boolean\n  open val form: HTMLFormElement?\n  open var keytype: String\n  open var name: String\n  open val type: String\n  open val willValidate: Boolean\n  open val validity: ValidityState\n  open val validationMessage: String\n  open val labels: NodeList\n  fun checkValidity(): Boolean\n  fun reportValidity(): Boolean\n  fun setCustomValidity(error: String)\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript [HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to Kotlin\n */\n\n*\npublic external abstract class HTMLOutputElement : HTMLInputElement {\n  open val htmlFor: DOMTokenList\n  open val form: HTMLFormElement?\n  open var name: String\n  open val type: String\n  open var defaultValue: String\n  open var value: String\n  open val willValidate: Boolean\n  open val validity: ValidityState\n  open val validationMessage: String\n  open val labels: NodeList\n  fun checkValidity(): Boolean\n  fun reportValidity(): Boolean\n  fun setCustomValidity(error: String)\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n  }\n}

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DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to Kotlin \n
*\npublic external abstract class HTMLProgressElement : HTMLElement { \n    open var value: Double \n    open
var max:
    Double \n    open val position: Double \n    open val labels: NodeList \n \n    companion object { \n    val
ELEMENT_NODE: Short \n    val ATTRIBUTE_NODE: Short \n    val TEXT_NODE: Short \n    val
CDATA_SECTION_NODE: Short \n    val ENTITY_REFERENCE_NODE: Short \n    val ENTITY_NODE:
Short \n    val PROCESSING_INSTRUCTION_NODE: Short \n    val COMMENT_NODE: Short \n    val
DOCUMENT_NODE: Short \n    val DOCUMENT_TYPE_NODE: Short \n    val
DOCUMENT_FRAGMENT_NODE: Short \n    val NOTATION_NODE: Short \n    val
DOCUMENT_POSITION_DISCONNECTED: Short \n    val DOCUMENT_POSITION_PRECEDING: Short \n
    val DOCUMENT_POSITION_FOLLOWING: Short \n    val DOCUMENT_POSITION_CONTAINS: Short \n
    val DOCUMENT_POSITION_CONTAINED_BY: Short \n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin \n
*\npublic
external
    abstract class HTMLMeterElement : HTMLElement { \n    open var value: Double \n    open var min: Double \n
    open var max: Double \n    open var low: Double \n    open var high: Double \n    open var optimum: Double \n    open
val labels: NodeList \n \n    companion object { \n    val ELEMENT_NODE: Short \n    val ATTRIBUTE_NODE:
Short \n    val TEXT_NODE: Short \n    val CDATA_SECTION_NODE: Short \n    val
ENTITY_REFERENCE_NODE: Short \n    val ENTITY_NODE: Short \n    val
PROCESSING_INSTRUCTION_NODE: Short \n    val COMMENT_NODE: Short \n    val
DOCUMENT_NODE: Short \n    val DOCUMENT_TYPE_NODE: Short \n    val
DOCUMENT_FRAGMENT_NODE: Short \n    val NOTATION_NODE: Short \n    val
DOCUMENT_POSITION_DISCONNECTED: Short \n    val DOCUMENT_POSITION_PRECEDING: Short \n
    val DOCUMENT_POSITION_FOLLOWING: Short \n    val DOCUMENT_POSITION_CONTAINS: Short \n
    val DOCUMENT_POSITION_CONTAINED_BY: Short \n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin \n
*\npublic external abstract class HTMLFieldSetElement : HTMLElement { \n    open var disabled: Boolean \n
    open val form: HTMLFormElement? \n    open var name: String \n    open val type: String \n    open val elements:
HTMLCollection \n    open val willValidate: Boolean \n    open val validity: ValidityState \n    open val
validationMessage: String \n    fun checkValidity(): Boolean \n    fun reportValidity(): Boolean \n    fun
setCustomValidity(error: String) \n \n    companion object { \n    val ELEMENT_NODE: Short \n    val
ATTRIBUTE_NODE: Short \n    val TEXT_NODE: Short \n    val CDATA_SECTION_NODE: Short \n    val
ENTITY_REFERENCE_NODE: Short \n    val ENTITY_NODE: Short \n    val
PROCESSING_INSTRUCTION_NODE: Short \n    val COMMENT_NODE: Short \n    val
DOCUMENT_NODE: Short \n    val DOCUMENT_TYPE_NODE:
Short \n    val DOCUMENT_FRAGMENT_NODE: Short \n    val NOTATION_NODE: Short \n    val
DOCUMENT_POSITION_DISCONNECTED: Short \n    val DOCUMENT_POSITION_PRECEDING: Short \n
    val DOCUMENT_POSITION_FOLLOWING: Short \n    val DOCUMENT_POSITION_CONTAINS: Short \n
    val DOCUMENT_POSITION_CONTAINED_BY: Short \n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin \n

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*\npublic external abstract class HTMLLegendElement : HTMLInputElement {\n  open val form:
HTMLFormElement?\n  open var align: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n
    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n**\n * Exposes the JavaScript
[ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin\n
*\npublic external
abstract class ValidityState {\n  open val valueMissing: Boolean\n  open val typeMismatch: Boolean\n  open val
patternMismatch: Boolean\n  open val tooLong: Boolean\n  open val tooShort: Boolean\n  open val
rangeUnderflow: Boolean\n  open val rangeOverflow: Boolean\n  open val stepMismatch: Boolean\n  open val
badInput: Boolean\n  open val customError: Boolean\n  open val
valid: Boolean\n}\n}\n\n**\n * Exposes the JavaScript
[HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to Kotlin\n
*\npublic external abstract class HTMLDetailsElement : HTMLInputElement {\n  open var open: Boolean\n\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
Short\n  }\n}\n\npublic external abstract class HTMLMenuElement : HTMLInputElement {\n  open var type: String\n
open var label: String\n  open var compact: Boolean\n\n  companion object {\n    val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE:
Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external abstract
class HTMLMenuItemElement : HTMLInputElement {\n  open var type: String\n  open var label: String\n  open var
icon: String\n  open var disabled: Boolean\n  open var checked: Boolean\n  open var radiogroup: String\n  open
var default: Boolean\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n

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    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
Short\n } \n\npublic external open class RelatedEvent(type: String, eventInitDict: RelatedEventInit =
definedExternally) : Event {\n    open val relatedTarget: EventTarget?\n\n    companion object {\n        val NONE:
Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE:
Short\n    } \n\npublic external interface RelatedEventInit : EventInit {\n    var relatedTarget: EventTarget? /* =
null */\n        get() = definedExternally\n        set(value) =
definedExternally\n    }\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun RelatedEventInit(relatedTarget:
EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
RelatedEventInit {\n    val o = js(\"({})\")\n    o[\"relatedTarget\"] = relatedTarget\n    o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n} \n\n/**\n * Exposes the JavaScript
[HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n
*/\n\npublic external abstract class HTMLDialogElement : HTMLElement {\n    open var open: Boolean\n    open var
returnValue: String\n    fun show(anchor: UnionElementOrMouseEvent = definedExternally)\n    fun
showModal(anchor: UnionElementOrMouseEvent = definedExternally)\n    fun close(returnValue: String =
definedExternally)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING:
Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val
DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n\n/**\n * Exposes the
JavaScript [HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n
*/\n\npublic external abstract class HTMLScriptElement : HTMLElement, HTMLORSVGScriptElement {\n    open
var src: String\n    open var type: String\n    open var charset: String\n    open var async: Boolean\n    open var defer:
Boolean\n    open var crossOrigin: String?\n    open var text: String\n    open var nonce: String\n    open var event:
String\n    open var htmlFor: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n
        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n\n/**\n * Exposes the JavaScript
[HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement) to Kotlin\n
*/\n\npublic external abstract class HTMLTemplateElement : HTMLElement {\n    open val content:
DocumentFragment\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n

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val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n
*/\n\npublic external abstract class HTMLSlotElement : HTMLElement {\n    open var name: String\n    fun
assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n\n    companion object {\n
val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val
ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface
AssignedNodesOptions {\n    var flatten: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun AssignedNodesOptions(flatten:
Boolean? = false): AssignedNodesOptions
{\n    val o = js(\"({})\")\n    o[\"flatten\"] = flatten\n    return o\n}\n\n/**\n * Exposes the JavaScript
[HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement) to Kotlin\n
*/\n\npublic external abstract class HTMLCanvasElement : HTMLElement, CanvasImageSource, TexImageSource
{\n    open var width: Int\n    open var height: Int\n    fun getContext(contextId: String, vararg arguments: Any?):
RenderingContext?\n    fun toDataURL(type: String = definedExternally, quality: Any? = definedExternally):
String\n    fun toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality: Any? =
definedExternally)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE:
Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n
        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external
interface CanvasRenderingContext2DSettings {\n    var alpha: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n    val o =
js(\"({})\")\n    o[\"alpha\"] = alpha\n    return o\n}\n\n/**\n * Exposes the JavaScript
[CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D)
to Kotlin\n
*/\n\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform,
CanvasCompositing, CanvasImageSmoothing, CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters,
CanvasRect, CanvasDrawPath, CanvasUserInterface, CanvasText, CanvasDrawImage, CanvasHitRegion,

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CanvasImageData, CanvasPathDrawingStyles, CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n
open val canvas: HTMLCanvasElement\n}\n\npublic external interface CanvasState {\n fun save()\n fun
restore()\n}\n\npublic external interface CanvasTransform {\n fun scale(x: Double, y: Double)\n fun
rotate(angle: Double)\n fun translate(x: Double, y: Double)\n fun transform(a: Double, b: Double, c: Double, d:
Double, e: Double, f: Double)\n fun getTransform(): DOMMatrix\n fun setTransform(a: Double, b: Double, c:
Double, d: Double, e: Double, f: Double)\n fun setTransform(transform: dynamic = definedExternally)\n fun
resetTransform()\n}\n\npublic
external interface CanvasCompositing {\n var globalAlpha: Double\n var globalCompositeOperation:
String\n}\n\npublic external interface CanvasImageSmoothing {\n var imageSmoothingEnabled: Boolean\n var
imageSmoothingQuality: ImageSmoothingQuality\n}\n\npublic external interface CanvasFillStrokeStyles {\n var
strokeStyle: dynamic\n get() = definedExternally\n set(value) = definedExternally\n var fillStyle:
dynamic\n get() = definedExternally\n set(value) = definedExternally\n fun createLinearGradient(x0:
Double, y0: Double, x1: Double, y1: Double): CanvasGradient\n fun createRadialGradient(x0: Double, y0:
Double, r0: Double, x1: Double, y1: Double, r1: Double): CanvasGradient\n fun createPattern(image:
CanvasImageSource, repetition: String): CanvasPattern?\n}\n\npublic external interface CanvasShadowStyles {\n
var shadowOffsetX: Double\n var shadowOffsetY: Double\n var shadowBlur: Double\n var shadowColor:
String\n}\n\npublic external interface CanvasFilters {\n var filter: String\n}\n\npublic external interface
CanvasRect {\n fun clearRect(x: Double, y: Double, w: Double, h: Double)\n fun fillRect(x: Double, y: Double,
w: Double, h: Double)\n fun strokeRect(x: Double, y: Double, w: Double, h: Double)\n}\n\npublic external
interface CanvasDrawPath {\n fun beginPath()\n fun fill(fillRule: CanvasFillRule = definedExternally)\n fun
fill(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n fun stroke()\n fun stroke(path: Path2D)\n
fun clip(fillRule: CanvasFillRule = definedExternally)\n fun clip(path: Path2D, fillRule: CanvasFillRule =
definedExternally)\n fun resetClip()\n fun isPointInPath(x: Double, y: Double, fillRule: CanvasFillRule =
definedExternally): Boolean\n fun isPointInPath(path: Path2D, x: Double, y: Double, fillRule: CanvasFillRule =
definedExternally): Boolean\n fun isPointInStroke(x: Double, y: Double): Boolean\n
fun isPointInStroke(path: Path2D, x: Double, y: Double): Boolean\n}\n\npublic external interface
CanvasUserInterface {\n fun drawFocusIfNeeded(element: Element)\n fun drawFocusIfNeeded(path: Path2D,
element: Element)\n fun scrollPathIntoView()\n fun scrollPathIntoView(path: Path2D)\n}\n\npublic external
interface CanvasText {\n fun fillText(text: String, x: Double, y: Double, maxWidth: Double =
definedExternally)\n fun strokeText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally)\n
fun measureText(text: String): TextMetrics\n}\n\npublic external interface CanvasDrawImage {\n fun
drawImage(image: CanvasImageSource, dx: Double, dy: Double)\n fun drawImage(image: CanvasImageSource,
dx: Double, dy: Double, dw: Double, dh: Double)\n fun drawImage(image: CanvasImageSource, sx: Double, sy:
Double, sw: Double, sh: Double, dx: Double, dy: Double, dw: Double, dh: Double)\n}\n\npublic external interface
CanvasHitRegion {\n fun addHitRegion(options:
HitRegionOptions = definedExternally)\n fun removeHitRegion(id: String)\n fun
clearHitRegions()\n}\n\npublic external interface CanvasImageData {\n fun createImageData(sw: Double, sh:
Double): ImageData\n fun createImageData(imagedata: ImageData): ImageData\n fun getImageData(sx:
Double, sy: Double, sw: Double, sh: Double): ImageData\n fun putImageData(imagedata: ImageData, dx: Double,
dy: Double)\n fun putImageData(imagedata: ImageData, dx: Double, dy: Double, dirtyX: Double, dirtyY: Double,
dirtyWidth: Double, dirtyHeight: Double)\n}\n\npublic external interface CanvasPathDrawingStyles {\n var
lineWidth: Double\n var lineCap: CanvasLineCap\n var lineJoin: CanvasLineJoin\n var miterLimit: Double\n
var lineDashOffset: Double\n fun setLineDash(segments: Array<Double>)\n fun getLineDash():
Array<Double>\n}\n\npublic external interface CanvasTextDrawingStyles {\n var font: String\n var textAlign:
CanvasTextAlign\n var textBaseline:
CanvasTextBaseline\n var direction: CanvasDirection\n}\n\npublic external interface CanvasPath {\n fun
closePath()\n fun moveTo(x: Double, y: Double)\n fun lineTo(x: Double, y: Double)\n fun
quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n fun bezierCurveTo(cp1x: Double, cp1y:

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Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2:
Double, radius: Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY:
Double, rotation: Double)\n fun rect(x: Double, y: Double, w: Double, h: Double)\n fun arc(x: Double, y:
Double, radius: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean = definedExternally)\n
fun ellipse(x: Double, y: Double, radiusX: Double, radiusY: Double, rotation: Double, startAngle: Double,
endAngle: Double, anticlockwise: Boolean = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient)
to Kotlin\n */\npublic external abstract class CanvasGradient {\n fun addColorStop(offset: Double, color:
String)\n}\n\n/**\n * Exposes the JavaScript
[CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to Kotlin\n */\npublic external
abstract class CanvasPattern {\n fun setTransform(transform: dynamic = definedExternally)\n}\n\n/**\n * Exposes
the JavaScript [TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n */\npublic
external abstract class TextMetrics {\n open val width: Double\n open val actualBoundingBoxLeft: Double\n
open val actualBoundingBoxRight: Double\n open val fontBoundingBoxAscent: Double\n open val
fontBoundingBoxDescent: Double\n open val actualBoundingBoxAscent: Double\n open val
actualBoundingBoxDescent: Double\n open val emHeightAscent: Double\n open val emHeightDescent:
Double\n open val hangingBaseline: Double\n open val
alphabeticBaseline: Double\n open val ideographicBaseline: Double\n}\n\npublic external interface
HitRegionOptions {\n var path: Path2D? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var fillRule: CanvasFillRule? /* = CanvasFillRule.NONZERO */\n get() =
definedExternally\n set(value) = definedExternally\n var id: String? /* = \"\" */\n get() =
definedExternally\n set(value) = definedExternally\n var parentId: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var cursor: String? /* = \"inherit\" */\n get() =
definedExternally\n set(value) = definedExternally\n var control: Element? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var label: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var role: String? /* = null */\n get() =
definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun HitRegionOptions(path: Path2D? =
null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\", parentId: String? = null, cursor:
String? = \"inherit\", control: Element? = null, label: String? = null, role: String? = null): HitRegionOptions {\n val
o = js(\"({})\")\n o[\"path\"] = path\n o[\"fillRule\"] = fillRule\n o[\"id\"] = id\n o[\"parentId\"] = parentId\n
o[\"cursor\"] = cursor\n o[\"control\"] = control\n o[\"label\"] = label\n o[\"role\"] = role\n return
o\n}\n\n/**\n * Exposes the JavaScript [ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to
Kotlin\n */\npublic external open class ImageData : ImageBitmapSource, TexImageSource {\n constructor(sw:
Int, sh: Int)\n constructor(data: Uint8ClampedArray, sw: Int, sh: Int = definedExternally)\n open
val width: Int\n open val height: Int\n open val data: Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript
[Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D) to Kotlin\n */\npublic external open class
Path2D() : CanvasPath {\n constructor(path: Path2D)\n constructor(paths: Array<Path2D>, fillRule:
CanvasFillRule = definedExternally)\n constructor(d: String)\n fun addPath(path: Path2D, transform: dynamic =
definedExternally)\n override fun closePath()\n override fun moveTo(x: Double, y: Double)\n override fun
lineTo(x: Double, y: Double)\n override fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n
override fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n
override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n override fun arcTo(x1:
Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n override
fun rect(x: Double, y: Double, w: Double, h: Double)\n override fun arc(x: Double, y: Double, radius: Double,
startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */) \n override fun ellipse(x:
Double, y: Double, radiusX: Double, radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double,

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anticlockwise: Boolean /* = definedExternally */)\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext)
to Kotlin\n *\npublic external abstract class ImageBitmapRenderingContext {\n  open val canvas:
HTMLCanvasElement\n  fun transferFromImageBitmap(bitmap: ImageBitmap?)\n}\n\npublic external interface
ImageBitmapRenderingContextSettings {\n  var alpha: Boolean? /* = true */\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline
fun ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n
val o = js("{}")\n  o["alpha"] = alpha\n  return o\n}\n\n/**\n * Exposes the JavaScript
[CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n
*\npublic external abstract class CustomElementRegistry {\n  fun define(name: String, constructor: () -> dynamic,
options: ElementDefinitionOptions = definedExternally)\n  fun get(name: String): Any?\n  fun
whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n  var
extends: String?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends:
String? = undefined): ElementDefinitionOptions {\n  val o = js("{}")\n  o["extends"] = extends\n  return
o\n}\n\npublic
external interface ElementContentEditable {\n  var contentEditable: String\n  val isContentEditable:
Boolean\n}\n\n/**\n * Exposes the JavaScript
[DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer) to Kotlin\n *\npublic external
abstract class DataTransfer {\n  open var dropEffect: String\n  open var effectAllowed: String\n  open val items:
DataTransferItemList\n  open val types: Array<out String>\n  open val files: FileList\n  fun
setDragImage(image: Element, x: Int, y: Int)\n  fun getData(format: String): String\n  fun setData(format: String,
data: String)\n  fun clearData(format: String = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to Kotlin\n *\npublic
external abstract class DataTransferItemList {\n  open val length: Int\n  fun add(data: String, type: String):
DataTransferItem?\n  fun add(data: File): DataTransferItem?\n
fun remove(index: Int)\n  fun clear()\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
DataTransferItemList.get(index: Int): DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n *\npublic
external abstract class DataTransferItem {\n  open val kind: String\n  open val type: String\n  fun
getAsString(_callback: ((String) -> Unit)?)\n  fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript
[DragEvent](https://developer.mozilla.org/en/docs/Web/API/TouchEvent) to Kotlin\n *\npublic external open class
DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n  open val
dataTransfer: DataTransfer?\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE:
Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic
external interface DragEventInit : MouseEventInit {\n  var dataTransfer: DataTransfer? /* = null */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer:
DataTransfer? = null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0,
buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey:
Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false,
modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false,
modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail:

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Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): DragEventInit {
val o = js("{}")
  o["dataTransfer"] = dataTransfer
  o["screenX"] = screenX
  o["screenY"] = screenY
  o["clientX"] = clientX
  o["clientY"] = clientY
  o["button"] = button
  o["buttons"] = buttons
  o["relatedTarget"] = relatedTarget
  o["region"] = region
  o["ctrlKey"] = ctrlKey
  o["shiftKey"] = shiftKey
  o["altKey"] = altKey
  o["metaKey"] = metaKey
  o["modifierAltGraph"] = modifierAltGraph
  o["modifierCapsLock"] = modifierCapsLock
  o["modifierFn"] = modifierFn
  o["modifierFnLock"] = modifierFnLock
  o["modifierHyper"] = modifierHyper
  o["modifierNumLock"] = modifierNumLock
  o["modifierScrollLock"] = modifierScrollLock
  o["modifierSuper"] = modifierSuper
  o["modifierSymbol"] = modifierSymbol
  o["modifierSymbolLock"] = modifierSymbolLock
  o["view"] = view
  o["detail"] = detail
  o["bubbles"] = bubbles
  o["cancelable"] = cancelable
  o["composed"] = composed
  return o
}

/** Exposes the JavaScript
[Window](https://developer.mozilla.org/en/docs/Web/API/Window) to Kotlin */
public external abstract class Window : EventTarget, GlobalEventHandlers, WindowEventHandlers, WindowOrWorkerGlobalScope, WindowSessionStorage, WindowLocalStorage, GlobalPerformance, UnionMessagePortOrWindowProxy {
  open val window: Window
  open val self: Window
  open val document: Document
  open var name: String
  open val location: Location
  open val history: History
  open val customElements: CustomElementRegistry
  open val locationbar: BarProp
  open val menubar: BarProp
  open val personalbar: BarProp
  open val scrollbars: BarProp
  open val statusbar: BarProp
  open val toolbar: BarProp
  open var status: String
  open val closed: Boolean
  open val frames: Window
  open val length: Int
  open val top: Window
  open var opener: Any?
  open val parent: Window
  open val frameElement: Element?
  open val navigator: Navigator
  open val applicationCache: ApplicationCache
  open val external: External
  open val screen: Screen
  open val innerWidth: Int
  open val innerHeight: Int
  open val scrollX: Double
  open val pageXOffset: Double
  open val scrollY: Double
  open val pageYOffset: Double
  open val screenX: Int
  open val screenY: Int
  open val outerWidth: Int
  open val outerHeight: Int
  open val devicePixelRatio: Double
  fun close()
  fun stop()
  fun focus()
  fun blur()
  fun open(url: String = definedExternally, target: String = definedExternally, features: String = definedExternally): Window?
  fun alert()
  fun alert(message: String)
  fun confirm(message: String = definedExternally): Boolean
  fun prompt(message: String = definedExternally, default: String = definedExternally): String?
  fun print()
  fun requestAnimationFrame(callback: (Double) -> Unit): Int
  fun cancelAnimationFrame(handle: Int)
  fun postMessage(message: Any?, targetOrigin: String, transfer: Array<dynamic> = definedExternally)
  fun captureEvents()
  fun releaseEvents()
  fun matchMedia(query: String): MediaQueryList
  fun moveTo(x: Int, y: Int)
  fun moveBy(x: Int, y: Int)
  fun resizeTo(x: Int, y: Int)
  fun resizeBy(x: Int, y: Int)
  fun scroll(options: ScrollToOptions = definedExternally)
  fun scroll(x: Double, y: Double)
  fun scrollTo(options: ScrollToOptions = definedExternally)
  fun scrollTo(x: Double, y: Double)
  fun scrollBy(options: ScrollToOptions = definedExternally)
  fun scrollBy(x: Double, y: Double)
  fun getComputedStyle(elt: Element, pseudoElt: String? = definedExternally): CSSStyleDeclaration
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline operator fun Window.get(name: String): dynamic = asDynamic()[name]

public external abstract class BarProp {
  open val visible: Boolean
}

/** Exposes the JavaScript
[History](https://developer.mozilla.org/en/docs/Web/API/History) to Kotlin */
public external abstract class History {
  open val length: Int
  open var scrollRestoration: ScrollRestoration
  open val state: Any?
  fun go(delta: Int = definedExternally)
  fun back()
  fun forward()
  fun pushState(data: Any?, title: String, url: String? = definedExternally)
  fun replaceState(data: Any?, title: String, url: String? = definedExternally)
}

/** Exposes the JavaScript
[Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin */
public external abstract class Location {
  open var href: String
  open val origin: String
  open var protocol: String
  open var host: String
  open var hostname: String
  open

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var port: String\n open var pathname: String\n open var search: String\n open var hash: String\n open val
ancestorOrigins: Array<out String>\n fun assign(url: String)\n fun replace(url: String)\n fun
reload()\n}\n\n/**\n * Exposes the JavaScript
[PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n */\npublic external
open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {\n open val
state: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PopStateEventInit
: EventInit {\n var state: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PopStateEventInit(state: Any? = null,
bubbles: Boolean?
= false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit {\n val o = js(\"({})\")\n
o[\"state\"] = state\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] =
composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin\n */\npublic
external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) :
Event {\n open val oldURL: String\n open val newURL: String\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface HashChangeEventInit : EventInit {\n var oldURL: String? /* = \"\" */\n
get() = definedExternally\n set(value) = definedExternally\n var newURL: String? /* = \"\" */\n get() =
definedExternally\n set(value)
= definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun HashChangeEventInit(oldURL:
String? = \"\", newURL: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): HashChangeEventInit {\n val o = js(\"({})\")\n o[\"oldURL\"] = oldURL\n o[\"newURL\"]
= newURL\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin\n */\npublic
external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) :
Event {\n open val persisted: Boolean\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface
PageTransitionEventInit : EventInit {\n var persisted: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PageTransitionEventInit(persisted:
Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
PageTransitionEventInit {\n val o = js(\"({})\")\n o[\"persisted\"] = persisted\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript
[BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin\n */\npublic
external open class BeforeUnloadEvent : Event {\n var returnValue: String\n\n companion object {\n val
NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic
external abstract class ApplicationCache : EventTarget {\n open val status: Short\n open var onchecking:
((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n open var onnoupdate: ((Event) ->
dynamic)?\n open var ondownloading: ((Event) -> dynamic)?\n open var onprogress: ((ProgressEvent) ->
dynamic)?\n open var onupdateready: ((Event) -> dynamic)?\n open var oncached: ((Event) -> dynamic)?\n
open var onobsolete: ((Event) -> dynamic)?\n fun update()\n fun abort()\n fun swapCache()\n\n companion
object {\n val UNCACHED: Short\n val IDLE: Short\n val CHECKING: Short\n val

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DOWNLOADING: Short\n val UPDATEREADY: Short\n val OBSOLETE: Short\n } \n} \n \n /**\n * Exposes the JavaScript [NavigatorOnLine](https://developer.mozilla.org/en/docs/Web/API/NavigatorOnLine) to Kotlin\n */\n\npublic external interface NavigatorOnLine {\n val onLine: Boolean\n} \n \n /**\n * Exposes the JavaScript [ErrorEvent](https://developer.mozilla.org/en/docs/Web/API/ErrorEvent) to Kotlin\n */\n\npublic external open class ErrorEvent(type: String, eventInitDict: ErrorEventInit = definedExternally) : Event {\n open val message: String\n open val filename: String\n open val lineno: Int\n open val colno: Int\n open val error: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n} \n}\n\npublic external interface ErrorEventInit : EventInit {\n var message: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var filename: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var lineno: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var colno: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var error: Any? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n} \n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun ErrorEventInit(message: String? = \"\", filename: String? = \"\", lineno: Int? = 0, colno: Int? = 0, error: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ErrorEventInit {\n val o = js(\"({})\")\n o[\"message\"] = message\n o[\"filename\"] = filename\n o[\"lineno\"] = lineno\n o[\"colno\"] = colno\n o[\"error\"] = error\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n \n /**\n * Exposes the JavaScript [PromiseRejectionEvent](https://developer.mozilla.org/en/docs/Web/API/PromiseRejectionEvent) to Kotlin\n */\n\npublic external open class PromiseRejectionEvent(type: String, eventInitDict: PromiseRejectionEventInit) : Event {\n open val promise: Promise<Any?>\n\n open val reason: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n} \n}\n\npublic external interface PromiseRejectionEventInit : EventInit {\n var promise: Promise<Any?>\n var reason: Any?\n get() = definedExternally\n set(value) = definedExternally\n} \n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun PromiseRejectionEventInit(promise: Promise<Any?>, reason: Any? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PromiseRejectionEventInit {\n val o = js(\"({})\")\n o[\"promise\"] = promise\n o[\"reason\"] = reason\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n \n /**\n * Exposes the JavaScript [GlobalEventHandlers](https://developer.mozilla.org/en/docs/Web/API/GlobalEventHandlers) to Kotlin\n */\n\npublic external interface GlobalEventHandlers {\n var onabort: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onblur: ((FocusEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncancel: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncanplay: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncanplaythrough: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onchange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onclick: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onclose: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncontextmenu: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncuechange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondblclick: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondrag: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragend: ((DragEvent) -> dynamic)?\n get() = definedExternally\n


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set(value) = definedExternally\n  var ondragenter: ((DragEvent) -> dynamic)?\n  get() = definedExternally\n
set(value) = definedExternally\n  var ondragexit: ((DragEvent) -> dynamic)?\n  get() = definedExternally\n
set(value) = definedExternally\n  var ondragleave: ((DragEvent) -> dynamic)?\n  get() = definedExternally\n
set(value) = definedExternally\n
  var ondragover: ((DragEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var ondragstart: ((DragEvent) -> dynamic)?\n  get() = definedExternally\n  set(value)
= definedExternally\n  var ondrop: ((DragEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var ondurationchange: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value)
= definedExternally\n  var onemptied: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var onended: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  get() = definedExternally\n
  set(value) = definedExternally\n  var onfocus: ((FocusEvent) -> dynamic)?\n  get() = definedExternally\n
set(value) = definedExternally\n  var oninput: ((InputEvent)
-> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var oninvalid: ((Event) ->
dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var onkeydown:
((KeyboardEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onkeypress: ((KeyboardEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n
  var onkeyup: ((KeyboardEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var onload: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var onloadeddata: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var onloadedmetadata: ((Event) -> dynamic)?\n  get() = definedExternally\n
set(value) = definedExternally\n  var onloadend: ((Event) -> dynamic)?\n  get()
= definedExternally\n  set(value) = definedExternally\n  var onloadstart: ((ProgressEvent) -> dynamic)?\n
get() = definedExternally\n  set(value) = definedExternally\n  var onmousedown: ((MouseEvent) ->
dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var onmouseenter:
((MouseEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onmouseleave: ((MouseEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n
  var onmousemove: ((MouseEvent) -> dynamic)?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var onmouseout: ((MouseEvent) -> dynamic)?\n  get() = definedExternally\n
set(value) = definedExternally\n  var onmouseover: ((MouseEvent) -> dynamic)?\n  get() = definedExternally\n
  set(value) = definedExternally\n  var onmouseup: ((MouseEvent) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var onwheel: ((WheelEvent) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var onpause: ((Event) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var onplay: ((Event) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var onplaying: ((Event) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var onprogress: ((ProgressEvent) -> dynamic)?\n
get() = definedExternally\n  set(value) = definedExternally\n  var onratechange: ((Event) -> dynamic)?\n
get() = definedExternally\n  set(value) = definedExternally\n  var onreset: ((Event) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var onresize: ((Event) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n
  var onscroll: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onseeked: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onseeking: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onselect: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onshow: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onstalled: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onsubmit: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
onsuspend: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n  var

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ontimeupdate: ((Event) -> dynamic)?\n    get() = definedExternally\n
    set(value) = definedExternally\n    var ontoggle: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onvolumechange: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onwaiting: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ongotpointercapture: ((PointerEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onlostpointercapture: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onpointerdown: ((PointerEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onpointermove:
((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onpointerup: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n
    set(value) = definedExternally\n    var onpointercancel: ((PointerEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onpointerover: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onpointerout: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onpointerenter: ((PointerEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onpointerleave:
((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n/**\n *

```

Exposes the JavaScript

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[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*\n\npublic external interface WindowEventHandlers {\n    var onafterprint: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n
    var onbeforeprint: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
    var onbeforeunload: ((BeforeUnloadEvent) -> String)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onhashchange: ((HashChangeEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onlanguagechange: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onmessage: ((MessageEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onoffline: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var ononline: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onpagehide: ((PageTransitionEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n
    var onpageshow: ((PageTransitionEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onpopstate: ((PopStateEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onrejectionhandled: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onstorage: ((StorageEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onunload: ((Event) -> dynamic)?\n    get()
= definedExternally\n    set(value) = definedExternally\n}\n\npublic external interface
DocumentAndElementEventHandlers {\n    var oncopy: ((ClipboardEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var oncut: ((ClipboardEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onpaste: ((ClipboardEvent)
-> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n/**\n * Exposes the
JavaScript

```

```

[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope)
to Kotlin\n
*\n\npublic external interface WindowOrWorkerGlobalScope {\n    val origin: String\n    val caches:
CacheStorage\n    fun btoa(data: String): String\n    fun atob(data: String): String\n    fun setTimeout(handler:
dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n    fun clearTimeout(handle: Int =
definedExternally)\n    fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?):
Int\n    fun clearInterval(handle: Int = definedExternally)\n    fun createImageBitmap(image: ImageBitmapSource,
options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n    fun createImageBitmap(image:

```

```

ImageBitmapSource, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally):
Promise<ImageBitmap>\n fun fetch(input: dynamic, init: RequestInit = definedExternally):
Promise<Response>\n}\n\n/**\n * Exposes the JavaScript
[Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n *\npublic external abstract class
Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorContentUtils, NavigatorCookies,
NavigatorPlugins, NavigatorConcurrentHardware {\n open val clipboard: Clipboard\n open val mediaDevices:
MediaDevices\n open val maxTouchPoints: Int\n open val serviceWorker: ServiceWorkerContainer\n fun
requestMediaKeySystemAccess(keySystem: String, supportedConfigurations:
Array<MediaKeySystemConfiguration>): Promise<MediaKeySystemAccess>\n fun getUserMedia(constraints:
MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback: (dynamic) -> Unit)\n fun
vibrate(pattern:
dynamic): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n *\npublic external interface
NavigatorID {\n val appCodeName: String\n val appName: String\n val appVersion: String\n val platform:
String\n val product: String\n val productSub: String\n val userAgent: String\n val vendor: String\n val
vendorSub: String\n val oscpu: String\n fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorLanguage](https://developer.mozilla.org/en/docs/Web/API/NavigatorLanguage) to Kotlin\n *\npublic
external interface NavigatorLanguage {\n val language: String\n val languages: Array<out String>\n}\n\npublic
external interface NavigatorContentUtils {\n fun registerProtocolHandler(scheme: String, url: String, title:
String)\n fun registerContentHandler(mimeType: String, url: String, title: String)\n fun
isProtocolHandlerRegistered(scheme: String, url: String):
String\n fun isContentHandlerRegistered(mimeType: String, url: String): String\n fun
unregisterProtocolHandler(scheme: String, url: String)\n fun unregisterContentHandler(mimeType: String, url:
String)\n}\n\npublic external interface NavigatorCookies {\n val cookieEnabled: Boolean\n}\n\n/**\n * Exposes
the JavaScript [NavigatorPlugins](https://developer.mozilla.org/en/docs/Web/API/NavigatorPlugins) to Kotlin\n
*\npublic external interface NavigatorPlugins {\n val plugins: PluginArray\n val mimeTypes:
MimeTypeArray\n fun javaEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[PluginArray](https://developer.mozilla.org/en/docs/Web/API/PluginArray) to Kotlin\n *\npublic external abstract
class PluginArray : ItemArrayLike<Plugin> {\n fun refresh(reload: Boolean = definedExternally)\n override fun
item(index: Int): Plugin?\n fun namedItem(name: String):
Plugin?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic
inline operator fun PluginArray.get(index: Int): Plugin? =
asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun PluginArray.get(name:
String): Plugin? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MimeTypeArray](https://developer.mozilla.org/en/docs/Web/API/MimeTypeArray) to Kotlin\n *\npublic external
abstract class MimeTypeArray : ItemArrayLike<MimeType> {\n override fun item(index: Int): MimeType?\n
fun namedItem(name: String): MimeType?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(index:
Int): MimeType? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(name:
String): MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[Plugin](https://developer.mozilla.org/en/docs/Web/API/Plugin)
to Kotlin\n *\npublic external abstract class Plugin : ItemArrayLike<MimeType> {\n open val name: String\n
open val description: String\n open val filename: String\n override fun item(index: Int): MimeType?\n fun
namedItem(name: String): MimeType?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(index: Int):

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MimeType? = asDynamic()[index]\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Plugin.get(name: String):
MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MimeType](https://developer.mozilla.org/en/docs/Web/API/MimeType) to Kotlin\n\n *^\n\npublic external abstract
class MimeType {\n\n    open val type: String\n\n    open val description: String\n\n    open val suffixes: String\n\n    open
val enabledPlugin: Plugin\n\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmap](https://developer.mozilla.org/en/docs/Web/API/ImageBitmap)
to Kotlin\n\n *^\n\npublic external abstract class ImageBitmap : CanvasImageSource, TexImageSource {\n\n    open val
width: Int\n\n    open val height: Int\n\n    fun close()\n\n}\n\n\n\npublic external interface ImageBitmapOptions {\n\n    var
imageOrientation: ImageOrientation? /* = ImageOrientation.NONE */\n\n    get() = definedExternally\n\n    set(value) = definedExternally\n\n    var premultiplyAlpha: PremultiplyAlpha? /* = PremultiplyAlpha.DEFAULT */\n\n    get() = definedExternally\n\n    set(value) = definedExternally\n\n    var colorSpaceConversion:
ColorSpaceConversion? /* = ColorSpaceConversion.DEFAULT */\n\n    get() = definedExternally\n\n    set(value)
= definedExternally\n\n    var resizeMode: Int?\n\n    get() = definedExternally\n\n    set(value) =
definedExternally\n\n    var resizeMode: Int?\n\n    get() = definedExternally\n\n    set(value) = definedExternally\n\n
var resizeMode: ResizeQuality? /* = ResizeQuality.LOW */\n\n    get() = definedExternally\n\n    set(value) = definedExternally\n\n}\n\n\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
ImageBitmapOptions(imageOrientation: ImageOrientation? = ImageOrientation.NONE, premultiplyAlpha:
PremultiplyAlpha? = PremultiplyAlpha.DEFAULT, colorSpaceConversion: ColorSpaceConversion? =
ColorSpaceConversion.DEFAULT, resizeMode: Int? = undefined, resizeMode: Int? = undefined, resizeMode:
ResizeQuality? = ResizeQuality.LOW): ImageBitmapOptions {\n\n    val o = js(\\"({})\")\n\n    o[\\"imageOrientation\\"]
= imageOrientation\n\n    o[\\"premultiplyAlpha\\"] = premultiplyAlpha\n\n    o[\\"colorSpaceConversion\\"] =
colorSpaceConversion\n\n    o[\\"resizeWidth\\"] = resizeMode\n\n    o[\\"resizeHeight\\"] = resizeMode\n\n    o[\\"resizeQuality\\"] = resizeMode\n\n    return o\n\n}\n\n/**\n * Exposes the JavaScript
[MessageEvent](https://developer.mozilla.org/en/docs/Web/API/MessageEvent) to Kotlin\n\n *^\n\npublic external open
class MessageEvent(type:
String, eventInitDict: MessageEventInit = definedExternally) : Event {\n\n    open val data: Any?\n\n    open val origin:
String\n\n    open val lastEventId: String\n\n    open val source: UnionMessagePortOrWindowProxy?\n\n    open val ports:
Array<out MessagePort>\n\n    fun initMessageEvent(type: String, bubbles: Boolean, cancelable: Boolean, data:
Any?, origin: String, lastEventId: String, source: UnionMessagePortOrWindowProxy?, ports:
Array<MessagePort>)\n\n\n    companion object {\n\n        val NONE: Short\n\n        val CAPTURING_PHASE: Short\n\n        val AT_TARGET: Short\n\n        val BUBBLING_PHASE: Short\n\n    }\n\n}\n\n\n\npublic external interface
MessageEventInit : EventInit {\n\n    var data: Any? /* = null */\n\n    get() = definedExternally\n\n    set(value) =
definedExternally\n\n    var origin: String? /* = \\"\" */\n\n    get() = definedExternally\n\n    set(value) =
definedExternally\n\n    var lastEventId: String? /* = \\"\" */\n\n    get() = definedExternally\n\n    set(value)
= definedExternally\n\n    var source: UnionMessagePortOrWindowProxy? /* = null */\n\n    get() =
definedExternally\n\n    set(value) = definedExternally\n\n    var ports: Array<MessagePort>? /* = arrayOf() */\n\n    get() = definedExternally\n\n    set(value) = definedExternally\n\n}\n\n\n\n@Suppress(\\"INVISIBLE_REFERENCE\",
\\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun MessageEventInit(data: Any? = null,
origin: String? = \\"\", lastEventId: String? = \\"\", source: UnionMessagePortOrWindowProxy? = null, ports:
Array<MessagePort>? = arrayOf(), bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): MessageEventInit {\n\n    val o = js(\\"({})\")\n\n    o[\\"data\\"] = data\n\n    o[\\"origin\\"] = origin\n\n    o[\\"lastEventId\\"] = lastEventId\n\n    o[\\"source\\"] = source\n\n    o[\\"ports\\"] = ports\n\n    o[\\"bubbles\\"] = bubbles\n\n    o[\\"cancelable\\"] = cancelable\n\n    o[\\"composed\\"] = composed\n\n    return o\n\n}\n\n/**\n * Exposes the JavaScript
[EventSource](https://developer.mozilla.org/en/docs/Web/API/EventSource)
to Kotlin\n\n *^\n\npublic external open class EventSource(url: String, eventSourceInitDict: EventSourceInit =
definedExternally) : EventTarget {\n\n    open val url: String\n\n    open val withCredentials: Boolean\n\n    open val

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readyState: Short\n  var onopen: ((Event) -> dynamic)?\n  var onmessage: ((MessageEvent) -> dynamic)?\n  var
onerror: ((Event) -> dynamic)?\n  fun close()\n\n companion object {\n    val CONNECTING: Short\n    val
OPEN: Short\n    val CLOSED: Short\n  }\n\n\npublic external interface EventSourceInit {\n  var
withCredentials: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun EventSourceInit(withCredentials:
Boolean? = false): EventSourceInit {\n  val o = js(\"({})\")\n  o[\"withCredentials\"] = withCredentials\n
return o\n}\n\n/**\n * Exposes the JavaScript
[WebSocket](https://developer.mozilla.org/en/docs/Web/API/WebSocket) to Kotlin\n */\npublic external open class
WebSocket(url: String, protocols: dynamic = definedExternally) : EventTarget {\n  open val url: String\n  open
val readyState: Short\n  open val bufferedAmount: Number\n  var onopen: ((Event) -> dynamic)?\n  var onerror:
((Event) -> dynamic)?\n  var onclose: ((Event) -> dynamic)?\n  open val extensions: String\n  open val protocol:
String\n  var onmessage: ((MessageEvent) -> dynamic)?\n  var binaryType: BinaryType\n  fun close(code: Short
= definedExternally, reason: String = definedExternally)\n  fun send(data: String)\n  fun send(data: Blob)\n  fun
send(data: ArrayBuffer)\n  fun send(data: ArrayBufferView)\n\n\n companion object {\n    val CONNECTING:
Short\n    val OPEN: Short\n    val CLOSING: Short\n    val CLOSED: Short\n  }\n\n\n/**\n * Exposes the
JavaScript [CloseEvent](https://developer.mozilla.org/en/docs/Web/API/CloseEvent)
to Kotlin\n */\npublic external open class CloseEvent(type: String, eventInitDict: CloseEventInit =
definedExternally) : Event {\n  open val wasClean: Boolean\n  open val code: Short\n  open val reason:
String\n\n\n companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n\n\npublic external interface CloseEventInit :
EventInit {\n  var wasClean: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n  var code: Short? /* = 0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n  var reason: String? /* = \"\" */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CloseEventInit(wasClean: Boolean? =
false, code: Short? =
0, reason: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
CloseEventInit {\n  val o = js(\"({})\")\n  o[\"wasClean\"] = wasClean\n  o[\"code\"] = code\n  o[\"reason\"] =
reason\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] = composed\n  return
o\n}\n\n/**\n * Exposes the JavaScript
[MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n */\npublic external
open class MessageChannel {\n  open val port1: MessagePort\n  open val port2: MessagePort\n}\n\n\n/**\n *
Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n
*/\npublic external abstract class MessagePort : EventTarget, UnionMessagePortOrWindowProxy,
UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n  open var onmessage:
((MessageEvent) -> dynamic)?\n  fun postMessage(message: Any?, transfer: Array<dynamic>
= definedExternally)\n  fun start()\n  fun close()\n}\n\n\n/**\n * Exposes the JavaScript
[BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel) to Kotlin\n */\npublic
external open class BroadcastChannel(name: String) : EventTarget {\n  open val name: String\n  var onmessage:
((MessageEvent) -> dynamic)?\n  fun postMessage(message: Any?)\n  fun close()\n}\n\n\n/**\n * Exposes the
JavaScript [WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n
*/\npublic external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope,
GlobalPerformance {\n  open val self: WorkerGlobalScope\n  open val location: WorkerLocation\n  open val
navigator: WorkerNavigator\n  open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  open var
onlanguagechange: ((Event) -> dynamic)?\n  open var onoffline: ((Event) -> dynamic)?\n  open var ononline:
((Event) -> dynamic)?\n  open var onrejectionhandled:

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((Event) -> dynamic)?\n  open var onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n  fun
importScripts(vararg urls: String)\n}\n\n/**\n * Exposes the JavaScript
[DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to
Kotlin\n *^\npublic external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n  open var
onmessage: ((MessageEvent) -> dynamic)?\n  fun postMessage(message: Any?, transfer: Array<dynamic> =
definedExternally)\n  fun close()\n}\n\n/**\n * Exposes the JavaScript
[SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to
Kotlin\n *^\npublic external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n  open val name:
String\n  open val applicationCache: ApplicationCache\n  open var onconnect: ((Event) -> dynamic)?\n  fun
close()\n}\n\n/**\n * Exposes the JavaScript
[AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker)
to Kotlin\n *^\npublic external interface AbstractWorker {\n  var onerror: ((Event) -> dynamic)?\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n *^\npublic external open class
Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n  var
onmessage: ((MessageEvent) -> dynamic)?\n  override var onerror: ((Event) -> dynamic)?\n  fun terminate()\n
fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\npublic external interface
WorkerOptions {\n  var type: WorkerType? /* = WorkerType.CLASSIC */\n  get() = definedExternally\n
set(value) = definedExternally\n  var credentials: RequestCredentials? /* = RequestCredentials.OMIT */\n
get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun WorkerOptions(type: WorkerType? =
WorkerType.CLASSIC, credentials: RequestCredentials? = RequestCredentials.OMIT): WorkerOptions {\n  val o
= js("{}")\n  o["type"] = type\n  o["credentials"] = credentials\n  return o\n}\n\n/**\n * Exposes the
JavaScript [SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin\n *^\npublic
external open class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions =
definedExternally) : EventTarget, AbstractWorker {\n  open val port: MessagePort\n  override var onerror:
((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to
Kotlin\n *^\npublic external interface NavigatorConcurrentHardware {\n  val hardwareConcurrency:
Number\n}\n\n/**\n * Exposes the JavaScript
[WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator)
to Kotlin\n *^\npublic external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage,
NavigatorOnLine, NavigatorConcurrentHardware {\n  open val serviceWorker:
ServiceWorkerContainer\n}\n\n/**\n * Exposes the JavaScript
[WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin\n *^\npublic external
abstract class WorkerLocation {\n  open val href: String\n  open val origin: String\n  open val protocol: String\n
open val host: String\n  open val hostname: String\n  open val port: String\n  open val pathname: String\n
open val search: String\n  open val hash: String\n}\n\n/**\n * Exposes the JavaScript
[Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin\n *^\npublic external abstract class
Storage {\n  open val length: Int\n  fun key(index: Int): String?\n  fun removeItem(key: String)\n  fun clear()\n
fun getItem(key: String): String?\n
fun setItem(key: String, value: String)\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.get(key: String):
String? = asDynamic()[key]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.set(key: String, value:
String) { asDynamic()[key] = value }\n\n/**\n * Exposes the JavaScript
[WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin\n
*^\npublic external interface WindowSessionStorage {\n  val sessionStorage: Storage\n}\n\n/**\n * Exposes the

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JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to Kotlin\n *\\npublic external interface WindowLocalStorage {\\n val localStorage: Storage\\n}\\n\\n/**\\n * Exposes the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin\\n *\\npublic external open class

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StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {\\n open val key: String?\\n open val oldValue: String?\\n open val newValue: String?\\n open val url: String\\n open val storageArea: Storage?\\n\\n companion object {\\n val NONE: Short\\n val CAPTURING_PHASE: Short\\n val AT_TARGET: Short\\n val BUBBLING_PHASE: Short\\n }\\n}\\n\\npublic external interface StorageEventInit : EventInit {\\n var key: String? /* = null */\\n get() = definedExternally\\n set(value) = definedExternally\\n var oldValue: String? /* = null */\\n get() = definedExternally\\n set(value) = definedExternally\\n var newValue: String? /* = null */\\n get() = definedExternally\\n set(value) = definedExternally\\n var url: String? /* = \\\"\" */\\n get() = definedExternally\\n set(value) = definedExternally\\n var storageArea: Storage? /* = null */\\n get() = definedExternally\\n set(value) = definedExternally\\n}\\n\\n@Suppress(\"INVISIBLE_REFERENCE\",
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\"INVISIBLE_MEMBER\")\\n@kotlin.internal.InlineOnly\\npublic inline fun StorageEventInit(key: String? = null, oldValue: String? = null, newValue: String? = null, url: String? = \\\"\", storageArea: Storage? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): StorageEventInit {\\n val o = js(\"({})\")\\n o[\"key\"] = key\\n o[\"oldValue\"] = oldValue\\n o[\"newValue\"] = newValue\\n o[\"url\"] = url\\n o[\"storageArea\"] = storageArea\\n o[\"bubbles\"] = bubbles\\n o[\"cancelable\"] = cancelable\\n o[\"composed\"] = composed\\n return o\\n}\\n\\npublic external abstract class HTMLAppletElement : HTMLElement {\\n open var align: String\\n open var alt: String\\n open var archive: String\\n open var code: String\\n open var codeBase: String\\n open var height: String\\n open var hspace: Int\\n open var name: String\\n open var _object: String\\n
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open var vspace: Int\\n open var width: String\\n\\n companion object {\\n val ELEMENT_NODE: Short\\n val ATTRIBUTE_NODE: Short\\n val TEXT_NODE: Short\\n val CDATA_SECTION_NODE: Short\\n val ENTITY_REFERENCE_NODE: Short\\n val ENTITY_NODE: Short\\n val PROCESSING_INSTRUCTION_NODE: Short\\n val COMMENT_NODE: Short\\n val DOCUMENT_NODE: Short\\n val DOCUMENT_TYPE_NODE: Short\\n val DOCUMENT_FRAGMENT_NODE: Short\\n val NOTATION_NODE: Short\\n val DOCUMENT_POSITION_DISCONNECTED: Short\\n val DOCUMENT_POSITION_PRECEDING: Short\\n val DOCUMENT_POSITION_FOLLOWING: Short\\n val DOCUMENT_POSITION_CONTAINS: Short\\n val DOCUMENT_POSITION_CONTAINED_BY: Short\\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\\n }\\n}\\n\\n/**\\n * Exposes the JavaScript [HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin\\n *\\npublic external abstract
```

```
class HTMLMarqueeElement : HTMLElement {\\n open var behavior: String\\n open var bgColor: String\\n open var direction: String\\n open var height: String\\n open var hspace: Int\\n open var loop: Int\\n open var scrollAmount: Int\\n open var scrollDelay: Int\\n open var trueSpeed: Boolean\\n open var vspace: Int\\n open var width: String\\n open var onbounce: ((Event) -> dynamic)?\\n open var onfinish: ((Event) -> dynamic)?\\n open var onstart: ((Event) -> dynamic)?\\n fun start()\\n fun stop()\\n\\n companion object {\\n val ELEMENT_NODE: Short\\n val ATTRIBUTE_NODE: Short\\n val TEXT_NODE: Short\\n val CDATA_SECTION_NODE: Short\\n val ENTITY_REFERENCE_NODE: Short\\n val ENTITY_NODE: Short\\n val PROCESSING_INSTRUCTION_NODE: Short\\n val COMMENT_NODE: Short\\n val DOCUMENT_NODE: Short\\n val DOCUMENT_TYPE_NODE: Short\\n val DOCUMENT_FRAGMENT_NODE: Short\\n val NOTATION_NODE: Short\\n val DOCUMENT_POSITION_DISCONNECTED: Short\\n val DOCUMENT_POSITION_PRECEDING: Short\\n val DOCUMENT_POSITION_FOLLOWING: Short\\n val DOCUMENT_POSITION_CONTAINS: Short\\n val DOCUMENT_POSITION_CONTAINED_BY:
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Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement)
to Kotlin\n */\npublic external abstract class HTMLFrameSetElement : HTMLElement, WindowEventHandlers {\n
open var cols: String\n    open var rows: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
HTMLFrameElement : HTMLElement {\n    open var name: String\n    open var scrolling: String\n    open var src:
String\n    open var frameBorder: String\n    open var longDesc: String\n    open var noResize: Boolean\n    open val
contentDocument: Document?\n    open val contentWindow: Window?\n    open var marginHeight: String\n    open
var marginWidth: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n
        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
HTMLDirectoryElement : HTMLElement {\n    open var compact: Boolean\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n
        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement) to Kotlin\n */\npublic
external abstract class HTMLFontElement : HTMLElement {\n    open var color: String\n    open var face: String\n
open var size: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE:
Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val
DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val
NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n}\n\npublic external

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interface External {\n  fun AddSearchProvider()\n  fun IsSearchProviderInstalled()\n}\n\npublic external interface
EventInit {\n  var bubbles: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var cancelable: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var composed: Boolean? /* = false */\n  get() = definedExternally\n  set(value)
= definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun EventInit(bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): EventInit {\n  val o = js(\"({})\")\n  o[\"bubbles\"] =
bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] = composed\n  return o\n}\n\n/**\n * Exposes the
JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n *\npublic
external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event {\n
open val detail: Any?\n  fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail:
Any?)\n}\n\ncompanion object {\n  val NONE: Short\n  val CAPTURING_PHASE: Short\n  val
AT_TARGET: Short\n  val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface CustomEventInit :
EventInit {\n  var detail: Any? /* = null */\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CustomEventInit(detail: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CustomEventInit {\n  val o
= js(\"({})\")\n  o[\"detail\"] = detail\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n
o[\"composed\"] = composed\n  return o\n}\n\npublic external interface EventListenerOptions {\n  var capture:
Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun EventListenerOptions(capture:
Boolean? = false): EventListenerOptions {\n  val o = js(\"({})\")\n  o[\"capture\"] = capture\n  return
o\n}\n\npublic external interface AddEventListenerOptions : EventListenerOptions {\n  var
passive: Boolean? /* = false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var once:
Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun AddEventListenerOptions(passive:
Boolean? = false, once: Boolean? = false, capture: Boolean? = false): AddEventListenerOptions {\n  val o =
js(\"({})\")\n  o[\"passive\"] = passive\n  o[\"once\"] = once\n  o[\"capture\"] = capture\n  return o\n}\n\npublic
external interface NonElementParentNode {\n  fun getElementById(elementId: String): Element?\n}\n\n/**\n *
Exposes the JavaScript
[DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n *\npublic
external interface DocumentOrShadowRoot {\n  val fullscreenElement: Element?\n  get() =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode)
to Kotlin\n *\npublic external interface ParentNode {\n  val children: HTMLCollection\n  val firstElementChild:
Element?\n  get() = definedExternally\n  val lastElementChild: Element?\n  get() = definedExternally\n
val childElementCount: Int\n  fun prepend(vararg nodes: dynamic)\n  fun append(vararg nodes: dynamic)\n  fun
querySelector(selectors: String): Element?\n  fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n *
Exposes the JavaScript
[NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to
Kotlin\n *\npublic external interface NonDocumentTypeChildNode {\n  val previousElementSibling: Element?\n
get() = definedExternally\n  val nextElementSibling: Element?\n  get() = definedExternally\n}\n\n/**\n *
Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n *\npublic
external interface ChildNode {\n  fun before(vararg nodes: dynamic)\n  fun after(vararg nodes: dynamic)\n  fun
replaceWith(vararg nodes: dynamic)\n  fun remove()\n}\n\n/**\n * Exposes the JavaScript

```

[Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n *^/npublic external interface Slotable {
 {
 val assignedSlot: HTMLSlotElement? get() = definedExternally\n }
 }
 * Exposes the JavaScript [NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n *^/npublic external abstract class
 NodeList : ItemArrayLike<Node> {
 override fun item(index: Int):
 Node? get()\n }
 @Suppress(\ "INVISIBLE_REFERENCE",
 \ "INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline operator fun NodeList.get(index: Int):
 Node? = asDynamic()[index]\n }
 * Exposes the JavaScript [HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n *^/npublic
 external abstract class HTMLCollection : ItemArrayLike<Element>,
 UnionElementOrHTMLCollection {
 override fun item(index: Int): Element? fun namedItem(name: String):
 Element? get()\n }
 @Suppress(\ "INVISIBLE_REFERENCE",
 \ "INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline operator fun HTMLCollection.get(index:
 Int): Element? = asDynamic()[index]\n }
 @Suppress(\ "INVISIBLE_REFERENCE",
 \ "INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline operator fun HTMLCollection.get(name:
 String): Element? = asDynamic()[name]\n }
 * Exposes the JavaScript [MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin\n *^/npublic
 external open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) {
 fun
 observe(target: Node, options: MutationObserverInit = definedExternally)\n fun
 disconnect()\n fun
 takeRecords(): Array<MutationRecord>\n }
 * Exposes the JavaScript [MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit)
 to Kotlin\n *^/npublic external interface MutationObserverInit {
 var childList: Boolean? /* = false */\n get()
 = definedExternally\n set(value) = definedExternally\n var attributes: Boolean? get() =
 definedExternally\n set(value) = definedExternally\n var characterData: Boolean? get() =
 definedExternally\n set(value) = definedExternally\n var subtree: Boolean? /* = false */\n get() =
 definedExternally\n set(value) = definedExternally\n var attributeOldValue: Boolean? get() =
 definedExternally\n set(value) = definedExternally\n var characterDataOldValue: Boolean? get() =
 definedExternally\n set(value) = definedExternally\n var attributeFilter: Array<String>? get() =
 definedExternally\n set(value) = definedExternally\n }
 @Suppress(\ "INVISIBLE_REFERENCE",
 \ "INVISIBLE_MEMBER")\n @kotlin.internal.InlineOnly\n public inline fun MutationObserverInit(childList:
 Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? =
 false, attributeOldValue: Boolean? = undefined, characterDataOldValue: Boolean? = undefined, attributeFilter:
 Array<String>? = undefined): MutationObserverInit {
 val o = js(\ "{ }")\n o["childList"] = childList\n
 o["attributes"] = attributes\n o["characterData"] = characterData\n o["subtree"] = subtree\n
 o["attributeOldValue"] = attributeOldValue\n o["characterDataOldValue"] = characterDataOldValue\n
 o["attributeFilter"] = attributeFilter\n return o\n }
 * Exposes the JavaScript [MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin\n *^/npublic external
 abstract class MutationRecord {
 open val type: String\n open val target: Node\n open val addedNodes:
 NodeList\n open val removedNodes: NodeList\n open val previousSibling: Node? open val nextSibling:
 Node?
 open val attributeName:
 String?
 open val attributeNamespace: String?
 open val oldValue: String?}\n }
 * Exposes the
 JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node) to Kotlin\n *^/npublic external abstract
 class Node : EventTarget {
 open val nodeType: Short\n open val nodeName: String\n open val baseURI:
 String\n open val isConnected: Boolean\n open val ownerDocument: Document? open val parentNode:
 Node?
 open val parentElement: Element? open val childNodes: NodeList\n open val firstChild: Node?
 open val lastChild: Node? open val previousSibling: Node? open val nextSibling: Node?
 open var
 nodeValue: String? open var textContent: String? fun getRootNode(options: GetRootNodeOptions =
 definedExternally): Node\n fun hasChildNodes(): Boolean\n fun normalize()\n fun cloneNode(deep: Boolean
 = definedExternally): Node\n fun isEqualNode(otherNode: Node?): Boolean\n fun isSameNode(otherNode:

Node?):

```
Boolean\n fun compareDocumentPosition(other: Node): Short\n fun contains(other: Node?): Boolean\n fun  
lookupPrefix(namespace: String?): String?\n fun lookupNamespaceURI(prefix: String?): String?\n fun  
isDefaultNamespace(namespace: String?): Boolean\n fun insertBefore(node: Node, child: Node?): Node\n fun  
appendChild(node: Node): Node\n fun replaceChild(node: Node, child: Node): Node\n fun removeChild(child:  
Node): Node\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:  
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val  
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val  
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val  
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val  
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val  
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING:  
Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val  
DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n  
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } }\n\n public external interface  
GetRootNodeOptions {\n var composed: Boolean? /* = false */\n get() = definedExternally\n set(value) =  
definedExternally\n }\n\n @Suppress(\"INVISIBLE_REFERENCE\",  
\"INVISIBLE_MEMBER\")\n\n @kotlin.internal.InlineOnly\n\n public inline fun GetRootNodeOptions(composed:  
Boolean? = false): GetRootNodeOptions {\n val o = js(\"({})\")\n o[\"composed\"] = composed\n return  
o\n }\n\n /**\n * Exposes the JavaScript [Document](https://developer.mozilla.org/en/docs/Web/API/Document) to  
Kotlin\n */\n\n public external open class Document : Node, GlobalEventHandlers,  
DocumentAndElementEventHandlers, NonElementParentNode, DocumentOrShadowRoot, ParentNode,  
GeometryUtils {\n open val implementation: DOMImplementation\n  
open val URL: String\n open val documentURI: String\n open val origin: String\n open val compatMode:  
String\n open val characterSet: String\n open val charset: String\n open val inputEncoding: String\n open val  
contentType: String\n open val doctype: DocumentType?\n open val documentElement: Element?\n open val  
location: Location?\n var domain: String\n open val referrer: String\n var cookie: String\n open val  
lastModified: String\n open val readyState: DocumentReadyState\n var title: String\n var dir: String\n var  
body: HTMLElement?\n open val head: HTMLHeadElement?\n open val images: HTMLCollection\n open val  
embeds: HTMLCollection\n open val plugins: HTMLCollection\n open val links: HTMLCollection\n open val  
forms: HTMLCollection\n open val scripts: HTMLCollection\n open val currentScript:  
HTMLScriptElement?\n open val defaultView: Window?\n open val activeElement: Element?\n var  
designMode:  
String\n var onreadystatechange: ((Event) -> dynamic)?\n var fgColor: String\n var linkColor: String\n var  
vlinkColor: String\n var alinkColor: String\n var bgColor: String\n open val anchors: HTMLCollection\n  
open val applets: HTMLCollection\n open val all: HTMLAllCollection\n open val scrollingElement: Element?\n  
open val styleSheets: StyleSheetList\n open val rootElement: SVGSVGElement?\n open val fullscreenEnabled:  
Boolean\n open val fullscreen: Boolean\n var onfullscreenchange: ((Event) -> dynamic)?\n var  
onfullscreenerror: ((Event) -> dynamic)?\n override var onabort: ((Event) -> dynamic)?\n override var onblur:  
((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -  
> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n override var onchange: ((Event) ->  
dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n override var onclose:  
((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n override var  
oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n override var  
ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n override var  
ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) -> dynamic)?\n override var  
ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) -> dynamic)?\n override var  
ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) -> dynamic)?\n override var
```

```

ondurationchange: ((Event) -> dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n  override var
onended: ((Event) -> dynamic)?\n  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n
override var onfocus: ((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override
var oninvalid:
((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress:
((KeyboardEvent) -> dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload:
((Event) -> dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata:
((Event) -> dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n  override var onloadstart:
((ProgressEvent) -> dynamic)?\n  override var onmousedown: ((MouseEvent) -> dynamic)?\n  override var
onmouseenter: ((MouseEvent) -> dynamic)?\n  override var onmouseleave: ((MouseEvent) -> dynamic)?\n
override var onmousemove: ((MouseEvent) -> dynamic)?\n  override var onmouseout: ((MouseEvent) ->
dynamic)?\n  override var onmouseover: ((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent)
-> dynamic)?\n  override var onwheel: ((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) ->
dynamic)?\n  override var
onplay: ((Event) -> dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n  override var onprogress:
((ProgressEvent) -> dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n  override var onreset:
((Event) -> dynamic)?\n  override var onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) ->
dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n
override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var
onstalled: ((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend:
((Event) -> dynamic)?\n  override var ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) ->
dynamic)?\n  override var onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) ->
dynamic)?\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var
onlostpointercapture:
((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var
onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n
override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) ->
dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter:
((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var
oncopy: ((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var
onpaste: ((ClipboardEvent) -> dynamic)?\n  override val fullscreenElement: Element?\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  fun getElementsByTagName(qualifiedName: String): HTMLCollection\n
  fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n  fun
getElementsByTagName(className: String): HTMLCollection\n  fun createElement(localName: String,
options: ElementCreationOptions = definedExternally): Element\n  fun createElementNS(namespace: String?,
qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n  fun
createDocumentFragment(): DocumentFragment\n  fun createTextNode(data: String): Text\n  fun
createCDATASection(data: String): CDATASection\n  fun createComment(data: String): Comment\n  fun
createProcessingInstruction(target: String, data: String): ProcessingInstruction\n  fun importNode(node: Node,
deep: Boolean = definedExternally): Node\n  fun adoptNode(node: Node): Node\n  fun
createAttribute(localName: String): Attr\n  fun createAttributeNS(namespace: String?, qualifiedName: String):
Attr\n  fun createEvent(`interface`: String): Event\n  fun createRange(): Range\n  fun
createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally):
NodeIterator\n  fun createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)?
= definedExternally): NodeIterator\n  fun createTreeWalker(root: Node, whatToShow: Int = definedExternally,
filter: NodeFilter? = definedExternally): TreeWalker\n  fun createTreeWalker(root: Node, whatToShow: Int =
definedExternally, filter: ((Node) -> Short)? = definedExternally): TreeWalker\n  fun

```

```

getElementsByName(elementName: String): NodeList\n fun open(type: String = definedExternally, replace:
String = definedExternally): Document\n fun open(url: String, name: String, features: String): Window\n fun
close()\n fun write(vararg text: String)\n fun writeln(vararg text: String)\n fun hasFocus(): Boolean\n fun
execCommand(commandId: String, showUI: Boolean = definedExternally, value: String = definedExternally):
Boolean\n fun queryCommandEnabled(commandId:
String): Boolean\n fun queryCommandIndeterm(commandId: String): Boolean\n fun
queryCommandState(commandId: String): Boolean\n fun queryCommandSupported(commandId: String):
Boolean\n fun queryCommandValue(commandId: String): String\n fun clear()\n fun captureEvents()\n fun
releaseEvents()\n fun elementFromPoint(x: Double, y: Double): Element?\n fun elementsFromPoint(x: Double,
y: Double): Array<Element>\n fun caretPositionFromPoint(x: Double, y: Double): CaretPosition?\n fun
createTouch(view: Window, target: EventTarget, identifier: Int, pageX: Int, pageY: Int, screenX: Int, screenY: Int):
Touch\n fun createTouchList(vararg touches: Touch): TouchList\n fun exitFullscreen(): Promise<Unit>\n
override fun getElementById(elementId: String): Element?\n override fun prepend(vararg nodes: dynamic)\n
override fun append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n
override fun
querySelectorAll(selectors: String): NodeList\n override fun getBoxQuads(options: BoxQuadOptions /* =
definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun
convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE:
Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY:
Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Document.get(name: String):
dynamic = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n */\npublic external
open class XMLDocument : Document {\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n
val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE:
Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface
ElementCreationOptions {\n var `is`: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String?
= undefined): ElementCreationOptions {\n val o = js(\"({})\")\n o[\"is\"] = `is`\n return o\n}\n\n/**\n *

```

Exposes the JavaScript

[DOMImplementation](<https://developer.mozilla.org/en/docs/Web/API/DOMImplementation>)

```
to Kotlin\n *\\npublic external abstract class DOMImplementation {\n  fun createDocumentType(qualifiedName: String, publicId: String, systemId: String): DocumentType\n  fun createDocument(namespace: String?, qualifiedName: String, doctype: DocumentType? = definedExternally): XMLDocument\n  fun createHTMLDocument(title: String = definedExternally): Document\n  fun hasFeature(): Boolean\n}
```

Exposes the JavaScript [DocumentType](<https://developer.mozilla.org/en/docs/Web/API/DocumentType>) to

```
Kotlin\n *\\npublic external abstract class DocumentType : Node, ChildNode {\n  open val name: String\n  open val publicId: String\n  open val systemId: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
```

```
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
```

```
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
```

```
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
```

```
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
```

```
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n * Exposes the JavaScript
```

[DocumentFragment](<https://developer.mozilla.org/en/docs/Web/API/DocumentFragment>) to Kotlin\n *\\npublic

```
external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n  override val children:
```

```
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n  override val childElementCount: Int\n  override fun getElementById(elementId: String): Element?\n  override fun
```

```
prepend(vararg nodes: dynamic)\n  override fun
```

```
append(vararg nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun
```

```
querySelectorAll(selectors: String): NodeList\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
```

```
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
```

```
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
```

```
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
```

```
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
```

```
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n * Exposes the JavaScript
```

[ShadowRoot](<https://developer.mozilla.org/en/docs/Web/API/ShadowRoot>)

```
to Kotlin\n *\\npublic external open class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n  open val mode: ShadowRootMode\n  open val host: Element\n  override val fullscreenElement: Element?\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
```

```
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
```

```
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
```

```
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
```

```
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
```

```
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
```

```
Short\n  }\n}\n * Exposes the JavaScript
```

[Element](<https://developer.mozilla.org/en/docs/Web/API/Element>) to Kotlin\n *\\npublic external abstract class

```

Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils,
UnionElementOrHTMLCollection, UnionElementOrRadioNodeList, UnionElementOrMouseEvent,
UnionElementOrProcessingInstruction {\n  open val namespaceURI: String?\n  open val prefix: String?\n  open
val localName: String\n  open val tagName: String\n  open var id: String\n  open var className: String\n  open
val classList: DOMTokenList\n  open var slot: String\n  open val attributes: NamedNodeMap\n  open val
shadowRoot: ShadowRoot?\n  open var scrollTop: Double\n  open var scrollLeft: Double\n  open val
scrollWidth: Int\n  open val scrollHeight: Int\n  open val clientTop: Int\n  open val clientLeft: Int\n  open val
clientWidth: Int\n  open val clientHeight: Int\n  open var innerHTML: String\n
  open var outerHTML: String\n  fun hasAttributes(): Boolean\n  fun getAttributeNames(): Array<String>\n
fun getAttribute(qualifiedName: String): String?\n  fun getAttributeNS(namespace: String?, localName: String):
String?\n  fun setAttribute(qualifiedName: String, value: String)\n  fun setAttributeNS(namespace: String?,
qualifiedName: String, value: String)\n  fun removeAttribute(qualifiedName: String)\n  fun
removeAttributeNS(namespace: String?, localName: String)\n  fun hasAttribute(qualifiedName: String): Boolean\n
  fun hasAttributeNS(namespace: String?, localName: String): Boolean\n  fun getAttributeNode(qualifiedName:
String): Attr?\n  fun getAttributeNodeNS(namespace: String?, localName: String): Attr?\n  fun
setAttributeNode(attr: Attr): Attr?\n  fun setAttributeNodeNS(attr: Attr): Attr?\n  fun removeAttributeNode(attr:
Attr): Attr\n  fun attachShadow(init: ShadowRootInit): ShadowRoot\n  fun closest(selectors: String): Element?\n
fun
matches(selectors: String): Boolean\n  fun webkitMatchesSelector(selectors: String): Boolean\n  fun
getElementsByTagName(qualifiedName: String): HTMLCollection\n  fun
getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n  fun
getElementsByClassName(classNames: String): HTMLCollection\n  fun insertAdjacentElement(where: String,
element: Element): Element?\n  fun insertAdjacentText(where: String, data: String)\n  fun getClientRects():
Array<DOMRect>\n  fun getBoundingClientRect(): DOMRect\n  fun scrollIntoView()\n  fun
scrollIntoView(arg: dynamic)\n  fun scroll(options: ScrollToOptions = definedExternally)\n  fun scroll(x: Double,
y: Double)\n  fun scrollTo(options: ScrollToOptions = definedExternally)\n  fun scrollTo(x: Double, y: Double)\n
  fun scrollBy(options: ScrollToOptions = definedExternally)\n  fun scrollBy(x: Double, y: Double)\n  fun
insertAdjacentHTML(position: String, text: String)\n  fun setPointerCapture(pointerId:
Int)\n  fun releasePointerCapture(pointerId: Int)\n  fun hasPointerCapture(pointerId: Int): Boolean\n  fun
requestFullscreen(): Promise<Unit>\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
ShadowRootInit {\n  var mode:
ShadowRootMode?\n}\n\n@Suppress(\\"INVISIBLE_REFERENCE\\",
\\"INVISIBLE_MEMBER\\")\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode:
ShadowRootMode?): ShadowRootInit {\n  val o = js(\\"({})\\")\n  o[\"mode\"] = mode\n  return o\n}\n\n/**\n *
Exposes the JavaScript [NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to
Kotlin\n */\npublic external abstract class NamedNodeMap : ItemArrayLike<Attr> {\n  fun
getNamedItemNS(namespace: String?, localName: String): Attr?\n  fun setNamedItem(attr: Attr): Attr?\n  fun
setNamedItemNS(attr: Attr): Attr?\n  fun removeNamedItem(qualifiedName: String): Attr\n  fun
removeNamedItemNS(namespace: String?, localName: String): Attr\n  override fun item(index: Int): Attr?\n  fun

```

```

getNamedItem(qualifiedName: String): Attr?}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun NamedNodeMap.get(index:
Int): Attr? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
NamedNodeMap.get(qualifiedName: String): Attr? = asDynamic()[qualifiedName]\n\n/**\n * Exposes the
JavaScript [Attr](https://developer.mozilla.org/en/docs/Web/API/Attr) to Kotlin\n */\npublic external abstract class
Attr : Node {\n    open val namespaceURI: String?\n    open val prefix: String?\n    open val localName: String\n    open val name: String\n    open var value: String\n    open val ownerElement: Element?\n    open val specified:
Boolean\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n
        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val
DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [CharacterData](https://developer.mozilla.org/en/docs/Web/API/CharacterData) to Kotlin\n
*/\npublic external abstract class CharacterData : Node, NonDocumentTypeChildNode, ChildNode {\n    open var
data: String\n    open val length: Int\n    fun substringData(offset: Int, count: Int): String\n    fun appendData(data:
String)\n    fun insertData(offset: Int, data: String)\n    fun deleteData(offset: Int, count: Int)\n    fun
replaceData(offset: Int, count: Int, data: String)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE:
Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[Text](https://developer.mozilla.org/en/docs/Web/API/Text) to Kotlin\n */\npublic external open class Text(data:
String = definedExternally) : CharacterData, Slotable, GeometryUtils {\n    open val wholeText: String\n    override
val assignedSlot: HTMLSlotElement?\n    override val previousElementSibling: Element?\n
    override val nextElementSibling: Element?\n    fun splitText(offset: Int): Text\n    override fun
getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n    override fun
convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally
*/): DOMQuad\n    override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n    override fun convertPointFromNode(point:
DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n
    override fun before(vararg nodes: dynamic)\n    override fun after(vararg nodes: dynamic)\n    override fun
replaceWith(vararg nodes: dynamic)\n    override fun remove()\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n

```



```

    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[CDATASection](https://developer.mozilla.org/en/docs/Web/API/CDATASection) to Kotlin\n *\npublic external
open class CDATASection : Text {\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE:
Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val
DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val
NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [ProcessingInstruction](https://developer.mozilla.org/en/docs/Web/API/ProcessingInstruction) to
Kotlin\n *\npublic external abstract class ProcessingInstruction : CharacterData, LinkStyle,
UnionElementOrProcessingInstruction {\n    open val target: String\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[Comment](https://developer.mozilla.org/en/docs/Web/API/Comment) to Kotlin\n *\npublic external open class
Comment(data: String = definedExternally) : CharacterData {\n    override val previousElementSibling: Element?\n
override val nextElementSibling: Element?\n    override fun before(vararg nodes: dynamic)\n    override fun
after(vararg nodes: dynamic)\n
override fun replaceWith(vararg nodes: dynamic)\n    override fun remove()\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[Range](https://developer.mozilla.org/en/docs/Web/API/Range) to Kotlin\n *\npublic external open class
Range {\n    open val startContainer: Node\n    open val startOffset: Int\n    open val endContainer: Node\n    open
val endOffset: Int\n    open val collapsed: Boolean\n    open val commonAncestorContainer: Node\n    fun
setStart(node: Node, offset: Int)\n    fun setEnd(node: Node, offset: Int)\n    fun setStartBefore(node: Node)\n    fun
setStartAfter(node: Node)\n    fun setEndBefore(node: Node)\n    fun setEndAfter(node: Node)\n    fun
collapse(toStart: Boolean = definedExternally)\n    fun selectNode(node: Node)\n    fun selectNodeContents(node:
Node)\n    fun compareBoundaryPoints(how: Short, sourceRange: Range): Short\n    fun deleteContents()\n    fun
extractContents(): DocumentFragment\n    fun cloneContents(): DocumentFragment\n    fun insertNode(node:

```

```

Node)\n fun surroundContents(newParent: Node)\n fun cloneRange(): Range\n fun detach()\n fun
isPointInRange(node: Node, offset: Int): Boolean\n fun comparePoint(node: Node, offset: Int): Short\n fun
intersectsNode(node:
Node): Boolean\n fun getClientRects(): Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun
createContextualFragment(fragment: String): DocumentFragment\n\n companion object {\n val
START_TO_START: Short\n val START_TO_END: Short\n val END_TO_END: Short\n val
END_TO_START: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin\n */\n\npublic external abstract
class NodeIterator {\n open val root: Node\n open val referenceNode: Node\n open val
pointerBeforeReferenceNode: Boolean\n open val whatToShow: Int\n open val filter: NodeFilter?\n fun
nextNode(): Node?\n fun previousNode(): Node?\n fun detach()\n}\n\n/**\n * Exposes the JavaScript
[TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin\n */\n\npublic external abstract
class TreeWalker {\n open val root: Node\n open val whatToShow: Int\n open
val filter: NodeFilter?\n open var currentNode: Node\n fun parentNode(): Node?\n fun firstChild(): Node?\n
fun lastChild(): Node?\n fun previousSibling(): Node?\n fun nextSibling(): Node?\n fun previousNode():
Node?\n fun nextNode(): Node?\n}\n\n/**\n * Exposes the JavaScript
[NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin\n
*/\n\n@Suppress("\nNESTED_CLASS_IN_EXTERNAL_INTERFACE\n")\n\npublic external interface NodeFilter {\n
fun acceptNode(node: Node): Short\n\n companion object {\n val FILTER_ACCEPT: Short\n val
FILTER_REJECT: Short\n val FILTER_SKIP: Short\n val SHOW_ALL: Int\n val
SHOW_ELEMENT: Int\n val SHOW_ATTRIBUTE: Int\n val SHOW_TEXT: Int\n val
SHOW_CDATA_SECTION: Int\n val SHOW_ENTITY_REFERENCE: Int\n val SHOW_ENTITY: Int\n
val SHOW_PROCESSING_INSTRUCTION: Int\n val SHOW_COMMENT: Int\n val
SHOW_DOCUMENT: Int\n val SHOW_DOCUMENT_TYPE:
Int\n val SHOW_DOCUMENT_FRAGMENT: Int\n val SHOW_NOTATION: Int\n }\n}\n\n/**\n *
Exposes the JavaScript [DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList) to
Kotlin\n */\n\npublic external abstract class DOMTokenList : ItemArrayLike<String> {\n open var value: String\n
fun contains(token: String): Boolean\n fun add(vararg tokens: String)\n fun remove(vararg tokens: String)\n
fun toggle(token: String, force: Boolean = definedExternally): Boolean\n fun replace(token: String, newToken:
String)\n fun supports(token: String): Boolean\n override fun item(index: Int):
String?\n}\n\n@Suppress("\nINVISIBLE_REFERENCE\n",
\nINVISIBLE_MEMBER\n")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun DOMTokenList.get(index:
Int): String? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMPointReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly) to Kotlin\n */\n\npublic
external open class DOMPointReadOnly(x:
Double, y: Double, z: Double, w: Double) {\n open val x: Double\n open val y: Double\n open val z:
Double\n open val w: Double\n fun matrixTransform(matrix: DOMMatrixReadOnly): DOMPoint\n}\n\n/**\n *
Exposes the JavaScript [DOMPoint](https://developer.mozilla.org/en/docs/Web/API/DOMPoint) to Kotlin\n
*/\n\npublic external open class DOMPoint : DOMPointReadOnly {\n constructor(point: DOMPointInit)\n
constructor(x: Double = definedExternally, y: Double = definedExternally, z: Double = definedExternally, w:
Double = definedExternally)\n override var x: Double\n override var y: Double\n override var z: Double\n
override var w: Double\n}\n\n/**\n * Exposes the JavaScript
[DOMPointInit](https://developer.mozilla.org/en/docs/Web/API/DOMPointInit) to Kotlin\n */\n\npublic external
interface DOMPointInit {\n var x: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var y: Double? /* = 0.0 */\n get()
= definedExternally\n set(value) = definedExternally\n var z: Double? /* = 0.0 */\n get() =
definedExternally\n set(value) = definedExternally\n var w: Double? /* = 1.0 */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@Suppress("\nINVISIBLE_REFERENCE\n",

```

```

\ "INVISIBLE_MEMBER"\n@kotlin.internal.InlineOnly\npublic inline fun DOMPointInit(x: Double? = 0.0, y:
Double? = 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit {\n    val o = js("{}")\n    o["x"] = x\n
o["y"] = y\n    o["z"] = z\n    o["w"] = w\n    return o\n}\n\n/**\n * Exposes the JavaScript
[DOMRect](https://developer.mozilla.org/en/docs/Web/API/DOMRect) to Kotlin\n */\npublic external open class
DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally,
height: Double = definedExternally) : DOMRectReadOnly {\n    override var x: Double\n    override var y: Double\n
    override var width: Double\n    override
var height: Double\n}\n\n/**\n * Exposes the JavaScript
[DOMRectReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly) to Kotlin\n */\npublic
external open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) {\n    open val x:
Double\n    open val y: Double\n    open val width: Double\n    open val height: Double\n    open val top: Double\n
open val right: Double\n    open val bottom: Double\n    open val left: Double\n}\n\npublic external interface
DOMRectInit {\n    var x: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) =
definedExternally\n    var y: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) =
definedExternally\n    var width: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) =
definedExternally\n    var height: Double? /* = 0.0 */\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE"\ ,
\ "INVISIBLE_MEMBER"\)\n@kotlin.internal.InlineOnly\npublic
inline fun DOMRectInit(x: Double? = 0.0, y: Double? = 0.0, width: Double? = 0.0, height: Double? = 0.0):
DOMRectInit {\n    val o = js("{}")\n    o["x"] = x\n    o["y"] = y\n    o["width"] = width\n    o["height"] =
height\n    return o\n}\n\npublic external interface DOMRectList : ItemArrayLike<DOMRect> {\n    override fun
item(index: Int): DOMRect?\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE"\ ,
\ "INVISIBLE_MEMBER"\)\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMRectList.get(index: Int):
DOMRect? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMQuad](https://developer.mozilla.org/en/docs/Web/API/DOMQuad) to Kotlin\n */\npublic external open class
DOMQuad {\n    constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3:
DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)\n    constructor(rect: DOMRectInit)\n
open val p1: DOMPoint\n    open val p2:
DOMPoint\n    open val p3: DOMPoint\n    open val p4: DOMPoint\n    open val bounds:
DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrixReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly) to Kotlin\n
*/\npublic external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {\n    open val a: Double\n
open val b: Double\n    open val c: Double\n    open val d: Double\n    open val e: Double\n    open val f: Double\n
open val m11: Double\n    open val m12: Double\n    open val m13: Double\n    open val m14: Double\n    open val
m21: Double\n    open val m22: Double\n    open val m23: Double\n    open val m24: Double\n    open val m31:
Double\n    open val m32: Double\n    open val m33: Double\n    open val m34: Double\n    open val m41: Double\n
open val m42: Double\n    open val m43: Double\n    open val m44: Double\n    open val is2D: Boolean\n    open
val isIdentity: Boolean\n    fun translate(tx: Double, ty: Double, tz: Double = definedExternally):
DOMMatrix\n    fun scale(scale: Double, originX: Double = definedExternally, originY: Double =
definedExternally): DOMMatrix\n    fun scale3d(scale: Double, originX: Double = definedExternally, originY:
Double = definedExternally, originZ: Double = definedExternally): DOMMatrix\n    fun scaleNonUniform(scaleX:
Double, scaleY: Double = definedExternally, scaleZ: Double = definedExternally, originX: Double =
definedExternally, originY: Double = definedExternally, originZ: Double = definedExternally): DOMMatrix\n    fun
rotate(angle: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun rotateFromVector(x: Double, y: Double): DOMMatrix\n    fun rotateAxisAngle(x: Double, y: Double, z:
Double, angle: Double): DOMMatrix\n    fun skewX(sx: Double): DOMMatrix\n    fun skewY(sy: Double):
DOMMatrix\n    fun multiply(other: DOMMatrix): DOMMatrix\n    fun flipX(): DOMMatrix\n    fun flipY():
DOMMatrix\n    fun inverse(): DOMMatrix\n}

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fun transformPoint(point: DOMPointInit = definedExternally): DOMPoint\n fun toFloat32Array():
Float32Array\n fun toFloat64Array(): Float64Array\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n */\n\npublic external open
class DOMMatrix() : DOMMatrixReadOnly {\n constructor(transformList: String)\n constructor(other:
DOMMatrixReadOnly)\n constructor(array32: Float32Array)\n constructor(array64: Float64Array)\n
constructor(numberSequence: Array<Double>)\n override var a: Double\n override var b: Double\n override
var c: Double\n override var d: Double\n override var e: Double\n override var f: Double\n override var m11:
Double\n override var m12: Double\n override var m13: Double\n override var m14: Double\n override var
m21: Double\n override var m22: Double\n override var m23: Double\n override var m24: Double\n override
var m31: Double\n override
var m32: Double\n override var m33: Double\n override var m34: Double\n override var m41: Double\n
override var m42: Double\n override var m43: Double\n override var m44: Double\n fun multiplySelf(other:
DOMMatrix): DOMMatrix\n fun preMultiplySelf(other: DOMMatrix): DOMMatrix\n fun translateSelf(tx:
Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n fun scaleSelf(scale: Double, originX: Double
= definedExternally, originY: Double = definedExternally): DOMMatrix\n fun scale3dSelf(scale: Double,
originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double = definedExternally):
DOMMatrix\n fun scaleNonUniformSelf(scaleX: Double, scaleY: Double = definedExternally, scaleZ: Double =
definedExternally, originX: Double = definedExternally, originY: Double = definedExternally, originZ: Double =
definedExternally): DOMMatrix\n fun rotateSelf(angle: Double, originX: Double = definedExternally, originY:
Double = definedExternally):
DOMMatrix\n fun rotateFromVectorSelf(x: Double, y: Double): DOMMatrix\n fun rotateAxisAngleSelf(x:
Double, y: Double, z: Double, angle: Double): DOMMatrix\n fun skewXSelf(sx: Double): DOMMatrix\n fun
skewYSelf(sy: Double): DOMMatrix\n fun invertSelf(): DOMMatrix\n fun setMatrixValue(transformList:
String): DOMMatrix\n}\n\npublic external interface ScrollOptions {\n var behavior: ScrollBehavior? /* =
ScrollBehavior.AUTO */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollOptions(behavior:
ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n val o = js(\"({})\")\n o[\"behavior\"] = behavior\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n */\n\npublic external
interface ScrollToOptions : ScrollOptions {\n
var left: Double?\n get() = definedExternally\n set(value) = definedExternally\n var top: Double?\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? =
undefined, top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n
val o = js(\"({})\")\n o[\"left\"] = left\n o[\"top\"] = top\n o[\"behavior\"] = behavior\n return o\n}\n\n/**\n *
Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n */\n\npublic external abstract class MediaQueryList : EventTarget {\n open val media: String\n open val
matches: Boolean\n open var onchange: ((Event) -> dynamic)?\n fun addListener(listener: EventListener?)\n
fun addListener(listener: ((Event) -> Unit)?)\n fun removeListener(listener: EventListener?)\n
fun removeListener(listener: ((Event) -> Unit)?)\n}\n\n/**\n * Exposes the JavaScript
[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent) to Kotlin\n */\n\npublic external open class MediaQueryListEvent(type: String, eventInitDict: MediaQueryListEventInit =
definedExternally) : Event {\n open val media: String\n open val matches: Boolean\n\n companion object {\n
val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MediaQueryListEventInit : EventInit {\n var
media: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var matches:
Boolean? /* = false */\n get() = definedExternally\n set(value) =

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definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaQueryListEventInit(media:
String? =
    \"\", matches: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): MediaQueryListEventInit {\n    val o = js(\"({})\")\n    o[\"media\"] = media\n    o[\"matches\"] = matches\n
o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return
o\n}\n\n/**\n * Exposes the JavaScript [Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin\n
*/\npublic external abstract class Screen {\n    open val availWidth: Int\n    open val availHeight: Int\n    open val
width: Int\n    open val height: Int\n    open val colorDepth: Int\n    open val pixelDepth: Int\n}\n\n/**\n * Exposes
the JavaScript [CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin\n
*/\npublic external abstract class CaretPosition {\n    open val offsetNode: Node\n    open val offset: Int\n    fun
getClientRect(): DOMRect?\n}\n\npublic external interface ScrollIntoViewOptions : ScrollOptions
{\n    var block: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n    get() = definedExternally\n
set(value) = definedExternally\n    var inline: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n
get() = definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollIntoViewOptions(block:
ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline: ScrollLogicalPosition? =
ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollIntoViewOptions {\n
val o = js(\"({})\")\n    o[\"block\"] = block\n    o[\"inline\"] = inline\n    o[\"behavior\"] = behavior\n    return
o\n}\n\npublic external interface BoxQuadOptions {\n    var box: CSSBoxType? /* = CSSBoxType.BORDER */\n
get() = definedExternally\n    set(value) = definedExternally\n    var relativeTo: dynamic\n    get() =
definedExternally\n
    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun BoxQuadOptions(box: CSSBoxType?
= CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {\n    val o = js(\"({})\")\n
o[\"box\"] = box\n    o[\"relativeTo\"] = relativeTo\n    return o\n}\n\npublic external interface
ConvertCoordinateOptions {\n    var fromBox: CSSBoxType? /* = CSSBoxType.BORDER */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var toBox: CSSBoxType? /* = CSSBoxType.BORDER
*/\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ConvertCoordinateOptions(fromBox:
CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? = CSSBoxType.BORDER):
ConvertCoordinateOptions {\n    val o = js(\"({})\")\n    o[\"fromBox\"] = fromBox\n    o[\"toBox\"]
= toBox\n    return o\n}\n\n/**\n * Exposes the JavaScript
[GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin\n
*/\npublic external interface GeometryUtils {\n    fun getBoxQuads(options: BoxQuadOptions = definedExternally):
Array<DOMQuad>\n    fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions = definedExternally): DOMQuad\n    fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n    fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions =
definedExternally): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to Kotlin\n
*/\npublic external abstract class Touch
{\n    open val identifier: Int\n    open val target: EventTarget\n    open val screenX: Int\n    open val screenY: Int\n
open val clientX: Int\n    open val clientY: Int\n    open val
pageX: Int\n    open val pageY: Int\n    open val region: String?\n}\n\npublic external abstract class TouchList :
ItemArrayLike<Touch> {\n    override fun item(index: Int):
Touch?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun TouchList.get(index: Int):

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Touch? = asDynamic()[index]\n\npublic external open class TouchEvent : UIEvent {\n  open val touches:
TouchList\n  open val targetTouches: TouchList\n  open val changedTouches: TouchList\n  open val altKey:
Boolean\n  open val metaKey: Boolean\n  open val ctrlKey: Boolean\n  open val shiftKey: Boolean\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET:
Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin\n */\npublic external open class
Image(width: Int = definedExternally, height: Int = definedExternally)
: HTMLElement {\n  override var onabort: ((Event) -> dynamic)?\n  override var onblur: ((FocusEvent) ->
dynamic)?\n  override var oncancel: ((Event) -> dynamic)?\n  override var oncanplay: ((Event) -> dynamic)?\n
  override var oncanplaythrough: ((Event) -> dynamic)?\n  override var onchange: ((Event) -> dynamic)?\n
  override var onclick: ((MouseEvent) -> dynamic)?\n  override var onclose: ((Event) -> dynamic)?\n
  override var oncontextmenu: ((MouseEvent) -> dynamic)?\n  override var oncuechange: ((Event) -> dynamic)?\n
  override var ondblclick: ((MouseEvent) -> dynamic)?\n  override var ondrag: ((DragEvent) -> dynamic)?\n
  override var ondragend: ((DragEvent) -> dynamic)?\n  override var ondragenter: ((DragEvent) -> dynamic)?\n
  override var ondragexit: ((DragEvent) -> dynamic)?\n  override var ondragleave: ((DragEvent) -> dynamic)?\n
  override var ondragover: ((DragEvent) -> dynamic)?\n  override var ondragstart: ((DragEvent) ->
dynamic)?\n  override var ondrop: ((DragEvent) -> dynamic)?\n  override var ondurationchange: ((Event) ->
dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n  override var onended: ((Event) -> dynamic)?\n
  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  override var onfocus: ((FocusEvent) ->
dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid: ((Event) -> dynamic)?\n
  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress: ((KeyboardEvent) ->
dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload: ((Event) ->
dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata: ((Event) ->
dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n  override var onloadstart: ((ProgressEvent) ->
dynamic)?\n  override var onmousedown: ((MouseEvent) -> dynamic)?\n  override var onmouseenter:
((MouseEvent)
-> dynamic)?\n  override var onmouseleave: ((MouseEvent) -> dynamic)?\n  override var onmousemove:
((MouseEvent) -> dynamic)?\n  override var onmouseout: ((MouseEvent) -> dynamic)?\n  override var
onmouseover: ((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent) -> dynamic)?\n  override
var onwheel: ((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) -> dynamic)?\n  override var onplay:
((Event) -> dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n  override var onprogress:
((ProgressEvent) -> dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n  override var onreset:
((Event) -> dynamic)?\n  override var onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) ->
dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n
  override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var
onstalled:
((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) ->
dynamic)?\n  override var ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n
  override var onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n
  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var onlostpointercapture:
((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var
onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n
  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) ->
dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter:
((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var
oncopy: ((ClipboardEvent)
-> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste: ((ClipboardEvent) -
> dynamic)?\n  override var contentEditable: String\n  override val isContentEditable: Boolean\n  override val

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style: CSSStyleDeclaration\n  override val children: HTMLCollection\n  override val firstElementChild:
Element?\n  override val lastElementChild: Element?\n  override val childElementCount: Int\n  override val
previousElementSibling: Element?\n  override val nextElementSibling: Element?\n  override val assignedSlot:
HTMLSlotElement?\n  override fun prepend(vararg nodes: dynamic)\n  override fun append(vararg nodes:
dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun querySelectorAll(selectors:
String): NodeList\n  override fun before(vararg nodes: dynamic)\n  override fun after(vararg nodes: dynamic)\n
override fun replaceWith(vararg nodes: dynamic)\n  override fun remove()\n  override
  fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override fun
convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally
*/): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun convertPointFromNode(point:
DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n
companion object {\n  val ELEMENT_NODE: Short\n  val ATTRIBUTE_NODE: Short\n  val
TEXT_NODE: Short\n  val CDATA_SECTION_NODE: Short\n  val ENTITY_REFERENCE_NODE:
Short\n  val ENTITY_NODE: Short\n  val PROCESSING_INSTRUCTION_NODE: Short\n  val
COMMENT_NODE: Short\n  val DOCUMENT_NODE: Short\n  val DOCUMENT_TYPE_NODE: Short\n
  val DOCUMENT_FRAGMENT_NODE: Short\n  val NOTATION_NODE: Short\n  val
DOCUMENT_POSITION_DISCONNECTED: Short\n  val DOCUMENT_POSITION_PRECEDING: Short\n
  val DOCUMENT_POSITION_FOLLOWING: Short\n  val DOCUMENT_POSITION_CONTAINS: Short\n
  val DOCUMENT_POSITION_CONTAINED_BY: Short\n  val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external open class
Audio(src: String = definedExternally) : HTMLAudioElement {\n  override var onabort: ((Event) -> dynamic)?\n
override var onblur: ((FocusEvent) -> dynamic)?\n  override var oncancel: ((Event) -> dynamic)?\n  override var
oncanplay: ((Event) -> dynamic)?\n  override var oncanplaythrough: ((Event) -> dynamic)?\n  override var
onchange: ((Event) -> dynamic)?\n  override var onclick: ((MouseEvent) -> dynamic)?\n  override var onclose:
((Event) -> dynamic)?\n  override var oncontextmenu: ((MouseEvent) -> dynamic)?\n  override var oncuechange:
((Event) -> dynamic)?\n  override var ondblclick: ((MouseEvent) -> dynamic)?\n  override var ondrag:
((DragEvent) -> dynamic)?\n  override var ondragend: ((DragEvent) -> dynamic)?\n  override var ondragenter:
((DragEvent) -> dynamic)?\n  override var ondragexit: ((DragEvent) -> dynamic)?\n  override var ondragleave:
((DragEvent) -> dynamic)?\n  override var ondragover: ((DragEvent) -> dynamic)?\n  override var ondragstart:
((DragEvent) -> dynamic)?\n  override var ondrop: ((DragEvent) -> dynamic)?\n  override var ondurationchange:
((Event) -> dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n  override var onended: ((Event) ->
dynamic)?\n  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  override var onfocus:
((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid:
((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress:
((KeyboardEvent) -> dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override
  var onload: ((Event) -> dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n  override var
onloadedmetadata: ((Event) -> dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n  override var
onloadstart: ((ProgressEvent) -> dynamic)?\n  override var onmousedown: ((MouseEvent) -> dynamic)?\n
override var onmouseenter: ((MouseEvent) -> dynamic)?\n  override var onmouseleave: ((MouseEvent) ->
dynamic)?\n  override var onmousemove: ((MouseEvent) -> dynamic)?\n  override var onmouseout:
((MouseEvent) -> dynamic)?\n  override var onmouseover: ((MouseEvent) -> dynamic)?\n  override var
onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel: ((WheelEvent) -> dynamic)?\n  override var
onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n  override var onplaying: ((Event)
-> dynamic)?\n  override var onprogress: ((ProgressEvent) -> dynamic)?\n  override var onratechange: ((Event) ->
dynamic)?\n  override var onreset:
((Event) -> dynamic)?\n  override var onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) ->
dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n

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override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var
onstalled: ((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend:
((Event) -> dynamic)?\n  override var ontimeoutupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) ->
dynamic)?\n  override var onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) ->
dynamic)?\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var
onlostpointercapture: ((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n
  override var onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent)
-> dynamic)?\n  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover:
((PointerEvent) -> dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var
onpointerenter: ((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n
  override var oncopy: ((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n
  override var onpaste: ((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n  override val
isContentEditable: Boolean\n  override val style: CSSStyleDeclaration\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
  override val childElementCount: Int\n  override val previousElementSibling: Element?\n  override val
nextElementSibling: Element?\n  override val assignedSlot: HTMLSlotElement?\n  override fun prepend(vararg
nodes: dynamic)\n
  override fun append(vararg nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n
  override fun querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes: dynamic)\n
  override fun after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n  override fun
remove()\n  override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n
  override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val NETWORK_EMPTY: Short\n    val
NETWORK_IDLE: Short\n    val NETWORK_LOADING: Short\n
    val NETWORK_NO_SOURCE: Short\n    val HAVE_NOTHING: Short\n    val HAVE_METADATA:
Short\n    val HAVE_CURRENT_DATA: Short\n    val HAVE_FUTURE_DATA: Short\n    val
HAVE_ENOUGH_DATA: Short\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the
JavaScript [Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin\n * \npublic external open
class Option(text: String = definedExternally, value: String = definedExternally, defaultSelected: Boolean =
definedExternally, selected: Boolean = definedExternally) : HTMLInputElement {\n  override var onabort:
((Event) -> dynamic)?\n  override var onblur: ((FocusEvent) -> dynamic)?\n  override var oncancel: ((Event) ->
dynamic)?\n  override var oncanplay: ((Event) -> dynamic)?\n  override var oncanplaythrough: ((Event) ->
dynamic)?\n  override var onchange: ((Event) -> dynamic)?\n  override var onclick: ((MouseEvent) ->
dynamic)?\n  override var onclose: ((Event) -> dynamic)?\n  override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n  override var oncuechange: ((Event) -> dynamic)?\n  override var ondblclick: ((MouseEvent) ->
dynamic)?\n  override var ondrag: ((DragEvent) -> dynamic)?\n  override var ondragend: ((DragEvent) ->
dynamic)?\n  override

```



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var ondragenter: ((DragEvent) -> dynamic)?\n  override var ondragexit: ((DragEvent) -> dynamic)?\n  override
var ondragleave: ((DragEvent) -> dynamic)?\n  override var ondragover: ((DragEvent) -> dynamic)?\n  override
var ondragstart: ((DragEvent) -> dynamic)?\n  override var ondrop: ((DragEvent) -> dynamic)?\n  override var
ondurationchange: ((Event) -> dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n  override var
onended: ((Event) -> dynamic)?\n  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n
override var onfocus: ((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override
var oninvalid: ((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var
onkeypress: ((KeyboardEvent) -> dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override
var onload: ((Event) -> dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n
  override var onloadedmetadata: ((Event) -> dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n
override var onloadstart: ((ProgressEvent) -> dynamic)?\n  override var onmousedown: ((MouseEvent) ->
dynamic)?\n  override var onmouseenter: ((MouseEvent) -> dynamic)?\n  override var onmouseleave:
((MouseEvent) -> dynamic)?\n  override var onmousemove: ((MouseEvent) -> dynamic)?\n  override var
onmouseout: ((MouseEvent) -> dynamic)?\n  override var onmouseover: ((MouseEvent) -> dynamic)?\n  override
var onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel: ((WheelEvent) -> dynamic)?\n  override
var onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n  override var onplaying:
((Event) -> dynamic)?\n  override var onprogress: ((ProgressEvent) -> dynamic)?\n  override var onratechange:
((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n  override var onresize: ((Event) ->
dynamic)?\n  override
var onscroll: ((Event) -> dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking:
((Event) -> dynamic)?\n  override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) ->
dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n
override var onsuspend: ((Event) -> dynamic)?\n  override var ontimeupdate: ((Event) -> dynamic)?\n  override
var ontoggle: ((Event) -> dynamic)?\n  override var onvolumechange: ((Event) -> dynamic)?\n  override var
onwaiting: ((Event) -> dynamic)?\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override
var onlostpointercapture: ((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) ->
dynamic)?\n  override var onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup:
((PointerEvent) -> dynamic)?\n  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override
var onpointerover: ((PointerEvent) -> dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n
override var onpointerenter: ((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) ->
dynamic)?\n  override var oncopy: ((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) ->
dynamic)?\n  override var onpaste: ((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n
override val isContentEditable: Boolean\n  override val style: CSSStyleDeclaration\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  override val previousElementSibling: Element?\n  override val
nextElementSibling: Element?\n  override val assignedSlot: HTMLSlotElement?\n  override fun prepend(vararg
nodes: dynamic)\n  override fun append(vararg nodes: dynamic)\n  override fun querySelector(selectors:
String): Element?\n  override fun querySelectorAll(selectors: String): NodeList\n  override fun before(vararg
nodes: dynamic)\n  override fun after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes:
dynamic)\n  override fun remove()\n  override fun getBoxQuads(options: BoxQuadOptions /* =
definedExternally */): Array<DOMQuad>\n  override fun convertQuadFromNode(quad: dynamic, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val

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ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\npublic external interface
UnionElementOrHTMLCollection\n\npublic external interface UnionElementOrRadioNodeList\n\npublic external
interface UnionHTMLOptGroupElementOrHTMLOptionElement\n\npublic external interface
UnionAudioTrackOrTextTrackOrVideoTrack\n\npublic external interface UnionElementOrMouseEvent\n\npublic
external interface UnionMessagePortOrWindowProxy\n\npublic external interface MediaProvider\n\npublic
external
interface RenderingContext\n\npublic external interface HTMLOrSVGImageElement :
CanvasImageSource\n\npublic external interface CanvasImageSource : ImageBitmapSource\n\npublic external
interface ImageBitmapSource\n\npublic external interface HTMLOrSVGScriptElement\n\n/* please, don't
implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface DocumentReadyState {\n    companion object\n}\n\npublic inline val
DocumentReadyState.Companion.LOADING: DocumentReadyState get() =
"loading".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() =
"interactive".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() =
"complete".asDynamic().unsafeCast<DocumentReadyState>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic
external interface CanPlayTypeResult {\n    companion object\n}\n\npublic inline val
CanPlayTypeResult.Companion.EMPTY: CanPlayTypeResult get() =
"".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val CanPlayTypeResult.Companion.MAYBE:
CanPlayTypeResult get() = "maybe".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() =
"probably".asDynamic().unsafeCast<CanPlayTypeResult>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface TextTrackMode {\n    companion object\n}\n\npublic inline val TextTrackMode.Companion.DISABLED:
TextTrackMode get() = "disabled".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.HIDDEN: TextTrackMode get() =
"hidden".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val
TextTrackMode.Companion.SHOWING: TextTrackMode
get() = "showing".asDynamic().unsafeCast<TextTrackMode>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface TextTrackKind {\n    companion object\n}\n\npublic inline val TextTrackKind.Companion.SUBTITLES:
TextTrackKind get() = "subtitles".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CAPTIONS: TextTrackKind get() =
"captions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.DESCRPTIONS: TextTrackKind get() =
"descriptions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CHAPTERS: TextTrackKind get() =
"chapters".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.METADATA: TextTrackKind get() =

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\"metadata\".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface SelectionMode {\n  companion object\n}\n\npublic inline val
SelectionMode.Companion.SELECT: SelectionMode get() =
\"select\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.START:
SelectionMode get() = \"start\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.END: SelectionMode get() =
\"end\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.PRESERVE:
SelectionMode get() = \"preserve\".asDynamic().unsafeCast<SelectionMode>()\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface CanvasFillRule {\n  companion object\n}\n\npublic inline val
CanvasFillRule.Companion.NONZERO: CanvasFillRule get() =
\"nonzero\".asDynamic().unsafeCast<CanvasFillRule>()\n\npublic inline val
CanvasFillRule.Companion.EVENODD: CanvasFillRule get() =
\"evenodd\".asDynamic().unsafeCast<CanvasFillRule>()\n\n/*
please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ImageSmoothingQuality {\n  companion object\n}\n\npublic inline val
ImageSmoothingQuality.Companion.LOW: ImageSmoothingQuality get() =
\"low\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
\"medium\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
\"high\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface CanvasLineCap {\n  companion object\n}\n\npublic inline val CanvasLineCap.Companion.BUTT:
CanvasLineCap get() = \"butt\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic
inline val CanvasLineCap.Companion.ROUND: CanvasLineCap get() =
\"round\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val CanvasLineCap.Companion.SQUARE:
CanvasLineCap get() = \"square\".asDynamic().unsafeCast<CanvasLineCap>()\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface CanvasLineJoin {\n  companion object\n}\n\npublic inline val
CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
\"round\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = \"bevel\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
\"miter\".asDynamic().unsafeCast<CanvasLineJoin>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface CanvasTextAlign {\n  companion object\n}\n\npublic
inline val CanvasTextAlign.Companion.START: CanvasTextAlign get() =
\"start\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.END:
CanvasTextAlign get() = \"end\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.LEFT: CanvasTextAlign get() =
\"left\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.RIGHT:
CanvasTextAlign get() = \"right\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
\"center\".asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external

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interface CanvasTextBaseline {\n  companion object\n}\n\npublic inline val CanvasTextBaseline.Companion.TOP:
CanvasTextBaseline get() = \"top\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.HANGING:
CanvasTextBaseline get() = \"hanging\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.MIDDLE: CanvasTextBaseline get() =
\"middle\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
\"alphabetic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
\"ideographic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
\"bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasDirection {\n  companion object\n}\n\npublic inline val CanvasDirection.Companion.LTR:
CanvasDirection get() = \"ltr\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic
inline val CanvasDirection.Companion.RTL: CanvasDirection get() =
\"rtl\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val CanvasDirection.Companion.INHERIT:
CanvasDirection get() = \"inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this
interface! *\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface ScrollRestoration {\n  companion object\n}\n\npublic inline val
ScrollRestoration.Companion.AUTO: ScrollRestoration get() =
\"auto\".asDynamic().unsafeCast<ScrollRestoration>()\n\npublic inline val
ScrollRestoration.Companion.MANUAL: ScrollRestoration get() =
\"manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ImageOrientation {\n  companion object\n}\n\npublic inline val ImageOrientation.Companion.NONE:
ImageOrientation get()
= \"none\".asDynamic().unsafeCast<ImageOrientation>()\n\npublic inline val
ImageOrientation.Companion.FLIPY: ImageOrientation get() =
\"flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface PremultiplyAlpha {\n  companion object\n}\n\npublic inline val PremultiplyAlpha.Companion.NONE:
PremultiplyAlpha get() = \"none\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() =
\"premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() =
\"default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ColorSpaceConversion {\n  companion object\n}\n\npublic inline
val ColorSpaceConversion.Companion.NONE: ColorSpaceConversion get() =
\"none\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\npublic inline val
ColorSpaceConversion.Companion.DEFAULT: ColorSpaceConversion get() =
\"default\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ResizeQuality {\n  companion object\n}\n\npublic inline val ResizeQuality.Companion.PIXELATED:
ResizeQuality get() = \"pixelated\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.LOW: ResizeQuality get() =
\"low\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.MEDIUM:

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ResizeQuality get() = "medium".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.HIGH: ResizeQuality get() = "high".asDynamic().unsafeCast<ResizeQuality>()\n\n/*
please, don't implement this
interface! *\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic
external interface BinaryType {\n    companion object\n}\n\npublic inline val BinaryType.Companion.BLOB:
BinaryType get() = "blob".asDynamic().unsafeCast<BinaryType>()\n\npublic inline val
BinaryType.Companion.ARRAYBUFFER: BinaryType get() =
"arraybuffer".asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface WorkerType {\n    companion object\n}\n\npublic inline val WorkerType.Companion.CLASSIC:
WorkerType get() = "classic".asDynamic().unsafeCast<WorkerType>()\n\npublic inline val
WorkerType.Companion.MODULE: WorkerType get() =
"module".asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface ShadowRootMode {\n    companion object\n}\n\npublic
inline val ShadowRootMode.Companion.OPEN: ShadowRootMode get() =
"open".asDynamic().unsafeCast<ShadowRootMode>()\n\npublic inline val
ShadowRootMode.Companion.CLOSED: ShadowRootMode get() =
"closed".asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface ScrollBehavior {\n    companion object\n}\n\npublic inline val ScrollBehavior.Companion.AUTO:
ScrollBehavior get() = "auto".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val
ScrollBehavior.Companion.INSTANT: ScrollBehavior get() =
"instant".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.SMOOTH:
ScrollBehavior get() = "smooth".asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this
interface! *\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic
external interface ScrollLogicalPosition {\n
    companion object\n}\n\npublic inline val ScrollLogicalPosition.Companion.START: ScrollLogicalPosition get() =
"start".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() =
"center".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() =
"end".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() =
"nearest".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface CSSBoxType {\n    companion object\n}\n\npublic inline val CSSBoxType.Companion.MARGIN:
CSSBoxType get() = "margin".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.BORDER: CSSBoxType get() =
"border".asDynamic().unsafeCast<CSSBoxType>()\n\npublic
inline val CSSBoxType.Companion.PADDING: CSSBoxType get() =
"padding".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.CONTENT:
CSSBoxType get() = "content".asDynamic().unsafeCast<CSSBoxType>()
"/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\n// NOTE: THIS FILE IS AUTO-GENERATED,
DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.fetch\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.files.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Headers](https://developer.mozilla.org/en/docs/Web/API/Headers) to Kotlin\n *\npublic external open class

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Headers(init: dynamic = definedExternally) {\n  fun append(name: String, value: String)\n  fun delete(name: String)\n  fun get(name: String): String?\n  fun has(name: String): Boolean\n  fun set(name: String, value: String)\n}\n\n/**\n * Exposes the JavaScript [Body](https://developer.mozilla.org/en/docs/Web/API/Body) to Kotlin\n */\n\npublic external interface Body {\n  val bodyUsed: Boolean\n  fun arrayBuffer(): Promise<ArrayBuffer>\n  fun blob(): Promise<Blob>\n  fun formData(): Promise<FormData>\n  fun json(): Promise<Any?>\n  fun text(): Promise<String>\n}\n\n/**\n * Exposes the JavaScript [Request](https://developer.mozilla.org/en/docs/Web/API/Request) to Kotlin\n */\n\npublic external open class Request(input: dynamic, init: RequestInit = definedExternally) : Body {\n  open val method: String\n  open val url: String\n  open val headers: Headers\n  open val type: RequestType\n  open val destination: RequestDestination\n  open val referrer: String\n  open val referrerPolicy: dynamic\n  open val mode: RequestMode\n  open val credentials: RequestCredentials\n  open val cache: RequestCache\n  open val redirect: RequestRedirect\n  open val integrity: String\n  open val keepalive: Boolean\n  override val bodyUsed: Boolean\n  fun clone(): Request\n  override fun arrayBuffer(): Promise<ArrayBuffer>\n  override fun blob(): Promise<Blob>\n  override fun formData(): Promise<FormData>\n  override fun json(): Promise<Any?>\n  override fun text(): Promise<String>\n}\n\npublic external interface RequestInit {\n  var method: String?\n  get() = definedExternally\n  set(value) = definedExternally\n  var headers: dynamic\n  get() = definedExternally\n  set(value) = definedExternally\n  var body: dynamic\n  get() = definedExternally\n  set(value) = definedExternally\n  var referrer: String?\n  get() = definedExternally\n  set(value) = definedExternally\n  var referrerPolicy: dynamic\n  get() = definedExternally\n  set(value) = definedExternally\n  var mode: RequestMode?\n  get() = definedExternally\n  set(value) = definedExternally\n  var credentials: RequestCredentials?\n  get() = definedExternally\n  set(value) = definedExternally\n  var cache: RequestCache?\n  get() = definedExternally\n  set(value) = definedExternally\n  var redirect: RequestRedirect?\n  get() = definedExternally\n  set(value) = definedExternally\n  var integrity: String?\n  get() = definedExternally\n  set(value) = definedExternally\n  var keepalive: Boolean?\n  get() = definedExternally\n  set(value) = definedExternally\n  var window: Any?\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun RequestInit(method: String? = undefined, headers: dynamic = undefined, body: dynamic = undefined, referrer: String? = undefined, referrerPolicy: dynamic = undefined, mode: RequestMode? = undefined, credentials: RequestCredentials? = undefined, cache: RequestCache? = undefined, redirect: RequestRedirect? = undefined, integrity: String? = undefined, keepalive: Boolean? = undefined, window: Any? = undefined): RequestInit {\n  val o = js(\"({})\")\n  o[\"method\"] = method\n  o[\"headers\"] = headers\n  o[\"body\"] = body\n  o[\"referrer\"] = referrer\n  o[\"referrerPolicy\"] = referrerPolicy\n  o[\"mode\"] = mode\n  o[\"credentials\"] = credentials\n  o[\"cache\"] = cache\n  o[\"redirect\"] = redirect\n  o[\"integrity\"] = integrity\n  o[\"keepalive\"] = keepalive\n  o[\"window\"] = window\n  return o\n}\n\n/**\n * Exposes the JavaScript [Response](https://developer.mozilla.org/en/docs/Web/API/Response) to Kotlin\n */\n\npublic external open class Response(body: dynamic = definedExternally, init: ResponseInit = definedExternally) : Body {\n  open val type: ResponseType\n  open val url: String\n  open val redirected: Boolean\n  open val status: Short\n  open val ok: Boolean\n  open val statusText: String\n  open val headers: Headers\n  open val body: dynamic\n  open val trailer: Promise<Headers>\n  override val bodyUsed: Boolean\n  fun clone(): Response\n  override fun arrayBuffer(): Promise<ArrayBuffer>\n  override fun blob(): Promise<Blob>\n  override fun formData(): Promise<FormData>\n  override fun json(): Promise<Any?>\n  override fun text(): Promise<String>\n}\n\ncompanion object {\n  fun error(): Response\n  fun redirect(url: String, status: Short = definedExternally): Response\n}\n\npublic external interface ResponseInit {\n  var status: Short? /* = 200 */\n  get() = definedExternally\n  set(value) = definedExternally\n  var statusText: String? /* = \"OK\" */\n  get() = definedExternally\n  set(value) = definedExternally\n  var headers: dynamic\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

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\invisible_member\)\n@kotlin.internal.InlineOnly\npublic
inline fun ResponseInit(status: Short? = 200, statusText: String? = \"OK\", headers: dynamic = undefined):
ResponseInit {\n    val o = js(\"({})\")\n    o[\"status\"] = status\n    o[\"statusText\"] = statusText\n    o[\"headers\"]
= headers\n    return o\n}\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestType {\n    companion object\n}\n\npublic inline val RequestType.Companion.EMPTY:
RequestType get() = \"\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.AUDIO: RequestType get() =
\"audio\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.FONT:
RequestType get() = \"font\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.IMAGE: RequestType get() =
\"image\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.SCRIPT:
RequestType get() = \"script\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.STYLE: RequestType get() =
\"style\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.TRACK:
RequestType get() = \"track\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val
RequestType.Companion.VIDEO: RequestType get() = \"video\".asDynamic().unsafeCast<RequestType>()\n\n/*
please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestDestination {\n    companion object\n}\n\npublic inline val
RequestDestination.Companion.EMPTY: RequestDestination get() =
\"\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.DOCUMENT: RequestDestination get() =
\"document\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.EMBED: RequestDestination get() =
\"embed\".asDynamic().unsafeCast<RequestDestination>()\n\npublic
inline val RequestDestination.Companion.FONT: RequestDestination get() =
\"font\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.IMAGE: RequestDestination get() =
\"image\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
\"manifest\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
\"media\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
\"object\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
\"report\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
\"script\".asDynamic().unsafeCast<RequestDestination>()\n\npublic
inline val RequestDestination.Companion.SERVICEWORKER: RequestDestination get() =
\"serviceworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =
\"sharedworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
\"style\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
\"worker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val

```

```

RequestDestination.Companion.XSLT: RequestDestination get() =
\"xslt\".asDynamic().unsafeCast<RequestDestination>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestMode {\n  companion object\n}\n\npublic inline val RequestMode.Companion.NAVIGATE:
RequestMode
get() = \"navigate\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = \"same-
origin\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val RequestMode.Companion.NO_CORS:
RequestMode get() = \"no-cors\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.CORS: RequestMode get() = \"cors\".asDynamic().unsafeCast<RequestMode>()\n\n/*
please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestCredentials {\n  companion object\n}\n\npublic inline val RequestCredentials.Companion.OMIT:
RequestCredentials get() = \"omit\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = \"same-
origin\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
\"include\".asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestCache {\n  companion object\n}\n\npublic inline val RequestCache.Companion.DEFAULT:
RequestCache get() = \"default\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.NO_STORE: RequestCache get() = \"no-
store\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.RELOAD:
RequestCache get() = \"reload\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.NO_CACHE: RequestCache get() = \"no-
cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = \"force-
cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = \"only-if-
cached\".asDynamic().unsafeCast<RequestCache>()\n\n/*
please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface RequestRedirect {\n  companion object\n}\n\npublic inline val RequestRedirect.Companion.FOLLOW:
RequestRedirect get() = \"follow\".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val
RequestRedirect.Companion.ERROR: RequestRedirect get() =
\"error\".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.MANUAL:
RequestRedirect get() = \"manual\".asDynamic().unsafeCast<RequestRedirect>()\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface ResponseType {\n  companion object\n}\n\npublic inline val ResponseType.Companion.BASIC:
ResponseType get() = \"basic\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.CORS: ResponseType get() =
\"cors\".asDynamic().unsafeCast<ResponseType>()\n\npublic
inline val ResponseType.Companion.DEFAULT: ResponseType get() =
\"default\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.ERROR:
ResponseType get() = \"error\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUE: ResponseType get() =
\"opaque\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() =

```



```

\opaqueredirect\).asDynamic().unsafeCast<ResponseType>()", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediacapture\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes
the JavaScript [MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n */\npublic
external open class MediaStream() : EventTarget, MediaProvider {\n    constructor(stream: MediaStream)\n
constructor(tracks: Array<MediaStreamTrack>)\n    open val id: String\n    open val active: Boolean\n    var
onaddtrack: ((MediaStreamTrackEvent) -> dynamic)?\n    var onremovetrack: ((MediaStreamTrackEvent) ->
dynamic)?\n    fun getAudioTracks(): Array<MediaStreamTrack>\n    fun getVideoTracks():
Array<MediaStreamTrack>\n    fun getTracks(): Array<MediaStreamTrack>\n    fun getTrackById(trackId: String):
MediaStreamTrack?\n    fun addTrack(track: MediaStreamTrack)\n    fun removeTrack(track: MediaStreamTrack)\n
    fun clone(): MediaStream\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n */\npublic
external abstract class MediaStreamTrack : EventTarget {\n    open val kind: String\n
    open val id: String\n    open val label: String\n    open var enabled: Boolean\n    open val muted: Boolean\n
    open var onmute: ((Event) -> dynamic)?\n    open var onunmute: ((Event) -> dynamic)?\n    open val readyState:
MediaStreamTrackState\n    open var onended: ((Event) -> dynamic)?\n    open var onoverconstrained: ((Event) ->
dynamic)?\n    fun clone(): MediaStreamTrack\n    fun stop()\n    fun getCapabilities(): MediaTrackCapabilities\n
    fun getConstraints(): MediaTrackConstraints\n    fun getSettings(): MediaTrackSettings\n    fun
applyConstraints(constraints: MediaTrackConstraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes
the JavaScript
[MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstrain
ts) to Kotlin\n */\npublic external interface MediaTrackSupportedConstraints {\n    var width: Boolean? /* = true
*/\n    get() = definedExternally\n    set(value) = definedExternally\n    var height: Boolean? /*
= true */\n    get() = definedExternally\n    set(value) = definedExternally\n    var aspectRatio: Boolean? /* =
true */\n    get() = definedExternally\n    set(value) = definedExternally\n    var frameRate: Boolean? /* = true
*/\n    get() = definedExternally\n    set(value) = definedExternally\n    var facingMode: Boolean? /* = true */\n
    get() = definedExternally\n    set(value) = definedExternally\n    var resizeMode: Boolean? /* = true */\n
    get() = definedExternally\n    set(value) = definedExternally\n    var volume: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleRate: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleSize: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var echoCancellation: Boolean? /* = true */\n    get()
= definedExternally\n
    set(value) = definedExternally\n    var autoGainControl: Boolean? /* = true */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var noiseSuppression: Boolean? /* = true */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var latency: Boolean? /* = true */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var channelCount: Boolean? /* = true */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var deviceId: Boolean? /* = true */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var groupId: Boolean? /* = true */\n    get() = definedExternally\n
    set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true,
frameRate: Boolean? = true, facingMode:
Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true, sampleRate: Boolean? = true, sampleSize:
Boolean? = true, echoCancellation: Boolean? = true, autoGainControl: Boolean? = true, noiseSuppression: Boolean?
= true, latency: Boolean? = true, channelCount: Boolean? = true, deviceId: Boolean? = true, groupId: Boolean? =
true): MediaTrackSupportedConstraints {\n    val o = js("{}")\n    o["width"] = width\n    o["height"] =

```

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height\n o["aspectRatio"] = aspectRatio\n o["frameRate"] = frameRate\n o["facingMode"] = facingMode\n
o["resizeMode"] = resizeMode\n o["volume"] = volume\n o["sampleRate"] = sampleRate\n
o["sampleSize"] = sampleSize\n o["echoCancellation"] = echoCancellation\n o["autoGainControl"] =
autoGainControl\n o["noiseSuppression"] = noiseSuppression\n o["latency"] = latency\n
o["channelCount"] = channelCount\n o["deviceId"] = deviceId\n o["groupId"] = groupId\n return
o\n}\n\npublic
external interface MediaTrackCapabilities {\n var width: ULongRange?\n get() = definedExternally\n
set(value) = definedExternally\n var height: ULongRange?\n get() = definedExternally\n set(value) =
definedExternally\n var aspectRatio: DoubleRange?\n get() = definedExternally\n set(value) =
definedExternally\n var frameRate: DoubleRange?\n get() = definedExternally\n set(value) =
definedExternally\n var facingMode: Array<String>?\n get() = definedExternally\n set(value) =
definedExternally\n var resizeMode: Array<String>?\n get() = definedExternally\n set(value) =
definedExternally\n var volume: DoubleRange?\n get() = definedExternally\n set(value) =
definedExternally\n var sampleRate: ULongRange?\n get() = definedExternally\n set(value) =
definedExternally\n var sampleSize: ULongRange?\n get() = definedExternally\n set(value)
= definedExternally\n var echoCancellation: Array<Boolean>?\n get() = definedExternally\n set(value) =
definedExternally\n var autoGainControl: Array<Boolean>?\n get() = definedExternally\n set(value) =
definedExternally\n var noiseSuppression: Array<Boolean>?\n get() = definedExternally\n set(value) =
definedExternally\n var latency: DoubleRange?\n get() = definedExternally\n set(value) =
definedExternally\n var channelCount: ULongRange?\n get() = definedExternally\n set(value) =
definedExternally\n var deviceId: String?\n get() = definedExternally\n set(value) = definedExternally\n
var groupId: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackCapabilities(width:
ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio:
DoubleRange? = undefined, frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined,
resizeMode: Array<String>? = undefined, volume: DoubleRange? = undefined, sampleRate: ULongRange? =
undefined, sampleSize: ULongRange? = undefined, echoCancellation: Array<Boolean>? = undefined,
autoGainControl: Array<Boolean>? = undefined, noiseSuppression: Array<Boolean>? = undefined, latency:
DoubleRange? = undefined, channelCount: ULongRange? = undefined, deviceId: String? = undefined, groupId:
String? = undefined): MediaTrackCapabilities {\n val o = js("{}")\n o["width"] = width\n o["height"] =
height\n o["aspectRatio"] = aspectRatio\n o["frameRate"] = frameRate\n o["facingMode"] = facingMode\n
o["resizeMode"] = resizeMode\n o["volume"] = volume\n o["sampleRate"] = sampleRate\n
o["sampleSize"] = sampleSize\n o["echoCancellation"] = echoCancellation\n o["autoGainControl"] =
autoGainControl\n o["noiseSuppression"]
= noiseSuppression\n o["latency"] = latency\n o["channelCount"] = channelCount\n o["deviceId"] =
deviceId\n o["groupId"] = groupId\n return o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*\n\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n var advanced:
Array<MediaTrackConstraintSet>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation:
dynamic = undefined, autoGainControl: dynamic = undefined, noiseSuppression: dynamic = undefined, latency:
dynamic = undefined, channelCount: dynamic = undefined, deviceId: dynamic = undefined, groupId: dynamic =

```

```

undefined): MediaTrackConstraints {
    val o = js("{}")
    o["advanced"] = advanced
    o["width"] = width
    o["height"] = height
    o["aspectRatio"] = aspectRatio
    o["frameRate"] = frameRate
    o["facingMode"] = facingMode
    o["resizeMode"] = resizeMode
    o["volume"] = volume
    o["sampleRate"] = sampleRate
    o["sampleSize"] = sampleSize
    o["echoCancellation"] = echoCancellation
    o["autoGainControl"] = autoGainControl
    o["noiseSuppression"] = noiseSuppression
    o["latency"] = latency
    o["channelCount"] = channelCount
    o["deviceId"] = deviceId
    o["groupId"] = groupId
    return o
}

public external interface MediaTrackConstraintSet {
    var width: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var height: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var aspectRatio: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var frameRate: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var facingMode: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var resizeMode: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var volume: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var sampleRate: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var sampleSize: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var echoCancellation: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var autoGainControl: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var noiseSuppression: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var latency: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var channelCount: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var deviceId: dynamic
    get() = definedExternally
    set(value) = definedExternally
    var groupId: dynamic
    get() = definedExternally
    set(value) = definedExternally
}

@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun MediaTrackConstraintSet(
    width: dynamic = undefined,
    height: dynamic = undefined,
    aspectRatio: dynamic = undefined,
    frameRate: dynamic = undefined,
    facingMode: dynamic = undefined,
    resizeMode: dynamic = undefined,
    volume: dynamic = undefined,
    sampleRate: dynamic = undefined,
    sampleSize: dynamic = undefined,
    echoCancellation: dynamic = undefined,
    autoGainControl: dynamic = undefined,
    noiseSuppression: dynamic = undefined,
    latency: dynamic = undefined,
    channelCount: dynamic = undefined,
    deviceId: dynamic = undefined,
    groupId: dynamic = undefined): MediaTrackConstraintSet {
    val o = js("{}")
    o["width"] = width
    o["height"] = height
    o["aspectRatio"] = aspectRatio
    o["frameRate"] = frameRate
    o["facingMode"] = facingMode
    o["resizeMode"] = resizeMode
    o["volume"] = volume
    o["sampleRate"] = sampleRate
    o["sampleSize"] = sampleSize
    o["echoCancellation"] = echoCancellation
    o["autoGainControl"] = autoGainControl
    o["noiseSuppression"] = noiseSuppression
    o["latency"] = latency
    o["channelCount"] = channelCount
    o["deviceId"] = deviceId
    o["groupId"] = groupId
    return o
}

/** Exposes the JavaScript [MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin */
public external interface MediaTrackSettings {
    var width: Int?
    get() = definedExternally
    set(value) = definedExternally
    var height: Int?
    get() = definedExternally
    set(value) = definedExternally
    var aspectRatio: Double?
    get() = definedExternally
    set(value) = definedExternally
    var frameRate: Double?
    get() = definedExternally
    set(value) = definedExternally
    var facingMode: String?
    get() = definedExternally
    set(value) = definedExternally
    var resizeMode: String?
    get() = definedExternally
    set(value) = definedExternally
    var volume: Double?
    get() = definedExternally
    set(value) = definedExternally
    var sampleRate: Int?
    get() = definedExternally
    set(value) = definedExternally
    var sampleSize: Int?
    get() = definedExternally
    set(value) = definedExternally
    var echoCancellation: Boolean?
    get() = definedExternally
    set(value) = definedExternally
    var autoGainControl: Boolean?
    get() = definedExternally
    set(value) = definedExternally
}

```

```

definedExternally\n    var noiseSuppression: Boolean?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var latency: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n
var channelCount: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n    var deviceId:
String?\n        get() = definedExternally\n        set(value) = definedExternally\n    var groupId: String?\n        get() =
definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSettings(width: Int? =
undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined,
facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate:
Int? = undefined, sampleSize: Int? = undefined, echoCancellation: Boolean? = undefined, autoGainControl:
Boolean? = undefined, noiseSuppression: Boolean? = undefined, latency: Double? = undefined, channelCount: Int?
= undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackSettings {\n    val o =
js(\"({})\")\n    o[\"width\"] = width\n    o[\"height\"] = height\n    o[\"aspectRatio\"] = aspectRatio\n
o[\"frameRate\"] = frameRate\n    o[\"facingMode\"] = facingMode\n    o[\"resizeMode\"] = resizeMode\n
o[\"volume\"] = volume\n    o[\"sampleRate\"] = sampleRate\n    o[\"sampleSize\"] = sampleSize\n
o[\"echoCancellation\"] = echoCancellation\n    o[\"autoGainControl\"] = autoGainControl\n
o[\"noiseSuppression\"] = noiseSuppression\n    o[\"latency\"] = latency\n    o[\"channelCount\"] = channelCount\n
o[\"deviceId\"] = deviceId\n    o[\"groupId\"]
= groupId\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n
*/\npublic external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) :
Event {\n    open val track: MediaStreamTrack\n\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface MediaStreamTrackEventInit : EventInit {\n    var track:
MediaStreamTrack?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamTrackEventInit(track:
MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
MediaStreamTrackEventInit {\n    val o = js(\"({})\")\n    o[\"track\"] = track\n    o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n    o[\"composed\"]
= composed\n    return o\n}\n\npublic external open class OverconstrainedErrorEvent(type: String, eventInitDict:
OverconstrainedErrorEventInit) : Event {\n    open val error: dynamic\n\n    companion object {\n        val NONE:
Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE:
Short\n    }\n}\n\npublic external interface OverconstrainedErrorEventInit : EventInit {\n    var error: dynamic /* =
null */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun OverconstrainedErrorEventInit(error:
dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
OverconstrainedErrorEventInit {\n    val o = js(\"({})\")\n    o[\"error\"] = error\n    o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript [MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to
Kotlin\n
*/\npublic external abstract class MediaDevices : EventTarget {\n    open var ondevicechange: ((Event) ->
dynamic)?\n    fun enumerateDevices(): Promise<Array<MediaDeviceInfo>>\n    fun getSupportedConstraints():
MediaTrackSupportedConstraints\n    fun getUserMedia(constraints: MediaStreamConstraints = definedExternally):
Promise<MediaStream>\n}\n\n/**\n * Exposes the JavaScript
[MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to Kotlin\n
*/\npublic external abstract class MediaDeviceInfo {\n    open val deviceId: String\n    open val kind: MediaDeviceKind\n
open val label: String\n    open val groupId: String\n    fun toJSON(): dynamic\n}\n\npublic external abstract class
InputDeviceInfo : MediaDeviceInfo {\n    fun getCapabilities(): MediaTrackCapabilities\n}\n\n/**\n * Exposes the
JavaScript [MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints)

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to Kotlin\n */\npublic external interface MediaStreamConstraints {\n    var video: dynamic /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var audio: dynamic /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamConstraints(video: dynamic = false, audio: dynamic = false): MediaStreamConstraints {\n    val o = js(\"({})\")\n    o[\"video\"] = video\n    o[\"audio\"] = audio\n    return o\n}\n\npublic external interface ConstrainablePattern {\n    var onoverconstrained: ((Event) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    fun getCapabilities(): Capabilities\n    fun getConstraints(): Constraints\n    fun getSettings(): Settings\n    fun applyConstraints(constraints: Constraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript [DoubleRange](https://developer.mozilla.org/en/docs/Web/API/DoubleRange) to Kotlin\n */\npublic external interface DoubleRange {\n    var max: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var min: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleRange(max: Double? = undefined, min: Double? = undefined): DoubleRange {\n    val o = js(\"({})\")\n    o[\"max\"] = max\n    o[\"min\"] = min\n    return o\n}\n\npublic external interface ConstrainDoubleRange : DoubleRange {\n    var exact: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var ideal: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDoubleRange(exact: Double? = undefined, ideal: Double? = undefined, max: Double? = undefined, min: Double? = undefined): ConstrainDoubleRange {\n    val o = js(\"({})\")\n    o[\"exact\"] = exact\n    o[\"ideal\"] = ideal\n    o[\"max\"] = max\n    o[\"min\"] = min\n    return o\n}\n\npublic external interface ULongRange {\n    var max: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n    var min: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange(max: Int? = undefined, min: Int? = undefined): ULongRange {\n    val o = js(\"({})\")\n    o[\"max\"] = max\n    o[\"min\"] = min\n    return o\n}\n\npublic external interface ConstrainULongRange : ULongRange {\n    var exact: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n    var ideal: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainULongRange(exact: Int? = undefined, ideal: Int? = undefined, max: Int? = undefined, min: Int? = undefined): ConstrainULongRange {\n    val o = js(\"({})\")\n    o[\"exact\"] = exact\n    o[\"ideal\"] = ideal\n    o[\"max\"] = max\n    o[\"min\"] = min\n    return o\n}\n\n/**\n * Exposes the JavaScript [ConstrainBooleanParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainBooleanParameters) to Kotlin\n */\npublic external interface ConstrainBooleanParameters {\n    var exact: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var ideal: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainBooleanParameters(exact: Boolean? = undefined, ideal: Boolean? = undefined): ConstrainBooleanParameters {\n    val o = js(\"({})\")\n    o[\"exact\"] = exact\n    o[\"ideal\"] = ideal\n    return o\n}\n\n/**\n * Exposes the JavaScript [ConstrainDOMStringParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainDOMStringParameters) to Kotlin\n */\npublic external interface ConstrainDOMStringParameters {\n    var exact: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var ideal: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun

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ConstrainDOMStringParameters(exact: dynamic = undefined, ideal: dynamic = undefined):
ConstrainDOMStringParameters {\n val o = js("{}")\n o["exact"] = exact\n o["ideal"] = ideal\n return
o}\n\npublic external interface Capabilities\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Capabilities(): Capabilities {\n val o
= js("{}")\n return o}\n\npublic external interface Settings\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Settings(): Settings {\n val o =
js("{}")\n return o}\n\npublic external interface ConstraintSet\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ConstraintSet(): ConstraintSet {\n
val o = js("{}")\n return o}\n\npublic external interface Constraints : ConstraintSet {\n var advanced:
Array<ConstraintSet>?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun Constraints(advanced:
Array<ConstraintSet>? = undefined): Constraints {\n val o = js("{}")\n o["advanced"]
= advanced\n return o}\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaStreamTrackState {\n companion object\n}\n\npublic inline val
MediaStreamTrackState.Companion.LIVE: MediaStreamTrackState get() =
"live".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val
MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() =
"ended".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoFacingModeEnum {\n companion object\n}\n\npublic inline val
VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() =
"user".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() =
"environment".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic
inline val VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() =
"left".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() =
"right".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoResizeModeEnum {\n companion object\n}\n\npublic inline val
VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() =
"none".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val
VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = "crop-and-
scale".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface!
*\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaDeviceKind {\n companion object\n}\n\npublic inline val
MediaDeviceKind.Companion.AUDIOINPUT:
MediaDeviceKind get() = "audioinput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.AUDIOOUTPUT: MediaDeviceKind get() =
"audiooutput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() =
"videoinput".asDynamic().unsafeCast<MediaDeviceKind>())\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediasource\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/*\n * Exposes

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the JavaScript [MediaSource](https://developer.mozilla.org/en/docs/Web/API/MediaSource) to Kotlin\n *\npublic
external open class MediaSource
: EventTarget, MediaPlayer {\n  open val sourceBuffers: SourceBufferList\n  open val activeSourceBuffers:
SourceBufferList\n  open val readyState: ReadyState\n  var duration: Double\n  var onsourceopen: ((Event) ->
dynamic)?\n  var onsourceended: ((Event) -> dynamic)?\n  var onsourceclose: ((Event) -> dynamic)?\n  fun
addSourceBuffer(type: String): SourceBuffer\n  fun removeSourceBuffer(sourceBuffer: SourceBuffer)\n  fun
endOfStream(error: EndOfStreamError = definedExternally)\n  fun setLiveSeekableRange(start: Double, end:
Double)\n  fun clearLiveSeekableRange()\n\n  companion object {\n    fun isTypeSupported(type: String):
Boolean\n  }\n}\n\n/**\n * Exposes the JavaScript
[SourceBuffer](https://developer.mozilla.org/en/docs/Web/API/SourceBuffer) to Kotlin\n *\npublic external
abstract class SourceBuffer : EventTarget {\n  open var mode: AppendMode\n  open val updating: Boolean\n
open val buffered: TimeRanges\n  open var timestampOffset:
Double\n  open val audioTracks: AudioTrackList\n  open val videoTracks: VideoTrackList\n  open val
textTracks: TextTrackList\n  open var appendWindowStart: Double\n  open var appendWindowEnd: Double\n
open var onupdatestart: ((Event) -> dynamic)?\n  open var onupdate: ((Event) -> dynamic)?\n  open var
onupdateend: ((Event) -> dynamic)?\n  open var onerror: ((Event) -> dynamic)?\n  open var onabort: ((Event) ->
dynamic)?\n  fun appendBuffer(data: dynamic)\n  fun abort()\n  fun remove(start: Double, end:
Double)\n}\n\n/**\n * Exposes the JavaScript
[SourceBufferList](https://developer.mozilla.org/en/docs/Web/API/SourceBufferList) to Kotlin\n *\npublic
external abstract class SourceBufferList : EventTarget {\n  open val length: Int\n  open var onaddsourcebuffer:
((Event) -> dynamic)?\n  open var onremovesourcebuffer: ((Event) ->
dynamic)?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator
fun SourceBufferList.get(index: Int): SourceBuffer? = asDynamic()[index]\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic
external interface ReadyState {\n  companion object\n}\n\npublic inline val ReadyState.Companion.CLOSED:
ReadyState get() = \"closed\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val
ReadyState.Companion.OPEN: ReadyState get() = \"open\".asDynamic().unsafeCast<ReadyState>()\n\npublic
inline val ReadyState.Companion.ENDED: ReadyState get() =
\"ended\".asDynamic().unsafeCast<ReadyState>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface EndOfStreamError {\n  companion object\n}\n\npublic inline val
EndOfStreamError.Companion.NETWORK: EndOfStreamError get() =
\"network\".asDynamic().unsafeCast<EndOfStreamError>()\n\npublic inline val
EndOfStreamError.Companion.DECODE: EndOfStreamError
get() = \"decode\".asDynamic().unsafeCast<EndOfStreamError>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface AppendMode {\n  companion object\n}\n\npublic inline val AppendMode.Companion.SEGMENTS:
AppendMode get() = \"segments\".asDynamic().unsafeCast<AppendMode>()\n\npublic inline val
AppendMode.Companion.SEQUENCE: AppendMode get() =
\"sequence\".asDynamic().unsafeCast<AppendMode>()\", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n@n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n@n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.pointerevents\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface
PointerEventInit : MouseEventInit
{\n  var pointerId: Int? /* = 0 */\n  get() = definedExternally\n  set(value) = definedExternally\n  var
width: Double? /* = 1.0 */\n  get() = definedExternally\n  set(value) = definedExternally\n  var height:

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Double? /* = 1.0 */\n    get() = definedExternally\n    set(value) = definedExternally\n    var pressure: Float? /* =
= 0f */\n    get() = definedExternally\n    set(value) = definedExternally\n    var tangentialPressure: Float? /* =
0f */\n    get() = definedExternally\n    set(value) = definedExternally\n    var tiltX: Int? /* = 0 */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var tiltY: Int? /* = 0 */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var twist: Int? /* = 0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var pointerType: String? /* = "" */\n    get() = definedExternally\n    set(value) =
definedExternally\n
    var isPrimary: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\n    "INVISIBLE_REFERENCE",
    "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun PointerEventInit(pointerId: Int? = 0,
width: Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f, tangentialPressure: Float? = 0f, tiltX: Int? = 0,
tiltY: Int? = 0, twist: Int? = 0, pointerType: String? = "", isPrimary: Boolean? = false, screenX: Int? = 0, screenY:
Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? =
null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false,
metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn:
Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock:
Boolean? = false, modifierScrollLock: Boolean?
= false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? =
false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): PointerEventInit {\n    val o = js(\n    "{\n    }")\n    o["pointerId"] = pointerId\n    o["width"] =
width\n    o["height"] = height\n    o["pressure"] = pressure\n    o["tangentialPressure"] = tangentialPressure\n
    o["tiltX"] = tiltX\n    o["tiltY"] = tiltY\n    o["twist"] = twist\n    o["pointerType"] = pointerType\n
    o["isPrimary"] = isPrimary\n    o["screenX"] = screenX\n    o["screenY"] = screenY\n    o["clientX"] =
clientX\n    o["clientY"] = clientY\n    o["button"] = button\n    o["buttons"] = buttons\n    o["relatedTarget"] =
relatedTarget\n    o["region"] = region\n    o["ctrlKey"] = ctrlKey\n    o["shiftKey"] = shiftKey\n    o["altKey"]
= altKey\n    o["metaKey"] = metaKey\n    o["modifierAltGraph"]
= modifierAltGraph\n    o["modifierCapsLock"] = modifierCapsLock\n    o["modifierFn"] = modifierFn\n
    o["modifierFnLock"] = modifierFnLock\n    o["modifierHyper"] = modifierHyper\n    o["modifierNumLock"] =
modifierNumLock\n    o["modifierScrollLock"] = modifierScrollLock\n    o["modifierSuper"] = modifierSuper\n
    o["modifierSymbol"] = modifierSymbol\n    o["modifierSymbolLock"] = modifierSymbolLock\n    o["view"] =
view\n    o["detail"] = detail\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] =
composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n */\npublic external open
class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {\n    open val
pointerId: Int\n    open val width: Double\n    open val height: Double\n    open val pressure: Float\n    open val
tangentialPressure: Float\n
    open val tiltX: Int\n    open val tiltY: Int\n    open val twist: Int\n    open val pointerType: String\n    open val
isPrimary: Boolean\n}\n\ncompanion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n    }\n}\n\n"/\n\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED,
DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.svg\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.css.*\n\n/**\n * Exposes the
JavaScript [SVGELEMENT](https://developer.mozilla.org/en/docs/Web/API/SVGELEMENT) to Kotlin\n */\npublic
external abstract class SVGELEMENT : Element, ElementCSSInlineStyle, GlobalEventHandlers, SVGELEMENTInstance
{\n    open val dataset:
DOMStringMap\n    open val ownerSVGELEMENT: SVGSVGELEMENT?\n    open val viewportElement:
SVGELEMENT?\n    open var tabIndex: Int\n    fun focus()\n    fun blur()\n}\n\ncompanion object {\n    val

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ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n public external interface
SVGBoundingBoxOptions
{ \n    var fill: Boolean? /* = true */ \n    get() = definedExternally \n    set(value) = definedExternally \n    var
stroke: Boolean? /* = false */ \n    get() = definedExternally \n    set(value) = definedExternally \n    var markers:
Boolean? /* = false */ \n    get() = definedExternally \n    set(value) = definedExternally \n    var clipped:
Boolean? /* = false */ \n    get() = definedExternally \n    set(value) =
definedExternally \n} \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun SVGBoundingBoxOptions(fill:
Boolean? = true, stroke: Boolean? = false, markers: Boolean? = false, clipped: Boolean? = false):
SVGBoundingBoxOptions { \n    val o = js("{}") \n    o["fill"] = fill \n    o["stroke"] = stroke \n    o["markers"]
= markers \n    o["clipped"] = clipped \n    return o \n} \n \n /** \n * Exposes the JavaScript
[SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement)
to Kotlin \n * \n public external abstract class SVGGraphicsElement : SVGElement, SVGTests { \n    open val
transform: SVGAnimatedTransformList \n    fun getBBox(options: SVGBoundingBoxOptions = definedExternally):
DOMRect \n    fun getCTM(): DOMMatrix? \n    fun getScreenCTM(): DOMMatrix? \n \n    companion object { \n
val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the
JavaScript [SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement) to
Kotlin \n * \n public external abstract class SVGGeometryElement : SVGGraphicsElement { \n    open val
pathLength: SVGAnimatedNumber \n    fun isPointInFill(point: DOMPoint): Boolean \n    fun isPointInStroke(point:
DOMPoint): Boolean \n    fun getTotalLength(): Float \n    fun getPointAtLength(distance: Float): DOMPoint \n \n
companion object { \n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED:
Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val
DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin \n * \n public external
abstract class SVGNumber { \n    open var value: Float \n} \n \n /** \n * Exposes the JavaScript

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[SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin\n *\npublic external abstract
class SVGLength {\n  open val unitType: Short\n  open var value: Float\n  open var valueInSpecifiedUnits:
Float\n  open var valueAsString: String\n  fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n  fun convertToSpecifiedUnits(unitType: Short)\n\n  companion object {\n    val
SVG_LENGTHTYPE_UNKNOWN: Short\n    val SVG_LENGTHTYPE_NUMBER:
Short\n    val SVG_LENGTHTYPE_PERCENTAGE: Short\n    val SVG_LENGTHTYPE_EMS: Short\n
val SVG_LENGTHTYPE_EXS: Short\n    val SVG_LENGTHTYPE_PX: Short\n    val
SVG_LENGTHTYPE_CM: Short\n    val SVG_LENGTHTYPE_MM: Short\n    val
SVG_LENGTHTYPE_IN: Short\n    val SVG_LENGTHTYPE_PT: Short\n    val SVG_LENGTHTYPE_PC:
Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin\n *\npublic external abstract
class SVGAngle {\n  open val unitType: Short\n  open var value: Float\n  open var valueInSpecifiedUnits:
Float\n  open var valueAsString: String\n  fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n  fun convertToSpecifiedUnits(unitType: Short)\n\n  companion object {\n    val
SVG_ANGLETYPE_UNKNOWN: Short\n    val SVG_ANGLETYPE_UNSPECIFIED: Short\n    val
SVG_ANGLETYPE_DEG: Short\n    val SVG_ANGLETYPE_RAD: Short\n
val SVG_ANGLETYPE_GRAD: Short\n  }\n}\n\npublic external abstract class SVGNameList {\n  open val
length: Int\n  open val numberOfItems: Int\n  fun clear()\n  fun initialize(newItem: dynamic): dynamic\n  fun
insertItemBefore(newItem: dynamic, index: Int): dynamic\n  fun replaceItem(newItem: dynamic, index: Int):
dynamic\n  fun removeItem(index: Int): dynamic\n  fun appendItem(newItem: dynamic): dynamic\n  fun
getItem(index: Int): dynamic\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNameList.get(index: Int):
dynamic = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNameList.set(index: Int,
newItem: dynamic) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to Kotlin\n *\npublic external
abstract
class SVGNumberList {\n  open val length: Int\n  open val numberOfItems: Int\n  fun clear()\n  fun
initialize(newItem: SVGNumber): SVGNumber\n  fun insertItemBefore(newItem: SVGNumber, index: Int):
SVGNumber\n  fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\n  fun removeItem(index: Int):
SVGNumber\n  fun appendItem(newItem: SVGNumber): SVGNumber\n  fun getItem(index: Int):
SVGNumber\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNumberList.get(index:
Int): SVGNumber? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNumberList.set(index:
Int, newItem: SVGNumber) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to Kotlin\n *\npublic external
abstract class SVGLengthList {\n  open val length: Int\n
open val numberOfItems: Int\n  fun clear()\n  fun initialize(newItem: SVGLength): SVGLength\n  fun
insertItemBefore(newItem: SVGLength, index: Int): SVGLength\n  fun replaceItem(newItem: SVGLength, index:
Int): SVGLength\n  fun removeItem(index: Int): SVGLength\n  fun appendItem(newItem: SVGLength):
SVGLength\n  fun getItem(index: Int): SVGLength\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGLengthList.get(index:
Int): SVGLength? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGLengthList.set(index: Int,
newItem: SVGLength) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin\n *\npublic external abstract class SVGAnimatedBoolean {\n  open var baseVal: Boolean\n  open val animVal:

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Boolean\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to Kotlin\n */\npublic external abstract class SVGAnimatedEnumeration {\n open var baseVal: Short\n open val animVal: Short\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to Kotlin\n */\npublic external abstract class SVGAnimatedInteger {\n open var baseVal: Int\n open val animVal: Int\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin\n */\npublic external abstract class SVGAnimatedNumber {\n open var baseVal: Float\n open val animVal: Float\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin\n */\npublic external abstract class SVGAnimatedLength {\n open val baseVal: SVGLength\n open val animVal: SVGLength\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin\n */\npublic external abstract class SVGAnimatedAngle {\n open val baseVal: SVGAngle\n open val animVal: SVGAngle\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin\n */\npublic external abstract class SVGAnimatedString {\n open var baseVal: String\n open val animVal: String\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect) to Kotlin\n */\npublic external abstract class SVGAnimatedRect {\n open val baseVal: DOMRect\n open val animVal: DOMRectReadOnly\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin\n */\npublic external abstract class SVGAnimatedNumberList {\n open val baseVal: SVGNumberList\n open val animVal: SVGNumberList\n}\n\n/**\n

* Exposes the JavaScript

[SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to Kotlin\n */\npublic external abstract class SVGAnimatedLengthList {\n open val baseVal: SVGLengthList\n open val animVal: SVGLengthList\n}\n\n/**\n

* Exposes the JavaScript

[SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin\n */\npublic external abstract class SVGStringList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: String): String\n fun insertItemBefore(newItem: String, index: Int): String\n fun replaceItem(newItem: String, index: Int): String\n fun removeItem(index: Int): String\n fun appendItem(newItem: String): String\n fun getItem(index: Int): String\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.get(index: Int): String? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.set(index: Int, newItem: String) { asDynamic()[index] = newItem }\n\n/**\n

* Exposes the JavaScript

[SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin\n */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface SVGUnitTypes {\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n }\n}\n\n/**\n

* Exposes the JavaScript

[SVGTests](https://developer.mozilla.org/en/docs/Web/API/SVGTTests) to Kotlin\n */\npublic external interface SVGTTests {\n val requiredExtensions: SVGStringList\n val systemLanguage: SVGStringList\n}\n\npublic external interface SVGFitToViewBox {\n val viewBox: SVGAnimatedRect\n val preserveAspectRatio: SVGAnimatedPreserveAspectRatio\n}\n\n/**\n

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* Exposes the JavaScript [SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan)
to Kotlin\n *^\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external interface
SVGZoomAndPan {\n    var zoomAndPan: Short\n\n    companion object {\n        val
SVG_ZOOMANDPAN_UNKNOWN: Short\n        val SVG_ZOOMANDPAN_DISABLE: Short\n        val
SVG_ZOOMANDPAN_MAGNIFY: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin\n *^\npublic
external interface SVGURIReference {\n    val href: SVGAnimatedString\n}\n\n/**\n * Exposes the JavaScript
[SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin\n *^\npublic
external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan,
WindowEventHandlers {\n    open val x: SVGAnimatedLength\n    open val y: SVGAnimatedLength\n    open val
width: SVGAnimatedLength\n    open val
height: SVGAnimatedLength\n    open var currentScale: Float\n    open val currentTranslate:
DOMPointReadOnly\n    fun getIntersectionList(rect: DOMRectReadOnly, referenceElement: SVGElement?):
NodeList\n    fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?): NodeList\n    fun
checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean\n    fun checkEnclosure(element:
SVGElement, rect: DOMRectReadOnly): Boolean\n    fun deselectAll()\n    fun createSVGNumber():
SVGNumber\n    fun createSVGLength(): SVGLength\n    fun createSVGAngle(): SVGAngle\n    fun
createSVGPoint(): DOMPoint\n    fun createSVGMatrix(): DOMMatrix\n    fun createSVGRect(): DOMRect\n
fun createSVGTransform(): SVGTransform\n    fun createSVGTransformFromMatrix(matrix:
DOMMatrixReadOnly): SVGTransform\n    fun getElementById(elementId: String): Element\n    fun
suspendRedraw(maxWaitMilliseconds: Int): Int\n    fun unsuspendRedraw(suspendHandleID: Int)\n    fun
unsuspendRedrawAll()\n
    fun forceRedraw()\n\n    companion object {\n        val SVG_ZOOMANDPAN_UNKNOWN: Short\n        val
SVG_ZOOMANDPAN_DISABLE: Short\n        val SVG_ZOOMANDPAN_MAGNIFY: Short\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGGElement](https://developer.mozilla.org/en/docs/Web/API/SVGGElement)
to Kotlin\n *^\npublic external abstract class SVGGElement : SVGGraphicsElement {\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGUnknownElement : SVGGraphicsElement {\n    companion
object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE:
Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:

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Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGDefsElement](https://developer.mozilla.org/en/docs/Web/API/SVGDefsElement) to Kotlin\n */\npublic
external abstract class SVGDefsElement : SVGGraphicsElement {\n    companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin\n */\npublic
external abstract class SVGDescElement : SVGElement {\n    companion object {\n    val ELEMENT_NODE:
Short\n
    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n
*/\npublic external abstract class SVGMetadataElement : SVGElement {\n    companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGTitleElement](https://developer.mozilla.org/en/docs/Web/API/SVGTitleElement) to Kotlin\n */\npublic
external abstract class SVGTitleElement : SVGElement {\n    companion object {\n    val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val

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DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGSymbolElement](https://developer.mozilla.org/en/docs/Web/API/SVGSymbolElement) to Kotlin \n * \n public
external abstract class SVGSymbolElement : SVGGraphicsElement, SVGFitToViewBox { \n    companion object
{ \n        val ELEMENT_NODE: Short\n            val ATTRIBUTE_NODE: Short\n
            val TEXT_NODE: Short\n            val CDATA_SECTION_NODE: Short\n            val
ENTITY_REFERENCE_NODE: Short\n            val ENTITY_NODE: Short\n            val
PROCESSING_INSTRUCTION_NODE: Short\n            val COMMENT_NODE: Short\n            val
DOCUMENT_NODE: Short\n            val DOCUMENT_TYPE_NODE: Short\n            val
DOCUMENT_FRAGMENT_NODE: Short\n            val NOTATION_NODE: Short\n            val
DOCUMENT_POSITION_DISCONNECTED: Short\n            val DOCUMENT_POSITION_PRECEDING: Short\n
            val DOCUMENT_POSITION_FOLLOWING: Short\n            val DOCUMENT_POSITION_CONTAINS: Short\n
            val DOCUMENT_POSITION_CONTAINED_BY: Short\n            val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n            } \n} \n \n /** \n * Exposes the JavaScript
[SVGUseElement](https://developer.mozilla.org/en/docs/Web/API/SVGUseElement) to Kotlin \n * \n public external
abstract class SVGUseElement : SVGGraphicsElement, SVGURIReference { \n    open val x:
SVGAnimatedLength \n    open val y: SVGAnimatedLength \n    open val width: SVGAnimatedLength \n
    open val height: SVGAnimatedLength \n    open val instanceRoot: SVGElement? \n    open val
animatedInstanceRoot: SVGElement? \n \n    companion object { \n        val ELEMENT_NODE: Short\n            val
ATTRIBUTE_NODE: Short\n            val TEXT_NODE: Short\n            val CDATA_SECTION_NODE: Short\n            val
ENTITY_REFERENCE_NODE: Short\n            val ENTITY_NODE: Short\n            val
PROCESSING_INSTRUCTION_NODE: Short\n            val COMMENT_NODE: Short\n            val
DOCUMENT_NODE: Short\n            val DOCUMENT_TYPE_NODE: Short\n            val
DOCUMENT_FRAGMENT_NODE: Short\n            val NOTATION_NODE: Short\n            val
DOCUMENT_POSITION_DISCONNECTED: Short\n            val DOCUMENT_POSITION_PRECEDING: Short\n
            val DOCUMENT_POSITION_FOLLOWING: Short\n            val DOCUMENT_POSITION_CONTAINS: Short\n
            val DOCUMENT_POSITION_CONTAINED_BY: Short\n            val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n            } \n} \n \n public external open class
SVGUseElementShadowRoot : ShadowRoot { \n    companion
object { \n        val ELEMENT_NODE: Short\n            val ATTRIBUTE_NODE: Short\n            val TEXT_NODE:
Short\n            val CDATA_SECTION_NODE: Short\n            val ENTITY_REFERENCE_NODE: Short\n            val
ENTITY_NODE: Short\n            val PROCESSING_INSTRUCTION_NODE: Short\n            val COMMENT_NODE:
Short\n            val DOCUMENT_NODE: Short\n            val DOCUMENT_TYPE_NODE: Short\n            val
DOCUMENT_FRAGMENT_NODE: Short\n            val NOTATION_NODE: Short\n            val
DOCUMENT_POSITION_DISCONNECTED: Short\n            val DOCUMENT_POSITION_PRECEDING: Short\n
            val DOCUMENT_POSITION_FOLLOWING: Short\n            val DOCUMENT_POSITION_CONTAINS: Short\n
            val DOCUMENT_POSITION_CONTAINED_BY: Short\n            val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n            } \n} \n \n public external interface
SVGElementInstance { \n    val correspondingElement: SVGElement? \n    get() = definedExternally \n    val
correspondingUseElement: SVGUseElement? \n    get() = definedExternally \n} \n \n public external
open class ShadowAnimation(source: dynamic, newTarget: dynamic) { \n    open val sourceAnimation:
dynamic \n} \n \n /** \n * Exposes the JavaScript
[SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement) to Kotlin \n * \n public
external abstract class SVGSwitchElement : SVGGraphicsElement { \n    companion object { \n        val
ELEMENT_NODE: Short\n            val ATTRIBUTE_NODE: Short\n            val TEXT_NODE: Short\n            val
CDATA_SECTION_NODE: Short\n            val ENTITY_REFERENCE_NODE: Short\n            val ENTITY_NODE:

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Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY:
Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external
interface GetSVGDocument {\n    fun getSVGDocument(): Document\n}\n\n/**\n * Exposes the JavaScript
[SVGStyleElement](https://developer.mozilla.org/en/docs/Web/API/SVGStyleElement) to Kotlin\n
*/\n\npublic external abstract class SVGStyleElement : SVGElement, LinkStyle {\n    open var type: String\n    open var media:
String\n    open var title: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n
        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGTransform](https://developer.mozilla.org/en/docs/Web/API/SVGTransform) to Kotlin\n
*/\n\npublic external abstract class SVGTransform {\n    open val type: Short\n    open val matrix: DOMMatrix\n
open val angle: Float\n    fun setMatrix(matrix: DOMMatrixReadOnly)\n    fun setTranslate(tx: Float, ty: Float)\n
fun setScale(sx: Float, sy: Float)\n    fun setRotate(angle: Float, cx: Float, cy: Float)\n    fun setSkewX(angle:
Float)\n    fun setSkewY(angle: Float)\n\n    companion object {\n        val SVG_TRANSFORM_UNKNOWN:
Short\n        val SVG_TRANSFORM_MATRIX: Short\n        val SVG_TRANSFORM_TRANSLATE: Short\n
        val SVG_TRANSFORM_SCALE: Short\n        val SVG_TRANSFORM_ROTATE: Short\n
        val SVG_TRANSFORM_SKEWX: Short\n        val SVG_TRANSFORM_SKEWY: Short\n    }\n}\n\n/**\n *
Exposes the JavaScript [SVGTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGTransformList) to
Kotlin\n
*/\n\npublic external abstract class SVGTransformList {\n    open val length: Int\n    open val
numberOfItems: Int\n    fun clear()\n    fun initialize(newItem: SVGTransform): SVGTransform\n    fun
insertItemBefore(newItem: SVGTransform, index: Int): SVGTransform\n    fun replaceItem(newItem:
SVGTransform, index: Int): SVGTransform\n    fun removeItem(index: Int): SVGTransform\n    fun
appendItem(newItem: SVGTransform): SVGTransform\n    fun createSVGTransformFromMatrix(matrix:
DOMMatrixReadOnly): SVGTransform\n    fun consolidate(): SVGTransform?\n    fun getItem(index: Int):
SVGTransform\n}\n\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun SVGTransformList.get(index:
Int): SVGTransform? = asDynamic()[index]\n\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun SVGTransformList.set(index:
Int, newItem: SVGTransform) { asDynamic()[index] = newItem }\n\n\n/**\n * Exposes the JavaScript
[SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to
Kotlin\n
*/\n\npublic external abstract class SVGAnimatedTransformList {\n    open val baseVal:
SVGTransformList\n    open val animVal: SVGTransformList\n}\n\n\n/**\n * Exposes the JavaScript
[SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin\n
*/\n\npublic external abstract class SVGPreserveAspectRatio {\n    open var align: Short\n    open var meetOrSlice:
Short\n\n    companion object {\n        val SVG_PRESERVEASPECTRATIO_UNKNOWN: Short\n        val
SVG_PRESERVEASPECTRATIO_NONE: Short\n        val SVG_PRESERVEASPECTRATIO_XMIDYMIN:
Short\n        val SVG_PRESERVEASPECTRATIO_XMIDYMIN: Short\n

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val SVG_PRESERVEASPECTRATIO_XMAXYMIN: Short\n    val
SVG_PRESERVEASPECTRATIO_XMINYMID: Short\n    val
SVG_PRESERVEASPECTRATIO_XMIDYMID: Short\n    val
SVG_PRESERVEASPECTRATIO_XMAXYMID: Short\n    val
SVG_PRESERVEASPECTRATIO_XMINYMAX: Short\n    val
SVG_PRESERVEASPECTRATIO_XMIDYMAX: Short\n    val
SVG_PRESERVEASPECTRATIO_XMAXYMAX: Short\n    val SVG_MEETORSLICE_UNKNOWN: Short\n
    val SVG_MEETORSLICE_MEET: Short\n    val SVG_MEETORSLICE_SLICE: Short\n    }\n}\n\n/**\n *
Exposes the JavaScript
[SVGAnimatedPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspect
Ratio) to Kotlin\n *\npublic external abstract class SVGAnimatedPreserveAspectRatio {\n    open val baseVal:
SVGPreserveAspectRatio\n    open val animVal: SVGPreserveAspectRatio\n}\n\n/**\n * Exposes the JavaScript
[SVGPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGPathElement) to Kotlin\n *\npublic
external abstract class SVGPathElement : SVGGeometryElement
{\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGRectElement](https://developer.mozilla.org/en/docs/Web/API/SVGRectElement) to Kotlin\n *\npublic
external abstract class SVGRectElement : SVGGeometryElement {\n
    open val x: SVGAnimatedLength\n    open val y: SVGAnimatedLength\n    open val width:
SVGAnimatedLength\n    open val height: SVGAnimatedLength\n    open val rx: SVGAnimatedLength\n    open
val ry: SVGAnimatedLength\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGCircleElement](https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement)
to Kotlin\n *\npublic external abstract class SVGCircleElement : SVGGeometryElement {\n    open val cx:
SVGAnimatedLength\n    open val cy: SVGAnimatedLength\n    open val r: SVGAnimatedLength\n\n    companion
object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE:
Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY:

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Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to
Kotlin\n */\npublic external abstract class SVGEllipseElement : SVGGeometryElement {\n    open val cx:
SVGAnimatedLength\n    open val cy: SVGAnimatedLength\n    open val rx: SVGAnimatedLength\n    open val ry:
SVGAnimatedLength\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING:
Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val
DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the
JavaScript [SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin\n
*/\npublic external abstract class SVGLineElement : SVGGeometryElement {\n    open val x1:
SVGAnimatedLength\n    open val y1: SVGAnimatedLength\n    open val x2: SVGAnimatedLength\n    open val
y2: SVGAnimatedLength\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE:
Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n
        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin\n
*/\npublic external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference {\n    companion
object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE:
Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE:
Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n
        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to
Kotlin\n */\npublic external interface SVGAnimatedPoints {\n    val points: SVGPointList\n    val animatedPoints:
SVGPointList\n}\n\npublic external abstract class SVGPointList {\n    open val length: Int\n    open val
numberOfItems: Int\n    fun clear()\n    fun initialize(newItem: DOMPoint): DOMPoint\n    fun
insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint\n    fun replaceItem(newItem: DOMPoint, index:
Int): DOMPoint\n    fun removeItem(index: Int): DOMPoint\n    fun appendItem(newItem: DOMPoint):
DOMPoint\n\n    fun getItem(index: Int): DOMPoint\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.get(index: Int):
DOMPoint? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",

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\ "INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.set(index: Int,
newItem: DOMPoint) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to Kotlin\n
*\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n
        val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val
NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val
DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY:
Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to
Kotlin\n
*\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints {\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE:
Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n
val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val
DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY:
Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript
[SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin\n
*\npublic external abstract class SVGTextContentElement : SVGGraphicsElement {\n    open val textLength:
SVGAnimatedLength\n    open val lengthAdjust: SVGAnimatedEnumeration\n    fun getNumberOfChars(): Int\n
fun getComputedTextLength(): Float\n    fun getSubStringLength(charnum: Int, nchars: Int): Float\n    fun
getStartPositionOfChar(charnum: Int): DOMPoint\n    fun getEndPositionOfChar(charnum: Int): DOMPoint\n
    fun getExtentOfChar(charnum: Int): DOMRect\n    fun getRotationOfChar(charnum: Int): Float\n    fun
getCharNumAtPosition(point: DOMPoint): Int\n    fun selectSubString(charnum: Int, nchars: Int)\n\n    companion
object {\n        val LENGTHADJUST_UNKNOWN: Short\n        val LENGTHADJUST_SPACING: Short\n
val LENGTHADJUST_SPACINGANDGLYPHS: Short\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to
Kotlin\n
*\npublic external abstract class SVGTextPositioningElement : SVGTextContentElement {\n    open val x:
SVGAnimatedLengthList\n    open val y: SVGAnimatedLengthList\n    open val dx: SVGAnimatedLengthList\n
open val dy: SVGAnimatedLengthList\n    open val rotate: SVGAnimatedNumberList\n\n    companion object {\n
        val LENGTHADJUST_UNKNOWN: Short\n        val LENGTHADJUST_SPACING: Short\n        val

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LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
 ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
 ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
 PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE:
 Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n } \n \n /** \n * Exposes the JavaScript
 [SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin \n * \n public
 external abstract class SVGTextElement : SVGTextPositioningElement { \n companion object { \n val
 LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
 LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
 ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
 ENTITY_REFERENCE_NODE:
 Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
 COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
 val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n } \n \n /** \n * Exposes the JavaScript
 [SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin \n * \n public
 external abstract class SVGTSpanElement : SVGTextPositioningElement { \n companion object { \n val
 LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
 LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n
 val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
 PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
 DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
 DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
 DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
 val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
 val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
 DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n } \n \n /** \n * Exposes the JavaScript
 [SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin \n
 * \n public external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference { \n open
 val startOffset: SVGAnimatedLength \n open
 val method: SVGAnimatedEnumeration \n open val spacing: SVGAnimatedEnumeration \n \n companion object
 { \n val TEXTPATH_METHODTYPE_UNKNOWN: Short\n val TEXTPATH_METHODTYPE_ALIGN:
 Short\n val TEXTPATH_METHODTYPE_STRETCH: Short\n val
 TEXTPATH_SPACINGTYPE_UNKNOWN: Short\n val TEXTPATH_SPACINGTYPE_AUTO: Short\n
 val TEXTPATH_SPACINGTYPE_EXACT: Short\n val LENGTHADJUST_UNKNOWN: Short\n val
 LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val
 ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
 CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
 Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val

DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED:
Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val
DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin\n */\npublic
external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference,
HTMLOrSVGImageElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open
val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio\n open var crossOrigin: String?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\n/**\n * Exposes the JavaScript
[SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to
Kotlin\n */\npublic external abstract class SVGForeignObjectElement : SVGGraphicsElement {\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val
height: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }n}\n\npublic external abstract class
SVGMarkerElement : SVGElement, SVGFitToViewBox {\n open val refX: SVGAnimatedLength\n open val
refY: SVGAnimatedLength\n open val markerUnits: SVGAnimatedEnumeration\n open val markerWidth:
SVGAnimatedLength\n open val markerHeight:
SVGAnimatedLength\n open val orientType: SVGAnimatedEnumeration\n open val orientAngle:
SVGAnimatedAngle\n open var orient: String\n fun setOrientToAuto()\n fun setOrientToAngle(angle:
SVGAngle)\n\n companion object {\n val SVG_MARKERUNITS_UNKNOWN: Short\n val
SVG_MARKERUNITS_USERSPACEONUSE: Short\n val SVG_MARKERUNITS_STROKEWIDTH:
Short\n val SVG_MARKER_ORIENT_UNKNOWN: Short\n val SVG_MARKER_ORIENT_AUTO:
Short\n val SVG_MARKER_ORIENT_ANGLE: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val

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DOCUMENT_POSITION_DISCONNECTED:
Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val
DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGSolidcolorElement](https://developer.mozilla.org/en/docs/Web/API/SVGSolidcolorElement) to Kotlin\n
*\npublic external abstract class SVGSolidcolorElement : SVGElement {\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n
            val DOCUMENT_POSITION_PRECEDING: Short\n            val DOCUMENT_POSITION_FOLLOWING:
Short\n            val DOCUMENT_POSITION_CONTAINS: Short\n            val
DOCUMENT_POSITION_CONTAINED_BY: Short\n            val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n            }\n}\n\n/**\n * Exposes the JavaScript
[SVGGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGGradientElement) to Kotlin\n
*\npublic external abstract class SVGGradientElement : SVGElement, SVGURIReference, SVGUnitTypes {\n
    open val gradientUnits: SVGAnimatedEnumeration\n    open val gradientTransform: SVGAnimatedTransformList\n
    open val spreadMethod: SVGAnimatedEnumeration\n\n    companion object {\n        val
SVG_SPREADMETHOD_UNKNOWN: Short\n        val SVG_SPREADMETHOD_PAD: Short\n        val
SVG_SPREADMETHOD_REFLECT: Short\n        val SVG_SPREADMETHOD_REPEAT: Short\n        val
SVG_UNIT_TYPE_UNKNOWN: Short\n        val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n
            val ELEMENT_NODE: Short\n            val ATTRIBUTE_NODE: Short\n            val TEXT_NODE: Short\n            val
CDATA_SECTION_NODE: Short\n            val ENTITY_REFERENCE_NODE: Short\n            val ENTITY_NODE:
Short\n            val PROCESSING_INSTRUCTION_NODE: Short\n            val COMMENT_NODE: Short\n            val
DOCUMENT_NODE: Short\n            val DOCUMENT_TYPE_NODE: Short\n            val
DOCUMENT_FRAGMENT_NODE: Short\n            val NOTATION_NODE: Short\n            val
DOCUMENT_POSITION_DISCONNECTED: Short\n            val DOCUMENT_POSITION_PRECEDING: Short\n
            val DOCUMENT_POSITION_FOLLOWING: Short\n            val DOCUMENT_POSITION_CONTAINS: Short\n
            val DOCUMENT_POSITION_CONTAINED_BY: Short\n            val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n            }\n}\n\n/**\n * Exposes the JavaScript
[SVGLinearGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGLinearGradientElement) to
Kotlin\n
*\npublic external abstract class SVGLinearGradientElement : SVGGradientElement {\n    open val
x1: SVGAnimatedLength\n    open val y1: SVGAnimatedLength\n    open val x2: SVGAnimatedLength\n    open
val y2: SVGAnimatedLength\n\n    companion object {\n        val SVG_SPREADMETHOD_UNKNOWN: Short\n
        val SVG_SPREADMETHOD_PAD: Short\n        val SVG_SPREADMETHOD_REFLECT: Short\n        val
SVG_SPREADMETHOD_REPEAT: Short\n        val SVG_UNIT_TYPE_UNKNOWN: Short\n        val
SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING:

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Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val
DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n**\n * Exposes the
JavaScript
[SVGRadialGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGRadialGradientElement) to
Kotlin\n *\npublic external abstract class SVGRadialGradientElement : SVGGradientElement {\n    open val cx:
SVGAnimatedLength\n    open val cy: SVGAnimatedLength\n    open val r: SVGAnimatedLength\n    open val fx:
SVGAnimatedLength\n    open val fy: SVGAnimatedLength\n    open val fr: SVGAnimatedLength\n\n    companion
object {\n        val SVG_SPREADMETHOD_UNKNOWN: Short\n        val SVG_SPREADMETHOD_PAD:
Short\n        val SVG_SPREADMETHOD_REFLECT: Short\n        val SVG_SPREADMETHOD_REPEAT:
Short\n        val SVG_UNIT_TYPE_UNKNOWN: Short\n        val SVG_UNIT_TYPE_USERSPACEONUSE:
Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMeshGradientElement : SVGGradientElement {\n    companion object {\n        val
SVG_SPREADMETHOD_UNKNOWN: Short\n        val SVG_SPREADMETHOD_PAD: Short\n        val
SVG_SPREADMETHOD_REFLECT:
Short\n        val SVG_SPREADMETHOD_REPEAT: Short\n        val SVG_UNIT_TYPE_UNKNOWN: Short\n
        val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMeshrowElement
: SVGElement {\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMeshpatchElement : SVGElement {\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n

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    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val
ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n\n/** \n * Exposes the JavaScript
[SVGStopElement](https://developer.mozilla.org/en/docs/Web/API/SVGStopElement) to Kotlin \n * \npublic
external abstract class SVGStopElement : SVGElement { \n    open val offset: SVGAnimatedNumber \n\n
companion object { \n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n\n/** \n * Exposes the JavaScript
[SVGPatternElement](https://developer.mozilla.org/en/docs/Web/API/SVGPatternElement) to Kotlin \n * \npublic
external abstract class SVGPatternElement : SVGElement, SVGFitToViewBox, SVGURIReference,
SVGUnitTypes { \n    open val patternUnits: SVGAnimatedEnumeration \n    open val patternContentUnits:
SVGAnimatedEnumeration \n    open val patternTransform: SVGAnimatedTransformList \n    open val x:
SVGAnimatedLength \n    open val y: SVGAnimatedLength \n    open val width: SVGAnimatedLength \n    open val
height: SVGAnimatedLength \n\n    companion object { \n        val SVG_UNIT_TYPE_UNKNOWN: Short\n
        val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n\npublic external
abstract class SVGHatchElement : SVGElement { \n    companion object { \n        val ELEMENT_NODE: Short\n
        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
Short\n    } \n} \n\npublic external abstract class SVGHatchpathElement : SVGElement { \n    companion object { \n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:

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Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGCursorElement](https://developer.mozilla.org/en/docs/Web/API/SVGCursorElement) to Kotlin\n */\npublic
external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n    open val x:
SVGAnimatedLength\n    open val y: SVGAnimatedLength\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement)
to Kotlin\n */\npublic external abstract class SVGScriptElement : SVGElement, SVGURIReference,
HTMLOrSVGScriptElement {\n    open var type: String\n    open var crossOrigin: String?\n\n    companion object
{\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC:
Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGGAElement](https://developer.mozilla.org/en/docs/Web/API/SVGGAElement) to Kotlin\n */\npublic external
abstract class SVGGAElement : SVGGraphicsElement, SVGURIReference {\n    open val target:
SVGAnimatedString\n    open val download: SVGAnimatedString\n    open val rel: SVGAnimatedString\n    open
val relList: SVGAnimatedString\n    open val hreflang: SVGAnimatedString\n    open val type:
SVGAnimatedString\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val
DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n
        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY:
Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin\n
*/\npublic external abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {\n

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companion object {
    val SVG_ZOOMANDPAN_UNKNOWN: Short
    val SVG_ZOOMANDPAN_DISABLE: Short
    val SVG_ZOOMANDPAN_MAGNIFY: Short
    val ELEMENT_NODE: Short
    val ATTRIBUTE_NODE: Short
    val TEXT_NODE: Short
    val CDATA_SECTION_NODE: Short
    val ENTITY_REFERENCE_NODE: Short
    val ENTITY_NODE: Short
    val PROCESSING_INSTRUCTION_NODE: Short
    val COMMENT_NODE: Short
    val DOCUMENT_NODE: Short
    val DOCUMENT_TYPE_NODE: Short
    val DOCUMENT_FRAGMENT_NODE: Short
    val NOTATION_NODE: Short
    val DOCUMENT_POSITION_DISCONNECTED: Short
    val DOCUMENT_POSITION_PRECEDING: Short
    val DOCUMENT_POSITION_FOLLOWING: Short
    val DOCUMENT_POSITION_CONTAINS: Short
    val DOCUMENT_POSITION_CONTAINED_BY: Short
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
}

}

"/

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// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!

See github.com/kotlin/dukat for details

package org.w3c.files

import kotlin.js.*
import org.khronos.webgl.*
import org.w3c.dom.*
import org.w3c.dom.events.*
import org.w3c.xhr.*

/** Exposes the JavaScript [Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to Kotlin
 *
 * public external open class Blob(blobParts: Array<dynamic> = definedExternally, options: BlobPropertyBag = definedExternally) : MediaProvider, ImageBitmapSource {
    open val size: Number
    open val type: String
    open val isClosed: Boolean
    fun slice(start: Int = definedExternally, end: Int = definedExternally, contentType: String = definedExternally): Blob
    fun close()

    public external interface BlobPropertyBag {
        var type: String? = ""
        get() = definedExternally
        set(value) = definedExternally
    }

    @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
    @kotlin.internal.InlineOnly
    public inline fun BlobPropertyBag(type: String? = ""): BlobPropertyBag {
        val o = js("{}")
        o["type"] = type
        return o
    }

    /** Exposes the JavaScript [File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin
    *
    * public external open class File(fileBits: Array<dynamic>, fileName: String, options: FilePropertyBag = definedExternally) : Blob {
        open val name: String
        open val lastModified: Int

        public external interface FilePropertyBag : BlobPropertyBag {
            var lastModified: Int?
            get() = definedExternally
            set(value) = definedExternally
        }

        @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
        @kotlin.internal.InlineOnly
        public inline fun FilePropertyBag(lastModified: Int? = undefined, type: String? = ""): FilePropertyBag {
            val o = js("{}")
            o["lastModified"] = lastModified
            o["type"] = type
            return o
        }

    /** Exposes the JavaScript [FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin
    *
    * public external abstract class FileList : ItemArrayLike<File> {
        override fun item(index: Int): File?

        @Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
        @kotlin.internal.InlineOnly
        public inline operator fun FileList.get(index: Int): File? = asDynamic()[index]

    /** Exposes the JavaScript [FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin
    *
    * public external open class FileReader : EventTarget {
        open val readyState: Short
        open val result: dynamic
        open val error: dynamic
        var onloadstart: ((ProgressEvent) -> dynamic)?
        var onprogress: ((ProgressEvent) -> dynamic)?
        var onload: ((Event) -> dynamic)?
        var onabort: ((Event) -> dynamic)?
        var onerror: ((Event) -> dynamic)?
        var onloadend: ((Event) -> dynamic)?
        fun readAsArrayBuffer(blob: Blob)
        fun readAsBinaryString(blob: Blob)
        fun readAsText(blob: Blob, label: String = definedExternally)
        fun readAsDataURL(blob: Blob)
        fun abort()

        companion object {
            val EMPTY: Short
            val LOADING: Short
            val DONE: Short
        }

    /** Exposes the JavaScript [FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin
    *
    * public external open class FileReaderSync {
        fun readAsArrayBuffer(blob: Blob): ArrayBuffer
        fun readAsBinaryString(blob:

```

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Blob): String\n fun readAsText(blob: Blob, label: String = definedExternally): String\n fun
readAsDataURL(blob: Blob): String\n}"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
github.com/kotlin/dukat for details\n\npackage org.w3c.notifications\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.events.*\nimport org.w3c.workers.*\n\n/**\n * Exposes the JavaScript
[Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n */\npublic external open
class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n var onclick:
((MouseEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n open val title: String\n open val dir:
NotificationDirection\n
open val lang: String\n open val body: String\n open val tag: String\n open val image: String\n open val
icon: String\n open val badge: String\n open val sound: String\n open val vibrate: Array<out Int>\n open val
timestamp: Number\n open val renotify: Boolean\n open val silent: Boolean\n open val noscreen: Boolean\n
open val requireInteraction: Boolean\n open val sticky: Boolean\n open val data: Any?\n open val actions:
Array<out NotificationAction>\n fun close()\n\n companion object {\n val permission:
NotificationPermission\n val maxActions: Int\n fun requestPermission(deprecatedCallback:
(NotificationPermission) -> Unit = definedExternally): Promise<NotificationPermission>\n }\n}\n\npublic
external interface NotificationOptions {\n var dir: NotificationDirection? /* = NotificationDirection.AUTO */\n
get() = definedExternally\n set(value) = definedExternally\n var lang: String? /* =
"" */\n get() = definedExternally\n set(value) = definedExternally\n var body: String? /* = "" */\n
get() = definedExternally\n set(value) = definedExternally\n var tag: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var image: String?\n get() = definedExternally\n
set(value) = definedExternally\n var icon: String?\n get() = definedExternally\n set(value) =
definedExternally\n var badge: String?\n get() = definedExternally\n set(value) = definedExternally\n
var sound: String?\n get() = definedExternally\n set(value) = definedExternally\n var vibrate: dynamic\n
get() = definedExternally\n set(value) = definedExternally\n var timestamp: Number?\n get() =
definedExternally\n set(value) = definedExternally\n var renotify: Boolean? /* = false */\n get() =
definedExternally\n set(value)
= definedExternally\n var silent: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var noscreen: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var requireInteraction: Boolean? /* = false */\n get() = definedExternally\n set(value)
= definedExternally\n var sticky: Boolean? /* = false */\n get() = definedExternally\n set(value) =
definedExternally\n var data: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n var actions: Array<NotificationAction>? /* = arrayOf() */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationOptions(dir:
NotificationDirection? = NotificationDirection.AUTO, lang: String? = "", body: String? = "", tag: String? = "",
image:
String? = undefined, icon: String? = undefined, badge: String? = undefined, sound: String? = undefined, vibrate:
dynamic = undefined, timestamp: Number? = undefined, renotify: Boolean? = false, silent: Boolean? = false,
noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky: Boolean? = false, data: Any? = null,
actions: Array<NotificationAction>? = arrayOf()): NotificationOptions {\n val o = js("{}")\n o["dir"] = dir\n
o["lang"] = lang\n o["body"] = body\n o["tag"] = tag\n o["image"] = image\n o["icon"] = icon\n
o["badge"] = badge\n o["sound"] = sound\n o["vibrate"] = vibrate\n o["timestamp"] = timestamp\n
o["renotify"] = renotify\n o["silent"] = silent\n o["noscreen"] = noscreen\n o["requireInteraction"] =
requireInteraction\n o["sticky"] = sticky\n o["data"] = data\n o["actions"] = actions\n return
o}\n\npublic external interface NotificationAction {\n var action: String?\n

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var title: String? \n var icon: String? \n get() = definedExternally \n set(value) =
definedExternally \n} \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun NotificationAction(action: String?,
title: String?, icon: String? = undefined): NotificationAction { \n val o = js("{}") \n o["action"] = action \n
o["title"] = title \n o["icon"] = icon \n return o \n} \n \n public external interface GetNotificationOptions { \n var
tag: String? /* = "" */ \n get() = definedExternally \n set(value) =
definedExternally \n} \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun GetNotificationOptions(tag: String? =
""): GetNotificationOptions { \n val o = js("{}") \n o["tag"] = tag \n return o \n} \n \n /** \n * Exposes the
JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin \n
*/ \n public external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) :
ExtendableEvent { \n open val notification: Notification \n open val action: String \n \n companion object { \n
val NONE: Short \n val CAPTURING_PHASE: Short \n val AT_TARGET: Short \n val
BUBBLING_PHASE: Short \n } \n} \n \n public external interface NotificationEventInit : ExtendableEventInit { \n
var notification: Notification? \n var action: String? /* = "" */ \n get() = definedExternally \n set(value) =
definedExternally \n} \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun NotificationEventInit(notification:
Notification?, action: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): NotificationEventInit { \n val o = js("{}") \n o["notification"] = notification \n o["action"] =
action \n o["bubbles"] = bubbles \n
o["cancelable"] = cancelable \n o["composed"] = composed \n return o \n} \n \n /* please, don't implement this
interface! */ \n @JsName("null") \n @Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE") \n public
external interface NotificationPermission { \n companion object \n} \n \n public inline val
NotificationPermission.Companion.DEFAULT: NotificationPermission get() =
"default".asDynamic().unsafeCast<NotificationPermission>() \n \n public inline val
NotificationPermission.Companion.DENIED: NotificationPermission get() =
"denied".asDynamic().unsafeCast<NotificationPermission>() \n \n public inline val
NotificationPermission.Companion.GRANTED: NotificationPermission get() =
"granted".asDynamic().unsafeCast<NotificationPermission>() \n \n /* please, don't implement this interface!
*/ \n @JsName("null") \n @Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE") \n public external
interface NotificationDirection { \n companion object \n} \n \n public inline val
NotificationDirection.Companion.AUTO: NotificationDirection
get() = "auto".asDynamic().unsafeCast<NotificationDirection>() \n \n public inline val
NotificationDirection.Companion.LTR: NotificationDirection get() =
"ltr".asDynamic().unsafeCast<NotificationDirection>() \n \n public inline val
NotificationDirection.Companion.RTL: NotificationDirection get() =
"rtl".asDynamic().unsafeCast<NotificationDirection>() \n \n /* Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file. \n * \n \n // NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT! \n //
See github.com/kotlin/dukat for details \n \n package org.w3c.workers \n \n import kotlin.js.* \n import
org.khronos.webgl.* \n import org.w3c.dom.* \n import org.w3c.dom.events.* \n import org.w3c.fetch.* \n import
org.w3c.notifications.* \n \n /** \n * Exposes the JavaScript
[ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to Kotlin \n */ \n public
external abstract class ServiceWorker : EventTarget, AbstractWorker, UnionMessagePortOrServiceWorker,
UnionClientOrMessagePortOrServiceWorker { \n open val scriptURL: String \n open val state:
ServiceWorkerState \n open var onstatechange: ((Event) -> dynamic)? \n fun postMessage(message: Any?,
transfer: Array<dynamic> = definedExternally) \n} \n \n /** \n * Exposes the JavaScript
[ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to

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Kotlin\n */\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n  open val installing:
ServiceWorker?\n  open val waiting: ServiceWorker?\n  open val active: ServiceWorker?\n  open val scope:
String\n  open var onupdatefound: ((Event) -> dynamic)?\n  open val APISpace: dynamic\n  fun update():
Promise<Unit>\n  fun unregister(): Promise<Boolean>\n  fun showNotification(title: String, options:
NotificationOptions = definedExternally): Promise<Unit>\n  fun getNotifications(filter:
GetNotificationOptions = definedExternally): Promise<Array<Notification>>\n  fun methodName():
Promise<dynamic>\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to Kotlin\n
*/\npublic external abstract class ServiceWorkerContainer : EventTarget {\n  open val controller:
ServiceWorker?\n  open val ready: Promise<ServiceWorkerRegistration>\n  open var oncontrollerchange:
((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n  fun register(scriptURL: String,
options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n  fun
getRegistration(clientURL: String = definedExternally): Promise<Any?>\n  fun getRegistrations():
Promise<Array<ServiceWorkerRegistration>>\n  fun startMessages()\n}\n\npublic external interface
RegistrationOptions {\n  var scope: String?\n  get() = definedExternally\n  set(value) = definedExternally\n
  var type: WorkerType? /* = WorkerType.CLASSIC */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun RegistrationOptions(scope: String? =
undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n  val o = js(\"({})\")\n
o[\"scope\"] = scope\n o[\"type\"] = type\n return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerMessageEvent) to
Kotlin\n */\npublic external open class ServiceWorkerMessageEvent(type: String, eventInitDict:
ServiceWorkerMessageEventInit = definedExternally) : Event {\n  open val data: Any?\n  open val origin:
String\n  open val lastEventId: String\n  open val source: UnionMessagePortOrServiceWorker?\n  open val
ports: Array<out MessagePort>?\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE:
Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
ServiceWorkerMessageEventInit : EventInit {\n  var data: Any?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var origin: String?\n  get() = definedExternally\n  set(value) = definedExternally\n
  var lastEventId: String?\n  get() = definedExternally\n  set(value) = definedExternally\n  var source:
UnionMessagePortOrServiceWorker?\n  get() = definedExternally\n  set(value) = definedExternally\n  var
ports: Array<MessagePort>?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ServiceWorkerMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>?
= undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
ServiceWorkerMessageEventInit {\n  val o = js(\"({})\")\n  o[\"data\"] = data\n  o[\"origin\"] = origin\n
o[\"lastEventId\"] = lastEventId\n  o[\"source\"] = source\n  o[\"ports\"] = ports\n  o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n  o[\"composed\"] = composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to
Kotlin\n */\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n  open val clients:
Clients\n  open val registration: ServiceWorkerRegistration\n  open var oninstall: ((Event) -> dynamic)?\n  open
var onactivate: ((Event) -> dynamic)?\n  open var onfetch: ((FetchEvent) -> dynamic)?\n  open var
onforeignfetch: ((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n  open
var onnotificationclick: ((NotificationEvent) -> dynamic)?\n  open var onnotificationclose: ((NotificationEvent) ->
dynamic)?\n  open var onfunctionalevent: ((Event) -> dynamic)?\n  fun skipWaiting():
Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript

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[Client](https://developer.mozilla.org/en/docs/Web/API/Client) to Kotlin\n *\npublic external abstract class Client :
UnionClientOrMessagePortOrServiceWorker {\n  open val url: String\n  open val frameType: FrameType\n  open val id: String\n  fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [WindowClient](https://developer.mozilla.org/en/docs/Web/API/WindowClient) to
Kotlin\n *\npublic external abstract class WindowClient : Client {\n  open val visibilityState: dynamic\n  open
val focused: Boolean\n  fun focus(): Promise<WindowClient>\n  fun navigate(url: String):
Promise<WindowClient>\n}\n\n/**\n * Exposes the JavaScript
[Clients](https://developer.mozilla.org/en/docs/Web/API/Clients)
to Kotlin\n *\npublic external abstract class Clients {\n  fun get(id: String): Promise<Any?>\n  fun
matchAll(options: ClientQueryOptions = definedExternally): Promise<Array<Client>>\n  fun openWindow(url:
String): Promise<WindowClient?>\n  fun claim(): Promise<Unit>\n}\n\npublic external interface
ClientQueryOptions {\n  var includeUncontrolled: Boolean? /* = false */\n  get() = definedExternally\n
set(value) = definedExternally\n  var type: ClientType? /* = ClientType.WINDOW */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
ClientQueryOptions(includeUncontrolled: Boolean? = false, type: ClientType? = ClientType.WINDOW):
ClientQueryOptions {\n  val o = js(\"({})\")\n  o[\"includeUncontrolled\"] = includeUncontrolled\n  o[\"type\"] =
type\n  return o\n}\n\n/**\n * Exposes the
JavaScript [ExtendableEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableEvent) to Kotlin\n
*\npublic external open class ExtendableEvent(type: String, eventInitDict: ExtendableEventInit =
definedExternally) : Event {\n  fun waitUntil(f: Promise<Any?>)\n\n  companion object {\n    val NONE:
Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE:
Short\n  }\n}\n\npublic external interface ExtendableEventInit :
EventInit\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableEventInit(bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableEventInit {\n  val o =
js(\"({})\")\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[InstallEvent](https://developer.mozilla.org/en/docs/Web/API/InstallEvent) to Kotlin\n *\npublic
external open class InstallEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) :
ExtendableEvent {\n  fun registerForeignFetch(options: ForeignFetchOptions)\n\n  companion object {\n    val
NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val
BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface ForeignFetchOptions {\n  var scopes:
Array<String>?\n  var origins: Array<String>?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchOptions(scopes:
Array<String>?, origins: Array<String>?): ForeignFetchOptions {\n  val o = js(\"({})\")\n  o[\"scopes\"] =
scopes\n  o[\"origins\"] = origins\n  return o\n}\n\n/**\n * Exposes the JavaScript
[FetchEvent](https://developer.mozilla.org/en/docs/Web/API/FetchEvent) to Kotlin\n *\npublic external open class
FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {\n  open val
request: Request\n  open val clientId: String?\n  open val isReload: Boolean\n  fun respondWith(r:
Promise<Response>)\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n
    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
FetchEventInit : ExtendableEventInit {\n  var request: Request?\n  var clientId: String? /* = null */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var isReload: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun FetchEventInit(request: Request?,
clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): FetchEventInit {\n  val o = js(\"({})\")\n  o[\"request\"] = request\n  o[\"clientId\"]

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= clientId\n
  o[\"isReload\"] = isReload\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] =
composed\n  return o\n}\n\npublic external open class ForeignFetchEvent(type: String, eventInitDict:
ForeignFetchEventInit) : ExtendableEvent {\n  open val request: Request\n  open val origin: String\n  fun
respondWith(r: Promise<ForeignFetchResponse>)\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface ForeignFetchEventInit : ExtendableEventInit {\n  var request: Request?\n  var
origin: String? /* = \"null\" */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchEventInit(request:
Request?, origin: String? = \"null\", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): ForeignFetchEventInit {\n  val o = js(\"({})\")\n  o[\"request\"] = request\n
o[\"origin\"] = origin\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] =
composed\n  return o\n}\n\npublic external interface ForeignFetchResponse {\n  var response: Response?\n  var
origin: String?\n  get() = definedExternally\n  set(value) = definedExternally\n  var headers:
Array<String>?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchResponse(response:
Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse {\n  val o =
js(\"({})\")\n  o[\"response\"] = response\n  o[\"origin\"] = origin\n  o[\"headers\"] = headers\n  return
o\n}\n\n/**\n * Exposes the JavaScript
[ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent)
to Kotlin\n * \npublic external open class ExtendableMessageEvent(type: String, eventInitDict:
ExtendableMessageEventInit = definedExternally) : ExtendableEvent {\n  open val data: Any?\n  open val origin:
String\n  open val lastEventId: String\n  open val source: UnionClientOrMessagePortOrServiceWorker?\n  open
val ports: Array<out MessagePort>?\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface ExtendableMessageEventInit : ExtendableEventInit {\n  var data: Any?\n
get() = definedExternally\n  set(value) = definedExternally\n  var origin: String?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var lastEventId: String?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var source:
UnionClientOrMessagePortOrServiceWorker?\n
get() = definedExternally\n  set(value) = definedExternally\n  var ports: Array<MessagePort>?\n  get()
= definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit {\n
val o = js(\"({})\")\n  o[\"data\"] = data\n  o[\"origin\"] = origin\n  o[\"lastEventId\"] = lastEventId\n
o[\"source\"] = source\n  o[\"ports\"] = ports\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n
o[\"composed\"] = composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[Cache](https://developer.mozilla.org/en/docs/Web/API/Cache)
to Kotlin\n * \npublic external abstract class Cache {\n  fun match(request: dynamic, options: CacheQueryOptions
= definedExternally): Promise<Any?>\n  fun matchAll(request: dynamic = definedExternally, options:
CacheQueryOptions = definedExternally): Promise<Array<Response>>\n  fun add(request: dynamic):
Promise<Unit>\n  fun addAll(requests: Array<dynamic>): Promise<Unit>\n  fun put(request: dynamic, response:
Response): Promise<Unit>\n  fun delete(request: dynamic, options: CacheQueryOptions = definedExternally):
Promise<Boolean>\n  fun keys(request: dynamic = definedExternally, options: CacheQueryOptions =

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definedExternally): Promise<Array<Request>>\n\n\npublic external interface CacheQueryOptions {\n  var
ignoreSearch: Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n  var
ignoreMethod: Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n  var
ignoreVary:
Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n  var cacheName:
String?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CacheQueryOptions(ignoreSearch:
Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? = false, cacheName: String? = undefined):
CacheQueryOptions {\n  val o = js(\"({})\")\n  o[\"ignoreSearch\"] = ignoreSearch\n  o[\"ignoreMethod\"] =
ignoreMethod\n  o[\"ignoreVary\"] = ignoreVary\n  o[\"cacheName\"] = cacheName\n  return o\n}\n\n\npublic
external interface CacheBatchOperation {\n  var type: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n  var request: Request?\n    get() = definedExternally\n    set(value) = definedExternally\n
var response: Response?\n    get() = definedExternally\n
set(value) = definedExternally\n  var options: CacheQueryOptions?\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CacheBatchOperation(type: String? =
undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? =
undefined): CacheBatchOperation {\n  val o = js(\"({})\")\n  o[\"type\"] = type\n  o[\"request\"] = request\n
o[\"response\"] = response\n  o[\"options\"] = options\n  return o\n}\n\n\n/**\n * Exposes the JavaScript
[CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin\n */\npublic external
abstract class CacheStorage {\n  fun match(request: dynamic, options: CacheQueryOptions = definedExternally):
Promise<Any?>\n  fun has(cacheName: String): Promise<Boolean>\n  fun open(cacheName: String):
Promise<Cache>\n  fun delete(cacheName: String): Promise<Boolean>\n
fun keys(): Promise<Array<String>>\n}\n\n\npublic external open class FunctionalEvent : ExtendableEvent {\n
companion object {\n  val NONE: Short\n  val CAPTURING_PHASE: Short\n  val AT_TARGET:
Short\n  val BUBBLING_PHASE: Short\n  }\n}\n\n\npublic external interface
UnionMessagePortOrServiceWorker\n\n\npublic external interface
UnionClientOrMessagePortOrServiceWorker\n\n\n/* please, don't implement this interface!
*/\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\n\npublic external
interface ServiceWorkerState {\n  companion object\n}\n\n\npublic inline val
ServiceWorkerState.Companion.INSTALLING: ServiceWorkerState get() =
\"installing\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState get() =
\"installed\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState get() =
\"activating\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic
inline val ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState get() =
\"activated\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() =
\"redundant\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\n\n/* please, don't implement this interface!
*/\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\n\npublic external
interface FrameType {\n  companion object\n}\n\n\npublic inline val FrameType.Companion.AUXILIARY:
FrameType get() = \"auxiliary\".asDynamic().unsafeCast<FrameType>()\n\n\npublic inline val
FrameType.Companion.TOP_LEVEL: FrameType get() = \"top-
level\".asDynamic().unsafeCast<FrameType>()\n\n\npublic inline val FrameType.Companion.NESTED: FrameType
get() = \"nested\".asDynamic().unsafeCast<FrameType>()\n\n\npublic inline val FrameType.Companion.NONE:
FrameType get() = \"none\".asDynamic().unsafeCast<FrameType>()\n\n\n/* please,

```

don't implement this interface!

```
*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface ClientType {\n    companion object\n}\n\npublic inline val ClientType.Companion.WINDOW: ClientType
get() = "window".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.WORKER:
ClientType get() = "worker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val
ClientType.Companion.SHAREDWORKER: ClientType get() =
"sharedworker".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.ALL:
ClientType get() = "all".asDynamic().unsafeCast<ClientType>()", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.xhr\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport org.w3c.files.*\n\n/**\n *
Exposes the JavaScript
[XMLHttpRequestEventTarget](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequestEventTarget) to
Kotlin\n */\n\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n    open var
onloadstart: ((ProgressEvent) -> dynamic)?\n    open var onprogress: ((ProgressEvent) -> dynamic)?\n
open var onabort: ((Event) -> dynamic)?\n    open var onerror: ((Event) -> dynamic)?\n    open var
onload: ((Event) -> dynamic)?\n    open var ontimeout: ((Event) -> dynamic)?\n    open var
onloadend: ((Event) -> dynamic)?\n}\n\npublic external
abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget\n\n/**\n * Exposes the JavaScript
[XMLHttpRequest](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequest) to Kotlin\n */\n\npublic
external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n    var onreadystatechange: ((Event) ->
dynamic)?\n
    open val readyState: Short\n    var timeout: Int\n    var withCredentials: Boolean\n    open val upload:
XMLHttpRequestUpload\n    open val responseURL: String\n    open val status: Short\n    open val
statusText: String\n    var responseType: XMLHttpRequestResponseType\n    open val response: Any?\n    open
val responseText: String\n    open val responseXML: Document?\n    fun open(method: String, url: String)\n
fun open(method: String, url: String, async: Boolean, username: String? = definedExternally, password: String? =
definedExternally)\n    fun setRequestHeader(name: String, value: String)\n    fun send(body: dynamic =
definedExternally)\n    fun abort()\n    fun getResponseHeader(name: String): String?\n    fun
getAllResponseHeaders(): String\n    fun overrideMimeType(mime: String)\n}\n\n    companion object {\n        val
UNSENT: Short\n        val OPENED: Short\n        val HEADERS_RECEIVED: Short\n        val LOADING:
Short\n        val DONE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [FormData](https://developer.mozilla.org/en/docs/Web/API/FormData) to Kotlin\n
*/\n\npublic external open class FormData(form: HTMLFormElement = definedExternally) {\n    fun
append(name: String, value: String)\n    fun append(name: String, value: Blob, filename: String =
definedExternally)\n    fun delete(name: String)\n    fun get(name: String): dynamic\n    fun
getAll(name: String): Array<dynamic>\n    fun has(name: String): Boolean\n    fun set(name: String, value:
String)\n    fun set(name: String, value: Blob, filename: String = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[ProgressEvent](https://developer.mozilla.org/en/docs/Web/API/ProgressEvent) to Kotlin\n */\n\npublic external
open class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {\n
    open val lengthComputable: Boolean\n    open val loaded: Number\n    open val total: Number\n}\n\n    companion
object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface
ProgressEventInit : EventInit {\n    var lengthComputable: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var loaded: Number? /* = 0 */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var total: Number? /* = 0 */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ProgressEventInit(lengthComputable:
```



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Boolean? = false, loaded: Number? = 0, total: Number? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): ProgressEventInit {\n  val o = js("{}")\n  o["lengthComputable"] =
lengthComputable\n  o["loaded"] = loaded\n  o["total"] = total\n  o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n
  o["composed"] = composed\n  return o\n}\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface XMLHttpRequestResponseType {\n  companion object\n}\n\npublic inline val
XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() =
"\n.asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() =
"arraybuffer".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() =
"blob".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() =
"document".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType
get() = "json".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() =
"text".asDynamic().unsafeCast<XMLHttpRequestResponseType>()", /*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationRetention.BINARY\n\nimport kotlin.annotation.AnnotationRetention.SOURCE\n\nimport
kotlin.annotation.AnnotationTarget.*\n\nimport kotlin.internal.RequireKotlin\n\nimport
kotlin.internal.RequireKotlinVersionKind\n\nimport kotlin.reflect.KClass\n\n\n/**\n * Signals that the annotated
annotation class is a marker of an experimental API.\n * Any declaration annotated with that marker is
considered an experimental declaration\n * and its call sites should accept the experimental aspect of it either
by using [UseExperimental],\n * or by being annotated with that marker themselves, effectively causing further
propagation of that experimental aspect.\n * This class is deprecated in favor of a more general approach
provided by [RequiresOptIn]/[OptIn].\n
*\n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin("1.2")\n@RequireKotlin("1.2.50
", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.6")\n@Deprecated("Please use RequiresOptIn instead.")\npublic annotation class
Experimental(val level: Level = Level.ERROR) {\n  /**\n   * Severity of the diagnostic that should be reported on
usages of experimental API which did not explicitly accept the experimental aspect\n   * of that API either by using
[UseExperimental] or by being annotated with the corresponding marker annotation.\n   */\n  public enum class
Level {\n    /** Specifies that a warning should be reported on incorrect usages
of this experimental API. */\n    WARNING,\n    /** Specifies that an error should be reported on incorrect
usages of this experimental API. */\n    ERROR,\n  }\n}\n\n\n/**\n * Allows to use experimental API denoted by
the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with
[UseExperimental], its usages are **not** required to opt-in to that experimental API.\n * This class is
deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].\n *\n@Target(\n  CLASS,
PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION,
PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE,
TYPEALIAS\n)\n@Retention(SOURCE)\n@SinceKotlin("1.2")\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.6")\n@Deprecated("Please use OptIn instead.", ReplaceWith("OptIn(*markerClass)",
"kotlin.OptIn"))\npublic annotation

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class UseExperimental(\n  vararg val markerClass: KClass<out Annotation>\n)\n\n\n@Target(CLASS,
PROPERTY, CONSTRUCTOR, FUNCTION, TYPEALIAS)\n@Retention(BINARY)\n\ninternal annotation class
WasExperimental(\n  vararg val markerClass: KClass<out Annotation>\n)\n\n", "package kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\n\n/**\n * This annotation marks the standard library API that is considered
experimental and is not subject to the\n * [general compatibility
guarantees](https://kotlinlang.org/docs/reference/evolution/components-stability.html) given for the standard
library:\n * the behavior of such API may be changed or the API may be removed completely in any further
release.\n * \n * > Beware using the annotated API especially if you're developing a library, since your library might
become binary incompatible\n * with the future versions of the standard library.\n * \n * Any usage of a declaration
annotated with `@ExperimentalStdlibApi` must be accepted either by\n *
annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalStdlibApi::class)`,\n * or by using the
compiler argument `-opt-in=kotlin.ExperimentalStdlibApi`. \n * \n\n@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n@Retention(AnnotationRetention.BINARY)\n@Target(\n  CLASS,\n
ANNOTATION_CLASS,\n  PROPERTY,\n  FIELD,\n  LOCAL_VARIABLE,\n  VALUE_PARAMETER,\n
CONSTRUCTOR,\n  FUNCTION,\n  PROPERTY_GETTER,\n  PROPERTY_SETTER,\n
TYPEALIAS)\n\n\n@MustBeDocumented\n@SinceKotlin("1.3")\n\npublic annotation class
ExperimentalStdlibApi\n\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport
kotlin.experimental.ExperimentalTypeInference\n\n\n/**\n * Allows to infer generic type arguments of a function
from the calls in the annotated
function parameter of that function.\n * \n * When this annotation is placed on a generic function parameter of a
function,\n * it enables to infer the type arguments of that generic function from the lambda body passed to that
parameter.\n * \n * The calls that affect inference are either members of the receiver type of an annotated function
parameter or\n * extensions for that type. The extensions must be themselves annotated with `@BuilderInference`. \n
*\n * Example: we declare\n * ```\n * fun <T> sequence(@BuilderInference block: suspend SequenceScope<T>.() -
> Unit): Sequence<T>\n * ```\n * and use it like\n * ```\n * val result = sequence { yield("result") } \n * ```\n * Here
the type argument of the resulting sequence is inferred to `String` from\n * the argument of the
[SequenceScope.yield] function, that is called inside the lambda passed to [sequence]. \n * \n * Note: this annotation
is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n * \n\n@Target(VALUE_PARAMETER,
FUNCTION,
PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n\n@ExperimentalTypeInferenc
e\n\npublic annotation class BuilderInference\n\n\n/**\n * Enables overload selection based on the type of the value
returned from lambda argument.\n * \n * When two or more function overloads have otherwise the same parameter
lists that differ only in the return type\n * of a functional parameter, this annotation enables overload selection by the
type of the value returned from\n * the lambda function passed to this functional parameter.\n * \n * Example:\n *
``` \n * @OverloadResolutionByLambdaReturnType\n * fun create(intProducer: () -> Int): Int\n * \n * fun
create(doubleProducer: () -> Double): Double\n * \n * val newValue = create { 3.14 } \n * ```\n * \n * The annotation
being applied to one of overloads allows to resolve this ambiguity by analyzing what value is returned\n * from the
lambda function.\n * \n * This annotation is also used to discriminate the annotated overloads
in case if overload selection still cannot\n * choose one of them even taking in account the result of lambda
parameter analysis. In that case a warning is reported.\n * \n * Note: this annotation is experimental, see
[ExperimentalTypeInference] on how to opt-in for it.\n
*\n\n@Target(FUNCTION)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.4")\n\n@Experimental
TypeInference\n\npublic annotation class OverloadResolutionByLambdaReturnType", "/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport

```

kotlin.internal.RequireKotlinVersionKind\n\n/\*\*\n \* The experimental multiplatform support API marker.\n \*\n \* Any usage of a declaration annotated with `@ExperimentalMultiplatform` must be accepted either by\n \* annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalMultiplatform::class)`,\n \* or by using the compiler argument `-opt-in=kotlin.ExperimentalMultiplatform`.\n \*\n \*/\n@RequiresOptIn\n@MustBeDocumented\n@Target(\n CLASS,\n ANNOTATION\_CLASS,\n PROPERTY,\n FIELD,\n LOCAL\_VARIABLE,\n VALUE\_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY\_GETTER,\n PROPERTY\_SETTER,\n TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER\_VERSION)\npublic annotation class ExperimentalMultiplatform\n\n/\*\*\n \* Marks an expected annotation class that isn't required to have actual counterparts in all platforms.\n \*\n \* This annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as `optional`.\n \* Optional expected class is allowed to have no corresponding actual class on the platform. Optional annotations can only be used\n \* to annotate something, not as types in signatures. If an optional annotation has no corresponding actual class on a platform,\n \* the annotation entries where it's used are simply erased when compiling code on that platform.\n \*\n \* Note: this annotation is experimental, see [ExperimentalMultiplatform] on how to opt-in for it.\n \*\n \*/\n@Target(ANNOTATION\_CLASS)\n@Retention(AnnotationRetention.BINARY)\n@ExperimentalMultiplatform\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER\_VERSION)\npublic annotation class OptionalExpectation\n\n", /\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\npackage kotlin\n\nimport kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport kotlin.annotation.AnnotationTarget.\*\nimport kotlin.internal.RequireKotlin\nimport kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/\*\*\n \* Signals that the annotated annotation class is a marker of an API that requires an explicit opt-in.\n \*\n \* Call sites of any declaration annotated with that marker should opt in to the API either by using [OptIn],\n \* or by being annotated with that marker themselves, effectively causing further propagation of the opt-in requirement.\n \*\n \* This class requires opt-in itself and can only be used with the compiler argument `-opt-in=kotlin.RequiresOptIn`.\n \*\n \* @property message message to be reported on usages of API without an explicit opt-in, or empty string for the default message.\n \* The default message is: "This declaration is experimental and its usage should be marked with 'Marker'\n \* or '@OptIn(Marker::class)', where `Marker` is the opt-in requirement marker.\n \* @property level specifies how usages of API without an explicit opt-in are reported in code.\n \*\n \*/\n@Target(ANNOTATION\_CLASS)\n@Retention(BINARY)\n@SinceKotlin("1.3")\n@RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER\_VERSION)\npublic annotation class RequiresOptIn(\n val message: String = "",\n val level: Level = Level.ERROR) {\n /\*\*\n \* Severity of the diagnostic that should be reported on usages which did not explicitly opt into\n \* the API either by using [OptIn] or by being annotated with the corresponding marker annotation.\n \*/\n public enum class Level {\n /\*\* Specifies that a warning should be reported on incorrect usages of this API. \*/\n WARNING,\n /\*\* Specifies that an error should be reported on incorrect usages of this API. \*/\n ERROR,\n }\n\n /\*\*\n \* Allows to use the API denoted by the given markers in the annotated file, declaration, or expression.\n \*\n \* If a declaration is annotated with [OptIn], its usages are \*\*not\*\* required to opt in to that API.\n \*\n \* This class requires opt-in itself and can only be used with the compiler argument `-opt-in=kotlin.RequiresOptIn`.\n \*\n \*/\n@Target(\n CLASS,\n PROPERTY,\n LOCAL\_VARIABLE,\n VALUE\_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY\_GETTER,\n PROPERTY\_SETTER,\n EXPRESSION,\n FILE,\n TYPEALIAS)\n@Retention(SOURCE)\n@SinceKotlin("1.3")\n@RequireKotlin("1.3.70", versionKind = RequireKotlinVersionKind.COMPILER\_VERSION)\npublic annotation class OptIn(\n vararg val markerClass:

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KClass<out Annotation>\n\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.collections\n\nimport kotlin.js.JsName\n\n/**\n * Provides a skeletal
implementation of the read-only [Collection] interface.\n *\n * @param E the type of elements contained in the
collection. The collection is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class
AbstractCollection<out
E> protected constructor() : Collection<E> {\n abstract override val size: Int\n abstract override fun iterator():
Iterator<E>\n\n override fun contains(element: @UnsafeVariance E): Boolean = any { it == element }\n\n override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean =\n elements.all { contains(it) }\n // use when js will support bound refs: elements.all(this::contains)\n\n override fun isEmpty(): Boolean = size ==
0\n\n override fun toString(): String = joinToString(", ", "[", "]") {\n if (it === this) \"(this Collection)\"\n else it.toString()\n }\n\n /**\n * Returns new array of type `Array<Any?>` with the elements of this
collection.\n *\n * @JsName("toArray")\n * protected open fun toArray(): Array<Any?> =
copyToArrayImpl(this)\n\n * /**\n * Fills the provided [array] or creates new array of the same type\n * and
fills it with the elements of this collection.\n *\n * @ protected open fun <T>
toArray(array: Array<T>): Array<T> = copyToArrayImpl(this, array)\n\n\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\nprivate enum class
State {\n Ready,\n NotReady,\n Done,\n Failed\n}\n\n/**\n * A base class to simplify implementing iterators
so that implementations only have to implement [computeNext]\n * to implement the iterator, calling [done] when
the iteration is complete.\n */\npublic abstract class AbstractIterator<T> : Iterator<T> {\n private var state =
State.NotReady\n private var nextValue: T? = null\n\n override fun hasNext(): Boolean {\n require(state !=
State.Failed)\n return when (state) {\n State.Done -> false\n State.Ready -> true\n else ->
tryToComputeNext()\n }\n }\n\n override fun next():
T {\n if (!hasNext()) throw NoSuchElementException()\n state = State.NotReady\n @Suppress("UNCHECKED_CAST")\n return nextValue as T\n }\n\n private fun tryToComputeNext():
Boolean {\n state = State.Failed\n computeNext()\n return state == State.Ready\n }\n\n /**\n * Computes the next item in the iterator.\n *\n * This callback method should call one of these two methods:\n *\n * * [setNext] with the next value of the iteration\n * * [done] to indicate there are no more elements\n *\n * * Failure to call either method will result in the iteration terminating with a failed state\n */\n abstract
protected fun computeNext(): Unit\n\n /**\n * Sets the next value in the iteration, called from the
[computeNext] function\n *\n * @ protected fun setNext(value: T): Unit {\n nextValue = value\n state =
State.Ready\n }\n\n /**\n * Sets the state to done so that
the iteration terminates.\n *\n * @ protected fun done() {\n state = State.Done\n }\n\n\n", "/*\n *
Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin\n\n/**\n * Based on GWT
AbstractList\n * Copyright 2007 Google Inc.\n */\npackage kotlin.collections\n\n/**\n * Provides a skeletal
implementation of the read-only [List] interface.\n *\n * This class is intended to help implementing read-only lists
so it doesn't support concurrent modification tracking.\n *\n * @param E the type of elements contained in the list.
The list is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class AbstractList<out E>
protected constructor() : AbstractCollection<E>(), List<E> {\n abstract override val size: Int\n abstract override
fun get(index: Int): E\n\n override fun iterator(): Iterator<E> = IteratorImpl()\n\n override fun indexOf(element: @UnsafeVariance E): Int = indexOfFirst { it == element }\n\n override fun
lastIndexOf(element: @UnsafeVariance E): Int = indexOfLast { it == element }\n\n override fun listIterator():
ListIterator<E> = ListIteratorImpl(0)\n\n override fun listIterator(index: Int): ListIterator<E> =
ListIteratorImpl(index)\n\n override fun subList(fromIndex: Int, toIndex: Int): List<E> = SubList(this, fromIndex,
toIndex)\n\n private class SubList<out E>(private val list: AbstractList<E>, private val fromIndex: Int, toIndex:
Int) : AbstractList<E>(), RandomAccess {\n private var _size: Int = 0\n init {\n

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checkRangeIndexes(fromIndex, toIndex, list.size)\n this._size = toIndex - fromIndex\n }\n\n override fun get(index: Int): E {\n checkElementIndex(index, _size)\n return list[fromIndex +\nindex]\n }\n\n override val size: Int get() = _size\n }\n\n /**\n * Compares this list with other list instance with the ordered structural equality.\n * @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same order.\n */\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is List<*>) return false\n\n return orderedEquals(this, other)\n }\n\n /**\n * Returns the hash code value for this list.\n */\n override fun hashCode(): Int = orderedHashCode(this)\n\n private open inner class IteratorImpl : Iterator<E> {\n /**\n the index of the item that will be returned on the next call to [next]`() `*\n protected var index = 0\n\n override fun hasNext(): Boolean = index < size\n\n override fun next(): E {\n if (!hasNext()) throw\nNoSuchElementException()\n return get(index++)\n }\n }\n\n /**\n * Implementation of [ListIterator] for abstract\n lists.\n */\n private open inner class ListIteratorImpl(index: Int) : IteratorImpl(), ListIterator<E> {\n init\n {\n checkPositionIndex(index, this@AbstractList.size)\n this.index = index\n }\n\n override fun hasPrevious(): Boolean = index > 0\n\n override fun nextIndex(): Int = index\n\n override fun previous(): E {\n if (!hasPrevious()) throw NoSuchElementException()\n return get(--index)\n }\n\n override fun previousIndex(): Int = index - 1\n }\n\n internal companion object {\n internal fun\ncheckElementIndex(index: Int, size: Int) {\n if (index < 0 || index >= size) {\n throw\nIndexOutOfBoundsException("index: $index, size: $size")\n }\n }\n\n internal fun\ncheckPositionIndex(index: Int, size: Int) {\n if (index < 0 || index > size) {\n throw\nIndexOutOfBoundsException("index: $index, size: $size")\n }\n }\n\n internal fun\ncheckRangeIndexes(fromIndex: Int, toIndex: Int, size: Int) {\n if\n(fromIndex < 0 || toIndex > size) {\n throw IndexOutOfBoundsException("fromIndex: $fromIndex,\ntoIndex: $toIndex, size: $size")\n }\n if (fromIndex > toIndex) {\n throw\nIllegalArgumentException("fromIndex: $fromIndex > toIndex: $toIndex")\n }\n }\n\n internal fun\ncheckBoundsIndexes(startIndex: Int, endIndex: Int, size: Int) {\n if (startIndex < 0 || endIndex > size) {\n throw IndexOutOfBoundsException("startIndex: $startIndex, endIndex: $endIndex, size: $size")\n }\n if (startIndex > endIndex) {\n throw IllegalArgumentException("startIndex: $startIndex > endIndex:\n$endIndex")\n }\n }\n\n internal fun\norderedHashCode(c: Collection<*>): Int {\n var\nhashCode = 1\n for\n(e in c) {\n hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n }\n return hashCode\n }\n\n internal fun\norderedEquals(c: Collection<*>, other: Collection<*>): Boolean {\n if (c.size !=\nother.size) return false\n\n val otherIterator = other.iterator()\n for (elem in c) {\n val\nelemOther = otherIterator.next()\n if (elem != elemOther) {\n return false\n }\n }\n return true\n }\n }\n}\n\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming\nLanguage contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\nlicense/LICENSE.txt file.\n */\n\n/*\n * Based on GWT AbstractMap\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Map] interface.\n */\n * The implementor is required to\nimplement [entries] property, which should return read-only set of map entries.\n */\n * @param K the type of map\nkeys. The map is invariant in its key type.\n * @param V the type of map values. The map is covariant in its value\ntype.\n */\n\n@SinceKotlin("1.1")\npublic abstract class AbstractMap<K, out V> protected constructor() : Map<K,\nV> {\n override fun containsKey(key: K): Boolean {\n return implFindEntry(key) != null\n }\n\n override fun containsValue(value: @UnsafeVariance V): Boolean = entries.any { it.value == value }\n\n internal fun\ncontainsEntry(entry: Map.Entry<*, *>): Boolean {\n // since entry comes from @UnsafeVariance\nparameters it can be virtually anything\n if (entry !is Map.Entry<*, *>) return false\n val key = entry.key\n val value = entry.value\n val ourValue = get(key)\n if (value != ourValue) {\n return false\n }\n\n // Perhaps it was null and we don't contain the key?\n}

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 if (ourValue == null && !containsKey(key)) {\n return false\n }\n return true\n }\n\n /**\n * Compares this map with other instance with the ordered structural equality.\n * @return true, if [other] instance is a [Map] of the same size, all entries of which are contained in the [entries] set of this map.\n */\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is Map<*, *>) return false\n if (size != other.size) return false\n return other.entries.all { containsEntry(it) }\n }\n\n override operator fun get(key: K): V? = implFindEntry(key)?.value\n\n /**\n * Returns the hash code value for this map.\n * It is the same as the hashCode of [entries] set.\n */\n override fun hashCode(): Int = entries.hashCode()\n\n override fun isEmpty(): Boolean = size == 0\n override val size: Int get() = entries.size\n\n /**\n * Returns a read-only [Set] of all keys in this map.\n * Accessing this property first time creates a keys view from [entries].\n * All subsequent accesses just return the created instance.\n */\n override val keys: Set<K>\n get() {\n if (_keys == null) {\n _keys = object : AbstractSet<K>() {\n override operator fun contains(element: K): Boolean = containsKey(element)\n override operator fun iterator(): Iterator<K> {\n val entryIterator = entries.iterator()\n return object : Iterator<K> {\n override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): K = entryIterator.next().key\n }\n }\n override val size: Int get() = this@AbstractMap.size\n }\n }\n @kotlin.jvm.Volatile\n private var _keys: Set<K>? = null\n override fun toString(): String = entries.joinToString(", ", "\n", "\n") { toString(it) }\n private fun toString(entry: Map.Entry<K, V>): String = toString(entry.key) + "=" + toString(entry.value)\n private fun toString(o: Any?): String = if (o === this) \"(this Map)\" else o.toString()\n }\n\n /**\n * Returns a read-only [Collection] of all values in this map.\n * Accessing this property first time creates a values view from [entries].\n * All subsequent accesses just return the created instance.\n */\n override val values: Collection<V>\n get() {\n if (_values == null) {\n _values = object : AbstractCollection<V>() {\n override operator fun contains(element: @UnsafeVariance V): Boolean = containsValue(element)\n override operator fun iterator(): Iterator<V> {\n val entryIterator = entries.iterator()\n return object : Iterator<V> {\n override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): V = entryIterator.next().value\n }\n }\n override val size: Int get() = this@AbstractMap.size\n }\n }\n return _values!\n }\n\n @kotlin.jvm.Volatile\n private var _values: Collection<V>? = null\n private fun implFindEntry(key: K): Map.Entry<K, V>? = entries.firstOrNull { it.key == key }\n\n internal companion object {\n internal fun entryHashCode(e: Map.Entry<*, *>): Int = with(e) { (key?.hashCode() ?: 0) xor (value?.hashCode() ?: 0) }\n internal fun entryToString(e: Map.Entry<*, *>): String = with(e) { \"$key=$value\" }\n internal fun entryEquals(e: Map.Entry<*, *>, other: Any?): Boolean {\n if (other !is Map.Entry<*, *>)\n return false\n return e.key == other.key && e.value == other.value\n }\n }\n\n /**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n}\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Set] interface.\n * This class is intended to help implementing read-only sets so it doesn't support concurrent modification tracking.\n * @param E the type of elements contained in the set. The set is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class AbstractSet<out E> protected constructor() : AbstractCollection<E>(), Set<E> {\n /**\n * Compares this set with other set instance with the unordered structural equality.\n * @return true, if [other] instance is a [Set] of the same size, all elements of which are contained in this set.\n */\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is Set<*>) return false\n return setEquals(this, other)\n }\n\n /**\n * Returns the hash code value for this set.\n */\n override fun hashCode(): Int = unorderedHashCode(this)\n\n internal companion object {\n
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 internal fun unorderedHashCode(c: Collection<*>): Int {
 var hashCode = 0
 for (element in c)
 hashCode += (element?.hashCode() ?: 0)
 return hashCode
 }
 internal fun setEquals(c: Set<*>, other: Set<*>): Boolean {
 if (c.size != other.size) return false
 return c.containsAll(other)
 }
 }
}
/**
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 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt
 */
file
package kotlin.collections
/**
 * Resizable-array implementation of the deque data structure.
 * The name deque is short for "double ended queue" and is usually pronounced "deck".
 * The collection provide methods for convenient access to the both ends.
 * It also implements [MutableList] interface and supports efficient get/set operations by index.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public class ArrayDeque<E> : AbstractMutableList<E> {
 private var head: Int = 0
 private var elementData: Array<Any?>

 override var size: Int = 0
 private set

 /**
 * Constructs an empty deque with specified [initialCapacity], or throws [IllegalArgumentException] if [initialCapacity] is negative.
 */
 public constructor(initialCapacity: Int) {
 elementData = when {
 initialCapacity == 0 -> emptyElementData
 initialCapacity > 0 -> arrayOfNulls(initialCapacity)
 else -> throw IllegalArgumentException("Illegal Capacity: $initialCapacity")
 }
 }

 /**
 * Constructs an empty deque.
 */
 public constructor() {
 elementData = emptyElementData
 }

 /**
 * Constructs a deque that contains the same elements as the specified [elements] collection in the same order.
 */
 public constructor(elements: Collection<E>) {
 elementData = elements.toArray()
 size = elementData.size
 if (elementData.isEmpty()) elementData = emptyElementData
 }

 /**
 * Ensures that the capacity of this deque is at least equal to the specified [minCapacity].
 * If the current capacity is less than the [minCapacity], a new backing storage is allocated with greater capacity.
 * Otherwise, this method takes no action and simply returns.
 */
 private fun ensureCapacity(minCapacity: Int) {
 if (minCapacity < 0) throw IllegalStateException("Deque is too big.") // overflow
 if (minCapacity <= elementData.size) return
 if (elementData === emptyElementData) {
 elementData = arrayOfNulls(minCapacity.coerceAtLeast(defaultMinCapacity))
 return
 }
 val newCapacity = newCapacity(elementData.size, minCapacity)
 copyElements(newCapacity)
 }

 /**
 * Creates a new array with the specified [newCapacity] size and copies elements in the [elementData] array to it.
 */
 private fun copyElements(newCapacity: Int) {
 val newElements = arrayOfNulls<Any?>(newCapacity)
 elementData.copyInto(newElements, 0, head, elementData.size)
 elementData.copyInto(newElements, elementData.size - head, 0, head)
 head = 0
 elementData = newElements
 }

 @kotlin.internal.InlineOnly
 private inline fun internalGet(internalIndex: Int): E {
 @Suppress("UNCHECKED_CAST")
 return elementData[internalIndex]
 }

 as E

 private fun positiveMod(index: Int): Int = if (index >= elementData.size) index - elementData.size else index
 private fun negativeMod(index: Int): Int = if (index < 0) index + elementData.size else index
 @kotlin.internal.InlineOnly
 private inline fun internalIndex(index: Int): Int = positiveMod(head + index)
 private fun incremented(index: Int): Int = if (index == elementData.lastIndex) 0 else index + 1
 private fun decremented(index: Int): Int = if (index == 0) elementData.lastIndex else index - 1
 override fun isEmpty(): Boolean = size == 0

 /**
 * Returns the first element, or throws [NoSuchElementException] if this deque is empty.
 */
 public fun first(): E = if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else internalGet(head)

 /**
 * Returns the first element, or `null` if this deque is empty.
 */
 public fun firstOrNull(): E? = if (isEmpty()) null else internalGet(head)

 /**
 * Returns the last element, or throws [NoSuchElementException] if this deque is empty.
 */
 public fun last(): E = if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else internalGet(internalIndex(lastIndex))

 /**
 * Returns the last element, or `null` if this deque is empty.
 */
 public fun lastOrNull(): E? = if (isEmpty()) null else internalGet(internalIndex(lastIndex))
}

```

```

Prepends the specified [element] to this deque.\n */\n public fun addFirst(element: E) {\n
ensureCapacity(size + 1)\n head = decremented(head)\n elementData[head] = element\n size += 1\n
}\n\n /**\n * Appends the specified [element] to this deque.\n */\n public fun addLast(element: E) {\n
ensureCapacity(size + 1)\n elementData[internalIndex(size)] = element\n size += 1\n }\n\n /**\n *
Removes the first element from this deque
and returns that removed element, or throws [NoSuchElementException] if this deque is empty.\n */\n public
fun removeFirst(): E {\n if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n val
element = internalGet(head)\n elementData[head] = null\n head = incremented(head)\n size -= 1\n
return element\n }\n\n /**\n * Removes the first element from this deque and returns that removed element, or
returns `null` if this deque is empty.\n */\n public fun removeFirstOrNull(): E? = if (isEmpty()) null else
removeFirst()\n\n /**\n * Removes the last element from this deque and returns that removed element, or
throws [NoSuchElementException] if this deque is empty.\n */\n public fun removeLast(): E {\n if
(isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n val internalLastIndex =
internalIndex(lastIndex)\n val element = internalGet(internalLastIndex)\n
 elementData[internalLastIndex] = null\n size -= 1\n return element\n }\n\n /**\n * Removes the
last element from this deque and returns that removed element, or returns `null` if this deque is empty.\n */\n
public fun removeLastOrNull(): E? = if (isEmpty()) null else removeLast()\n\n // MutableList,
MutableCollection\n public override fun add(element: E): Boolean {\n addLast(element)\n return true\n
}\n\n public override fun add(index: Int, element: E) {\n AbstractList.checkPositionIndex(index, size)\n
if (index == size) {\n addLast(element)\n return\n } else if (index == 0) {\n
addFirst(element)\n return\n }\n ensureCapacity(size + 1)\n\n // Elements in circular array lay
in 2 ways:\n // 1. `head` is less than `tail`: [#, #, e1, e2, e3, #]\n // 2. `head` is greater than `tail`: [e3,
#, #, #, e1, e2]\n //
 where head is the index of the first element in the circular array,\n // and tail is the index following the last
element.\n //\n // At this point the insertion index is not equal to head or tail.\n // Also the circular array
can store at least one more element.\n //\n // Depending on where the given element must be inserted the
preceding or the succeeding\n // elements will be shifted to make room for the element to be inserted.\n //\n
 // In case the preceding elements are shifted:\n // * if the insertion index is greater than the head (regardless
of circular array form)\n // -> shift the preceding elements\n // * otherwise, the circular array has (2)
form and the insertion index is less than tail\n // -> shift all elements in the back of the array\n // ->
shift preceding elements in the front of the array\n // In case the succeeding elements are shifted:\n //
* if the insertion index is less than the tail (regardless of circular array form)\n // -> shift the succeeding
elements\n // * otherwise, the circular array has (2) form and the insertion index is greater than head\n //
-> shift all elements in the front of the array\n // -> shift succeeding elements in the back of the array\n\n
val internalIndex = internalIndex(index)\n if (index < (size + 1) shr 1) {\n // closer to the first element -
> shift preceding elements\n val decrementedInternalIndex = decremented(internalIndex)\n val
decrementedHead = decremented(head)\n if (decrementedInternalIndex >= head) {\n
 elementData[decrementedHead] = elementData[head] // head can be zero\n
 elementData.copyInto(elementData, head, head + 1, decrementedInternalIndex + 1)\n } else { // head > tail\n
 elementData.copyInto(elementData, head
- 1, head, elementData.size) // head can't be zero\n elementData[elementData.size - 1] = elementData[0]\n
 elementData.copyInto(elementData, 0, 1, decrementedInternalIndex + 1)\n }\n\n
 elementData[decrementedInternalIndex] = element\n head = decrementedHead\n } else {\n
 // closer to the last element -> shift succeeding elements\n val tail = internalIndex(size)\n if
(internalIndex < tail) {\n elementData.copyInto(elementData, internalIndex + 1, internalIndex, tail)\n
 } else { // head > tail\n elementData.copyInto(elementData, 1, 0, tail)\n elementData[0] =
elementData[elementData.size - 1]\n elementData.copyInto(elementData, internalIndex + 1, internalIndex,
elementData.size - 1)\n }\n }\n elementData[internalIndex] = element\n }\n size += 1\n }\n

```



```

private fun copyCollectionElements(internalIndex:
Int, elements: Collection<E>) {\n val iterator = elements.iterator()\n for (index in internalIndex until
elementData.size) {\n if (!iterator.hasNext()) break\n elementData[index] = iterator.next()\n }\n for (index in 0 until head) {\n if (!iterator.hasNext()) break\n elementData[index] = iterator.next()\n }\n size += elements.size\n}\n\n public override fun addAll(elements: Collection<E>): Boolean {\n
if (elements.isEmpty()) return false\n ensureCapacity(this.size + elements.size)\n
copyCollectionElements(internalIndex(size), elements)\n return true\n}\n\n public override fun
addAll(index: Int, elements: Collection<E>): Boolean {\n AbstractList.checkPositionIndex(index, size)\n
if (elements.isEmpty()) {\n return false\n } else if (index == size) {\n return addAll(elements)\n
 }\n\n ensureCapacity(this.size + elements.size)\n val tail = internalIndex(size)\n val internalIndex =
internalIndex(index)\n val elementsSize = elements.size\n if (index < (size + 1) shr 1) {\n // closer
to the first element -> shift preceding elements\n }\n var shiftedHead = head - elementsSize\n if
(internalIndex >= head) {\n if (shiftedHead >= 0) {\n elementData.copyInto(elementData,
shiftedHead, head, internalIndex)\n } else { // head < tail, insertion leads to head >= tail\n
shiftedHead += elementData.size\n val elementsToShift = internalIndex - head\n val
shiftToBack = elementData.size - shiftedHead\n if (shiftToBack >= elementsToShift) {\n
 elementData.copyInto(elementData, shiftedHead, head, internalIndex)\n } else {\n
 elementData.copyInto(elementData,\n shiftedHead, head, head + shiftToBack)\n
 elementData.copyInto(elementData, 0, head +\n shiftToBack, internalIndex)\n }\n } else { // head > tail, internalIndex < tail\n
 elementData.copyInto(elementData, shiftedHead, head, elementData.size)\n if (elementsSize >=
internalIndex) {\n elementData.copyInto(elementData, elementData.size - elementsSize, 0,\n internalIndex)\n } else {\n elementData.copyInto(elementData, elementData.size -
elementsSize, 0, elementsSize)\n elementData.copyInto(elementData, 0, elementsSize, internalIndex)\n
 }\n }\n head = shiftedHead\n copyCollectionElements(negativeMod(internalIndex -
elementsSize), elements)\n } else {\n // closer to the last element -> shift succeeding elements\n }\n
val\n shiftedInternalIndex = internalIndex + elementsSize\n if (internalIndex < tail) {\n if (tail +
elementsSize <= elementData.size) {\n elementData.copyInto(elementData, shiftedInternalIndex,\n internalIndex, tail)\n } else { // head < tail, insertion leads to head >= tail\n if
(shiftedInternalIndex >= elementData.size) {\n elementData.copyInto(elementData,\n shiftedInternalIndex - elementData.size, internalIndex, tail)\n } else {\n val shiftToFront =
tail + elementsSize - elementData.size\n elementData.copyInto(elementData, 0, tail - shiftToFront,\n tail)\n elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail - shiftToFront)\n
 }\n }\n } else { // head > tail, internalIndex > head\n }\n elementData.copyInto(elementData, elementsSize,\n 0, tail)\n if (shiftedInternalIndex >= elementData.size) {\n elementData.copyInto(elementData,\n shiftedInternalIndex - elementData.size, internalIndex, elementData.size)\n } else {\n elementData.copyInto(elementData, 0, elementData.size - elementsSize, elementData.size)\n
 elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, elementData.size - elementsSize)\n
 }\n}\n\n copyCollectionElements(internalIndex, elements)\n}\n\n return true\n}\n\n public
override fun get(index: Int): E {\n AbstractList.checkElementIndex(index, size)\n return
internalGet(internalIndex(index))\n}\n\n public override fun set(index: Int, element: E): E {\n
AbstractList.checkElementIndex(index, size)\n val internalIndex = internalIndex(index)\n val oldElement
= internalGet(internalIndex)\n elementData[internalIndex]\n = element\n return oldElement\n}\n\n public override fun contains(element: E): Boolean =
indexOf(element) != -1\n\n public override fun indexOf(element: E): Int {\n val tail = internalIndex(size)\n

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 if (head < tail) {\n for (index in head until tail) {\n if (element == elementData[index]) return
index - head\n }\n } else if (head >= tail) {\n for (index in head until elementData.size) {\n
if (element == elementData[index]) return index - head\n }\n }\n for (index in 0 until tail) {\n if
(element == elementData[index]) return index + elementData.size - head\n }\n }\n }\n return -1\n
}\n\n public override fun lastIndexOf(element: E): Int {\n val tail = internalIndex(size)\n if (head < tail)
{\n for (index in tail - 1 downTo head) {\n if (element == elementData[index])
return index - head\n }\n } else if (head > tail) {\n for (index in tail - 1 downTo 0) {\n if
(element == elementData[index]) return index + elementData.size - head\n }\n }\n for (index in
elementData.lastIndex downTo head) {\n if (element == elementData[index]) return index - head\n }\n }\n }\n return -1\n
}\n\n public override fun remove(element: E): Boolean {\n val index =
indexOf(element)\n if (index == -1) return false\n removeAt(index)\n return true\n }\n\n public
override fun removeAt(index: Int): E {\n AbstractList.checkNotNull(index, size)\n if (index ==
lastIndex) {\n return removeLast()\n } else if (index == 0) {\n return removeFirst()\n }\n }\n
val internalIndex = internalIndex(index)\n val element = internalGet(internalIndex)\n if (index < size shr
1) {\n
 // closer to the first element -> shift preceding elements\n if (internalIndex >= head) {\n
elementData.copyInto(elementData, head + 1, head, internalIndex)\n } else { // head > tail, internalIndex <
head\n elementData.copyInto(elementData, 1, 0, internalIndex)\n elementData[0] =
elementData[elementData.size - 1]\n elementData.copyInto(elementData, head + 1, head, elementData.size
- 1)\n }\n elementData[head] = null\n head = incremented(head)\n } else {\n //
closer to the last element -> shift succeeding elements\n val internalLastIndex = internalIndex(lastIndex)\n
 if (internalIndex <= internalLastIndex) {\n elementData.copyInto(elementData, internalIndex,
internalIndex + 1, internalLastIndex + 1)\n } else { // head > tail, internalIndex > head\n
 elementData.copyInto(elementData,
 internalIndex, internalIndex + 1, elementData.size)\n elementData[elementData.size - 1] =
elementData[0]\n elementData.copyInto(elementData, 0, 1, internalLastIndex + 1)\n }\n }\n
elementData[internalLastIndex] = null\n }\n size -= 1\n return element\n }\n\n public override fun
removeAll(elements: Collection<E>): Boolean = filterInPlace { !elements.contains(it) }\n\n public override fun
retainAll(elements: Collection<E>): Boolean = filterInPlace { elements.contains(it) }\n\n private inline fun
filterInPlace(predicate: (E) -> Boolean): Boolean {\n if (this.isEmpty() || elementData.isEmpty())\n return
false\n val tail = internalIndex(size)\n var newTail = head\n var modified = false\n if (head <
tail) {\n for (index in head until tail) {\n val element = elementData[index]\n
 }\n }\n @Suppress("UNCHECKED_CAST")\n if (predicate(element as E))\n elementData[newTail++] = element\n else\n
modified = true\n }\n\n elementData.fill(null, newTail, tail)\n }\n } else {\n for (index in head
until elementData.size) {\n val element = elementData[index]\n elementData[index] = null\n
 }\n @Suppress("UNCHECKED_CAST")\n if (predicate(element as E))\n elementData[newTail++] = element\n else\n
modified = true\n }\n }\n newTail =
positiveMod(newTail)\n for (index in 0 until tail) {\n val element = elementData[index]\n
 }\n elementData[index] = null\n @Suppress("UNCHECKED_CAST")\n if (predicate(element as
E)) {\n elementData[newTail] = element\n newTail = incremented(newTail)\n }\n } else {\n modified = true\n }\n }\n }\n }\n if (modified)\n size =
negativeMod(newTail - head)\n }\n return modified\n }\n\n public override fun clear() {\n val tail =
internalIndex(size)\n if (head < tail) {\n elementData.fill(null, head, tail)\n } else if (isEmpty())
{\n elementData.fill(null, head, elementData.size)\n elementData.fill(null, 0, tail)\n }\n head =
0\n size = 0\n }\n }\n @Suppress("NOTHING_TO_OVERRIDE")\n override fun <T> toArray(array:
Array<T>): Array<T> {\n @Suppress("UNCHECKED_CAST")\n val dest = (if (array.size >= size) array
else arrayOfNulls(array, size)) as Array<Any?>\n val tail = internalIndex(size)\n if (head < tail) {\n

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elementData.copyInto(dest, startIndex = head, endIndex = tail)\n } else if (isNotEmpty()) {\n
elementData.copyInto(dest,
 destinationOffset = 0, startIndex = head, endIndex = elementData.size)\n elementData.copyInto(dest,
destinationOffset = elementData.size - head, startIndex = 0, endIndex = tail)\n }\n if (dest.size > size) {\n
 dest[size] = null // null-terminate\n }\n\n @Suppress("UNCHECKED_CAST")\n return dest as
Array<T>\n }\n\n @Suppress("NOTHING_TO_OVERRIDE")\n override fun toArray(): Array<Any?> {\n
 return toArray(arrayOfNulls<Any?>(size))\n }\n\n // for testing\n internal fun <T> testToArray(array:
Array<T>): Array<T> = toArray(array)\n internal fun testToArray(): Array<Any?> = toArray()\n\n internal
companion object {\n private val emptyElementData = emptyArray<Any?>()\n private const val
maxArraySize = Int.MAX_VALUE - 8\n private const val defaultMinCapacity = 10\n\n internal fun
newCapacity(oldCapacity: Int, minCapacity: Int): Int {\n // overflow-conscious\n
 var newCapacity = oldCapacity + (oldCapacity shr 1)\n if (newCapacity - minCapacity < 0)\n
newCapacity = minCapacity\n if (newCapacity - maxArraySize > 0)\n newCapacity = if
(minCapacity > maxArraySize) Int.MAX_VALUE else maxArraySize\n return newCapacity\n }\n
}\n\n // For testing only\n internal fun internalStructure(structure: (head: Int, elements: Array<Any?>) -> Unit)
{\n val tail = internalIndex(size)\n val head = if (isEmpty() || head < tail) head else head -
elementData.size\n structure(head, toArray())\n }\n}", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\n\npackage
kotlin.collections\n\nimport kotlin.contracts.*\n\n\n**\n
* Returns a single list of all elements from all arrays in the given array.\n * @sample
samples.collections.Arrays.Transformations.flattenArray\n\n*\n\npublic fun <T> Array<out Array<out T>>.flatten():
List<T> {\n val result = ArrayList<T>(sumOf { it.size })\n for (element in this) {\n result.addAll(element)\n
 }\n return result\n}\n\n**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each
pair from this array,\n * *second* list is built from the second values of each pair from this array.\n * @sample
samples.collections.Arrays.Transformations.unzipArray\n\n*\n\npublic fun <T, R> Array<out Pair<T, R>>.unzip():
Pair<List<T>, List<R>> {\n val listT = ArrayList<T>(size)\n val listR = ArrayList<R>(size)\n for (pair in
this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n}\n\n**\n * Returns
`true` if this nullable array is either null or empty.\n * @sample
samples.collections.Arrays.Usage.arrayIsNullOrEmpty\n
\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n\npublic inline fun Array<>?.isNullOrEmpty(): Boolean
{\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n\n return this == null ||
this.isEmpty()\n}\n\n**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if
the array is empty.\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n
\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("UPPER_BOUND_CANNOT_BE_ARRAY")\n\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Array<>, C : R =\n if (isEmpty())
defaultValue() else
this\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.Jvm
Name("contentDeepEquals")\n@kotlin.js.JsName("contentDeepEqualsImpl")\n\ninternal fun <T> Array<out
T>?.contentDeepEqualsImpl(other: Array<out T>?): Boolean {\n if (this === other)
return true\n if (this == null || other == null || this.size != other.size) return false\n\n for (i in indices) {\n val
v1 = this[i]\n val v2 = other[i]\n\n if (v1 === v2) {\n continue\n } else if (v1 == null || v2 ==
null) {\n return false\n }\n\n when {\n v1 is Array<*> && v2 is Array<*> -> if
(!v1.contentDeepEquals(v2)) return false\n v1 is ByteArray && v2 is ByteArray -> if
(!v1.contentEquals(v2)) return false\n v1 is ShortArray && v2 is ShortArray -> if (!v1.contentEquals(v2))
return false\n v1 is IntArray && v2 is IntArray -> if (!v1.contentEquals(v2)) return false\n v1 is
LongArray && v2 is LongArray -> if (!v1.contentEquals(v2)) return false\n v1 is FloatArray && v2 is

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FloatArray -> if (!v1.contentEquals(v2)) return false\n v1 is DoubleArray && v2 is DoubleArray -> if
(!v1.contentEquals(v2)) return
false\n v1 is CharArray && v2 is CharArray -> if (!v1.contentEquals(v2)) return false\n v1 is
BooleanArray && v2 is BooleanArray -> if (!v1.contentEquals(v2)) return false\n\n v1 is UByteArray &&
v2 is UByteArray -> if (!v1.contentEquals(v2)) return false\n\n v1 is UShortArray && v2 is UShortArray ->
if (!v1.contentEquals(v2)) return false\n\n v1 is UIntArray && v2 is UIntArray -> if
(!v1.contentEquals(v2)) return false\n\n v1 is ULongArray && v2 is ULongArray -> if
(!v1.contentEquals(v2)) return false\n\n else -> if (v1 != v2) return false\n }\n\n }\n return
true\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepToString")\n@kotlin.js.
JsName("contentDeepToStringImpl")\ninternal fun <T> Array<out T>?.contentDeepToStringImpl(): String {\n
if (this == null) return "null"\n val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in
order not to overflow Int.MAX_VALUE\n return buildString(length) {\n contentDeepToStringInternal(this,
mutableListOf())\n }\n}\n\n@OptIn(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out
T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n if (this in
processed) {\n result.append("[...]")\n return\n }\n processed.add(this)\n result.append("[")\n for (i
in indices) {\n if (i != 0) {\n result.append(", ")\n }\n val element = this[i]\n when
(element) {\n null -> result.append("null")\n is Array<*> ->
element.contentDeepToStringInternal(result, processed)\n is ByteArray ->
result.append(element.contentToString())\n is ShortArray -> result.append(element.contentToString())\n
 is IntArray -> result.append(element.contentToString())\n is LongArray ->
result.append(element.contentToString())\n is FloatArray -> result.append(element.contentToString())\n
 is DoubleArray -> result.append(element.contentToString())\n is CharArray -> result.append(element.contentToString())\n
 is BooleanArray -> result.append(element.contentToString())\n is UByteArray ->
result.append(element.contentToString())\n is UShortArray -> result.append(element.contentToString())\n
 is UIntArray -> result.append(element.contentToString())\n is ULongArray ->
result.append(element.contentToString())\n else -> result.append(element.toString())\n }\n }\n result.append("]")\n processed.removeAt(processed.lastIndex)\n}"/\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *^\n\npackage kotlin.collections\n\n/**
Returns true if the brittle contains optimization is enabled. See KT-45438. */\ninternal expect fun
brittleContainsOptimizationEnabled(): Boolean\n\n/**\n * Returns true if [brittleContainsOptimizationEnabled] is
true\n * and it's safe to convert this collection to a set without changing contains method behavior.\n */\nprivate fun
<T> Collection<T>.safeToConvertToSet() = brittleContainsOptimizationEnabled() && size > 2 && this is
ArrayList\n\n/**\n * When [brittleContainsOptimizationEnabled] is true:\n * - Converts this [Iterable] to a set if it is
not a [Collection].\n * - Converts this [Collection] to a set, when it's worth so and it doesn't change contains method
behavior.\n * - Otherwise returns this.\n * When [brittleContainsOptimizationEnabled] is false:\n * - Converts this
[Iterable] to a list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T>
=\n when (this) {\n is Set -> this\n is Collection -> when {\n source is Collection &&
source.size < 2 -> this\n else -> if (this.safeToConvertToSet()) toHashSet() else this\n }\n }
else -> if (brittleContainsOptimizationEnabled()) toHashSet() else toList()\n}\n\n/**\n * When
[brittleContainsOptimizationEnabled] is true:\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * -
Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * -
Otherwise returns this.\n * When [brittleContainsOptimizationEnabled] is false:\n * - Converts this [Iterable] to a
list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n when (this) {\n is Set -> this\n is
Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n } else -> if

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(brittleContainsOptimizationEnabled())
 toHashSet() else toList()\n }\n\n/**\n * Converts this sequence to a set if [brittleContainsOptimizationEnabled] is
true,\n * otherwise converts it to a list.\n */\ninternal fun <T> Sequence<T>.convertToSetForSetOperation():
Collection<T> =\n if (brittleContainsOptimizationEnabled()) toHashSet() else toList()\n\n/**\n * Converts this
array to a set if [brittleContainsOptimizationEnabled] is true,\n * otherwise converts it to a list.\n */\ninternal fun
<T> Array<T>.convertToSetForSetOperation(): Collection<T> =\n if (brittleContainsOptimizationEnabled())
toHashSet() else asList()"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Data class representing a value from a
collection or sequence, along with its index in that collection or sequence.\n */\n
 * @property value the underlying value.\n * @property index the index of the value in the collection or sequence.\n
/\npublic data class IndexedValue<out T>(public val index: Int, public val value: T)\n"/\n * Copyright 2010-
2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("MapAccessorsKt")\n\npackage kotlin.collections\n\nimport
kotlin.reflect.KProperty\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of the property for the given
object from this read-only map.\n * @param thisRef the object for which the value is requested (not used).\n *
@param property the metadata for the property, used to get the name of property and lookup the value
corresponding to this name in the map.\n * @return the property value.\n */\n * @throws NoSuchElementException
when the map doesn't contain value for the property name
and doesn't provide an implicit default (see [withDefault]).\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun <V, V1 : V> Map<in String, @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n
@Suppress("UNCHECKED_CAST") (getOrImplicitDefault(property.name) as V1)\n\n/**\n * Returns the value
of the property for the given object from this mutable map.\n * @param thisRef the object for which the value is
requested (not used).\n * @param property the metadata for the property, used to get the name of property and
lookup the value corresponding to this name in the map.\n * @return the property value.\n */\n * @throws
NoSuchElementException when the map doesn't contain value for the property name and doesn't provide an implicit
default (see [withDefault]).\n */\n@kotlin.jvm.JvmName("getVar")\n@kotlin.internal.InlineOnly\npublic inline
operator fun <V, V1 : V> MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property:
KProperty<*>): V1 =\n @Suppress("UNCHECKED_CAST")
(getOrImplicitDefault(property.name) as V1)\n\n/**\n * Stores the value of the property for the given object in this
mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the
metadata for the property, used to get the name of property and store the value associated with that name in the
map.\n * @param value the value to set.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>
MutableMap<in String, in V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n
this.put(property.name, value)\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage
kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for
this map.\n * By default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n * To
create a map with implicit default value use [withDefault] method.\n */\n * @throws NoSuchElementException
when the map doesn't contain a value for the specified key and no implicit default was provided for that map.\n
*/\n@kotlin.jvm.JvmName("getOrImplicitDefaultNullable")\n@PublishedApi\ninternal fun <K, V> Map<K,
V>.getOrImplicitDefault(key: K): V {\n if (this is MapWithDefault)\n return
this.getOrImplicitDefault(key)\n return getOrElseNullable(key, { throw NoSuchElementException("Key $key
is missing in the map.") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value
provided with the specified function [defaultValue].\n */\n * This implicit default value is used when the original

```

map doesn't contain a value for the key specified\n \* and a value is obtained with [Map.getValue] function, for example when properties

are delegated to the map.\n \*\n \* When this map already has an implicit default value provided with a former call to [withDefault], it is being replaced by this call.\n \*/\npublic fun <K, V> Map<K, V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n when (this) {\n is MapWithDefault -> this.map.withDefault(defaultValue)\n else -> MapWithDefaultImpl(this, defaultValue)\n }\n/>\n \*\n \* Returns a wrapper of this mutable map, having the implicit default value provided with the specified function [defaultValue].\n \*\n \* This implicit default value is used when the original map doesn't contain a value for the key specified\n \* and a value is obtained with [Map.getValue] function, for example when properties are delegated to the map.\n \*\n \* When this map already has an implicit default value provided with a former call to [withDefault], it is being replaced by this call.\n

```
*\n@kotlin.jvm.JvmName("\nwithDefaultMutable")\npublic fun <K, V> MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n when (this) {\n is MutableMapWithDefault -> this.map.withDefault(defaultValue)\n else -> MutableMapWithDefaultImpl(this, defaultValue)\n }\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n public val map: Map<K, V>\n public fun getOrElse(key: K): V\n}\n\nprivate interface MutableMapWithDefault<K, V> : MutableMap<K, V>, MapWithDefault<K, V> {\n public override val map: MutableMap<K, V>\n}\n\nprivate class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) : MapWithDefault<K, V> {\n override fun equals(other: Any?): Boolean = map.equals(other)\n override fun hashCode(): Int = map.hashCode()\n override fun toString(): String = map.toString()\n override val size: Int get() = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n override fun containsKey(key: K): Boolean = map.containsKey(key)\n override fun containsValue(value: @UnsafeVariance V): Boolean = map.containsValue(value)\n override fun get(key: K): V? = map.get(key)\n override val keys: Set<K> get() = map.keys\n override val values: Collection<V> get() = map.values\n override val entries: Set<Map.Entry<K, V>> get() = map.entries\n}\n\nprivate class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K, V>, private val default: (key: K) -> V) : MutableMapWithDefault<K, V> {\n override fun equals(other: Any?): Boolean = map.equals(other)\n override fun hashCode(): Int = map.hashCode()\n override fun toString(): String = map.toString()\n override val size: Int get() = map.size\n override fun isEmpty(): Boolean = map.isEmpty()\n override fun containsKey(key: K): Boolean = map.containsKey(key)\n override fun containsValue(value: @UnsafeVariance V): Boolean = map.containsValue(value)\n
```

```
 override fun get(key: K): V? = map.get(key)\n override val keys: MutableSet<K> get() = map.keys\n override val values: MutableCollection<V> get() = map.values\n override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n}\n\noverride fun put(key: K, value: V): V? = map.put(key, value)\n override fun remove(key: K): V? = map.remove(key)\n override fun putAll(from: Map<out K, V>) = map.putAll(from)\n override fun clear() = map.clear()\n}\n\nprivate fun getOrElse(key: K): V = map.getOrElse(key, { default(key) })\n\n"/\n *\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
```

```
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage kotlin.collections\n\nimport kotlin.random.Random\n\n/>\n *\n * Removes a single instance of the specified element from this\n * collection, if it is present.\n *\n * Allows to overcome type-safety restriction of `remove` that requires to pass an element of type `E`.\n *\n * @return `true` if the element has been successfully removed; `false` if it was not present in the collection.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.remove(element: T): Boolean =\n @Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).remove(element)\n/>\n *\n * Removes all of this collection's elements that are also contained in the specified collection.\n *\n * Allows to overcome type-safety
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restriction of `removeAll` that requires to pass a collection of type `Collection<E>`. \n \* \n \* @return `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified. \n

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* \n @kotlin.internal.InlineOnly \n public inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements:
Collection<T>): Boolean = \n @Suppress(\\"UNCHECKED_CAST\\") (this as
MutableCollection<T>).removeAll(elements) \n \n /** \n * Retains only the elements in this collection that are
contained in the specified collection. \n * \n * Allows to overcome type-safety restriction of `retainAll` that requires
to pass a collection of type `Collection<E>`. \n * \n * @return `true` if any element was removed from the collection,
`false` if the collection was not modified. \n * \n @kotlin.internal.InlineOnly \n public inline fun
<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.retainAll(elements: Collection<T>): Boolean = \n
@Suppress(\\"UNCHECKED_CAST\\") (this as MutableCollection<T>).retainAll(elements) \n \n /** \n * Adds the
specified [element] to this mutable collection. \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <T>
MutableCollection<in T>.plusAssign(element: T) { \n this.add(element) \n } \n \n /** \n * Adds all elements of the
given [elements] collection to this mutable collection. \n
* \n @kotlin.internal.InlineOnly \n public inline operator fun <T> MutableCollection<in T>.plusAssign(elements:
Iterable<T>) { \n this.addAll(elements) \n } \n \n /** \n * Adds all elements of the given [elements] array to this
mutable collection. \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <T> MutableCollection<in
T>.plusAssign(elements: Array<T>) { \n this.addAll(elements) \n } \n \n /** \n * Adds all elements of the given
[elements] sequence to this mutable collection. \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <T>
MutableCollection<in T>.plusAssign(elements: Sequence<T>) { \n this.addAll(elements) \n } \n \n /** \n * Removes a
single instance of the specified [element] from this mutable collection. \n * \n @kotlin.internal.InlineOnly \n public
inline operator fun <T> MutableCollection<in T>.minusAssign(element: T) { \n this.remove(element) \n } \n \n /** \n
* Removes all elements contained in the given [elements] collection from this mutable collection. \n
* \n @kotlin.internal.InlineOnly \n public
inline operator fun <T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) { \n
 this.removeAll(elements) \n } \n \n /** \n * Removes all elements contained in the given [elements] array from this
mutable collection. \n * \n @kotlin.internal.InlineOnly \n public inline operator fun <T> MutableCollection<in
T>.minusAssign(elements: Array<T>) { \n this.removeAll(elements) \n } \n \n /** \n * Removes all elements
contained in the given [elements] sequence from this mutable collection. \n * \n @kotlin.internal.InlineOnly \n public
inline operator fun <T> MutableCollection<in T>.minusAssign(elements: Sequence<T>) { \n
 this.removeAll(elements) \n } \n \n /** \n * Adds all elements of the given [elements] collection to this
[MutableCollection]. \n * \n public fun <T> MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean { \n
 when (elements) { \n is Collection -> return addAll(elements) \n else -> { \n var result: Boolean =
false \n for (item in elements) \n if (add(item)) result = true \n return result \n } \n } \n } \n \n /** \n * Adds all elements of the given [elements] sequence to this [MutableCollection]. \n
* \n public fun <T>
MutableCollection<in T>.addAll(elements: Sequence<T>): Boolean { \n var result: Boolean = false \n for (item
in elements) { \n if (add(item)) result = true \n } \n return result \n } \n \n /** \n * Adds all elements of the given
[elements] array to this [MutableCollection]. \n * \n public fun <T> MutableCollection<in T>.addAll(elements:
Array<out T>): Boolean { \n return addAll(elements.asList()) \n } \n \n /** \n * Removes all elements from this
[MutableCollection] that are also contained in the given [elements] collection. \n * \n public fun <T>
MutableCollection<in T>.removeAll(elements: Iterable<T>): Boolean { \n return
removeAll(elements.convertToSetForSetOperationWith(this)) \n } \n \n /** \n * Removes all elements from this
[MutableCollection] that are
also contained in the given [elements] sequence. \n * \n public fun <T> MutableCollection<in
T>.removeAll(elements: Sequence<T>): Boolean { \n val set = elements.convertToSetForSetOperation() \n return
set.isNotEmpty() && removeAll(set) \n } \n \n /** \n * Removes all elements from this [MutableCollection] that are
also contained in the given [elements] array. \n * \n public fun <T> MutableCollection<in T>.removeAll(elements:

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Array<out T>): Boolean { \n return elements.isNotEmpty() &&
removeAll(elements.convertToSetForSetOperation())\n}\n\n/**\n * Retains only elements of this
[MutableCollection] that are contained in the given [elements] collection.\n */\npublic fun <T>
MutableCollection<in T>.retainAll(elements: Iterable<T>): Boolean { \n return
retainAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Retains only elements of this
[MutableCollection] that are contained in the given [elements] array.\n */\npublic fun <T> MutableCollection<in
T>.retainAll(elements: Array<out
T>): Boolean { \n if (elements.isNotEmpty())\n return retainAll(elements.convertToSetForSetOperation())\n
else\n return retainNothing()\n}\n\n/**\n * Retains only elements of this [MutableCollection] that are contained
in the given [elements] sequence.\n */\npublic fun <T> MutableCollection<in T>.retainAll(elements:
Sequence<T>): Boolean { \n val set = elements.convertToSetForSetOperation()\n if (set.isNotEmpty())\n
return retainAll(set)\n else\n return retainNothing()\n}\n\nprivate fun MutableCollection<*>.retainNothing():
Boolean { \n val result = isEmpty()\n clear()\n return result\n}\n\n/**\n * Removes all elements from this
[MutableIterable] that match the given [predicate].\n */\n * @return `true` if any element was removed from this
collection, or `false` when no elements were removed and collection was not modified.\n */\npublic fun <T>
MutableIterable<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate,
true)\n\n/**\n * Retains only elements of this [MutableIterable] that match the given [predicate].\n */\n * @return
`true` if any element was removed from this collection, or `false` when all elements were retained and collection was
not modified.\n */\npublic fun <T> MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, false)\n\nprivate fun <T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean,
predicateResultToRemove: Boolean): Boolean { \n var result = false\n with(iterator()) { \n while
(hasNext())\n if (predicate(next()) == predicateResultToRemove) { \n remove()\n result =
true\n } \n } \n return result\n}\n\n/**\n * Removes the element at the specified [index] from this list.\n */
In Kotlin one should use the [MutableList.removeAt] function instead.\n */\n@Deprecated("Use removeAt(index)
instead.", ReplaceWith("removeAt(index)"), level =
DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> MutableList<T>.remove(index: Int): T = removeAt(index)\n\n/**\n * Removes the first element
from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n */
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T>
MutableList<T>.removeFirst(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else
removeAt(0)\n\n/**\n * Removes the first element from this mutable list and returns that removed element, or
returns `null` if this list is empty.\n */
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T>
MutableList<T>.removeFirstOrNull(): T? = if (isEmpty()) null else removeAt(0)\n\n/**\n * Removes the last
element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is
empty.\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
fun <T> MutableList<T>.removeLast(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else
removeAt(lastIndex)\n\n/**\n * Removes the last element from this mutable list and returns that removed element,
or returns `null` if this list is empty.\n */
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T>
MutableList<T>.removeLastOrNull(): T? = if (isEmpty()) null else removeAt(lastIndex)\n\n/**\n * Removes all
elements from this [MutableList] that match the given [predicate].\n */\n * @return `true` if any element was
removed from this collection, or `false` when no elements were removed and collection was not modified.\n */
*\npublic fun <T> MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate,
true)\n\n/**\n * Retains only elements of this [MutableList] that match the given [predicate].\n */\n * @return `true`
if any element was removed from this collection, or `false` when all elements were retained
and collection was not modified.\n */\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean):
Boolean = filterInPlace(predicate, false)\n\nprivate fun <T> MutableList<T>.filterInPlace(predicate: (T) ->

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Boolean, predicateResultToRemove: Boolean): Boolean {\n if (this !is RandomAccess)\n return (this as\nMutableIterable<T>).filterInPlace(predicate, predicateResultToRemove)\n\n var writeIndex: Int = 0\n for\n(readIndex in 0..lastIndex) {\n val element = this[readIndex]\n if (predicate(element) ==\npredicateResultToRemove)\n continue\n\n if (writeIndex != readIndex)\n this[writeIndex] =\nelement\n\n writeIndex++\n }\n if (writeIndex < size) {\n for (removeIndex in lastIndex downTo\nwriteIndex)\n removeAt(removeIndex)\n\n return true\n } else {\n return false\n }\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of\n this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage\nkotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) :\nAbstractList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =\ndelegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) :\nAbstractMutableList<T>() {\n override val size: Int get() = delegate.size\n override fun get(index: Int): T =\ndelegate[reverseElementIndex(index)]\n override fun clear() = delegate.clear()\n override fun removeAt(index:\nInt): T = delegate.removeAt(reverseElementIndex(index))\n override fun set(index: Int, element: T): T =\ndelegate.set(reverseElementIndex(index), element)\n override fun add(index: Int, element: T) {\n delegate.add(reversePositionIndex(index),\nelement)\n }\n}\n\nprivate fun List<*>.reverseElementIndex(index: Int) =\n if (index in 0..lastIndex) lastIndex -\n index else throw IndexOutOfBoundsException("Element index $index must be in range\n[${0..lastIndex}].")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n if (index in 0..size) size - index\n else throw IndexOutOfBoundsException("Position index $index must be in range [${0..size}].")\n\n"/*\n * Returns a reversed read-only view of the original List.\n * All changes made in the original list will be reflected in\nthe reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n */\n\npublic fun <T>\nList<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n\n"/*\n * Returns a reversed mutable view of the\noriginal mutable List.\n * All changes made in the original list will be reflected in the reversed one and vice versa.\n */\n * @sample samples.collections.ReversedViews.asReversedMutableList\n\n@file:kotlin.jvm.JvmName("asReversedMutable")\n\npublic\nfun <T> MutableList<T>.asReversed(): MutableList<T> = ReversedList(this)\n\n"/*\n * Copyright 2010-2018\nJetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the\nApache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n@file:OptIn(Experimental\nITypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport\nkotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n"/*\n * Builds a\n[Sequence] lazily yielding values one by one.\n */\n * @see kotlin.sequences.generateSequence\n */\n * @sample\nsamples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample\nsamples.collections.Sequences.Building.buildFibonacciSequence\n\n@file:SinceKotlin("1.3")\n\npublic fun <T>\nsequence(@BuilderInference block: suspend SequenceScope<T>().-> Unit): Sequence<T> = Sequence {\n iterator(block)\n}\n\n"/*\n * Builds an [Iterator] lazily yielding values one by one.\n */\n * @sample\nsamples.collections.Sequences.Building.buildIterator\n * @sample samples.collections.Iterables.Building.iterable\n\n@file:SinceKotlin("1.3")\n\npublic fun <T> iterator(@BuilderInference block: suspend SequenceScope<T>().->\nUnit): Iterator<T> {\n val iterator = SequenceBuilderIterator<T>()\n iterator.nextStep =\nblock.createCoroutineUnintercepted(receiver = iterator, completion = iterator)\n return iterator\n}\n\n"/*\n * The\nscope for yielding values of a [Sequence] or an [Iterator], provides [yield] and [yieldAll] suspension functions.\n */\n * @see sequence\n * @see iterator\n */\n * @sample\nsamples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample\nsamples.collections.Sequences.Building.buildFibonacciSequence\n\n@file:RestrictsSuspension\n@file:SinceKotlin("1.3")\n\npublic abstract class SequenceScope<in T> internal

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constructor() {\n /**\n * Yields a value to the [Iterator]
being built and suspends\n * until the next value is requested.\n *\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n */\n public abstract suspend fun yield(value:
T)\n\n /**\n * Yields all values from the `iterator` to the [Iterator] being built\n * and suspends until all these
values are iterated and the next one is requested.\n *\n * The sequence of values returned by the given iterator
can be potentially infinite.\n *\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n
*/\n public abstract suspend fun yieldAll(iterator: Iterator<T>)\n\n /**\n * Yields a collections of values to
the [Iterator] being built\n * and suspends until all these values are iterated and the next one is requested.\n *\n
 * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n */\n public
suspend fun yieldAll(elements: Iterable<T>) {\n if (elements is Collection && elements.isEmpty()) return\n
return yieldAll(elements.iterator())\n }\n\n /**\n * Yields potentially infinite sequence of values to the
[Iterator] being built\n * and suspends until all these values are iterated and the next one is requested.\n *\n
 * The sequence can be potentially infinite.\n *\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n */\n public suspend fun yieldAll(sequence:
Sequence<T>) = yieldAll(sequence.iterator())\n}\n\nprivate typealias State = Int\nprivate const val
State_NotReady: State = 0\nprivate const val State_ManyNotReady: State = 1\nprivate const val State_ManyReady:
State = 2\nprivate const val State_Ready: State = 3\nprivate const val State_Done: State = 4\nprivate const val
State_Failed: State = 5\nprivate class SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>,
Continuation<Unit> {\n
 private var state = State_NotReady\n private var nextValue: T? = null\n private var nextIterator: Iterator<T>?
= null\n private var nextStep: Continuation<Unit>? = null\n\n override fun hasNext(): Boolean {\n while (true) {\n
 when (state) {\n State_NotReady -> {}\n State_ManyNotReady ->\n if
(nextIterator!!.hasNext()) {\n state = State_ManyReady\n return true\n }
 }\n else {\n nextIterator = null\n State_Done -> return false\n State_Ready, State_ManyReady -> return true\n else -> throw exceptionalState()\n }\n state
= State_Failed\n val step = nextStep!!\n nextStep = null\n step.resume(Unit)\n }\n }\n\n override fun next(): T {\n when (state) {\n State_NotReady, State_ManyNotReady
-> return nextNotReady()\n State_ManyReady -> {\n state = State_ManyNotReady\n return nextIterator!!.next()\n }\n State_Ready -> {\n state = State_NotReady\n @Suppress("UNCHECKED_CAST")\n val result = nextValue as T\n nextValue = null\n return result\n }\n else -> throw exceptionalState()\n }\n }\n\n private fun
nextNotReady(): T {\n if (!hasNext()) throw NoSuchElementException() else return next()\n }\n\n private fun
exceptionalState(): Throwable = when (state) {\n State_Done -> NoSuchElementException()\n State_Failed
-> IllegalStateException("Iterator has failed.")\n else -> IllegalStateException("Unexpected state of the
iterator: $state")\n }\n\n override suspend fun yield(value: T) {\n nextValue = value\n state =
State_Ready\n return suspendCoroutineUninterceptedOrReturn
 {\n c ->\n nextStep = c\n COROUTINE_SUSPENDED\n }\n }\n\n override suspend fun
yieldAll(iterator: Iterator<T>) {\n if (!iterator.hasNext()) return\n nextIterator = iterator\n state =
State_ManyReady\n return suspendCoroutineUninterceptedOrReturn {\n c ->\n nextStep = c\n COROUTINE_SUSPENDED\n }\n }\n\n // Completion continuation implementation\n override fun
resumeWith(result: Result<Unit>) {\n result.getOrNull() // just rethrow exception if it is there\n state =
State_Done\n }\n\n override val context: CoroutineContext\n get() = EmptyCoroutineContext\n }\n }\n\n /**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n package
kotlin.collections\n\n internal fun checkWindowSizeStep(size:
Int, step: Int) {\n require(size > 0 && step > 0) {\n if (size != step)\n "Both size $size and step $step
must be greater than zero."
 else\n "size $size must be greater than zero."
 }\n }\n\n internal fun <T>

```

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Sequence<T>.windowedSequence(size: Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean):
Sequence<List<T>> {\n checkWindowSizeStep(size, step)\n return Sequence { windowedIterator(iterator(),
size, step, partialWindows, reuseBuffer) }\n}\n\ninternal fun <T> windowedIterator(iterator: Iterator<T>, size: Int,
step: Int, partialWindows: Boolean, reuseBuffer: Boolean): Iterator<List<T>> {\n if (!iterator.hasNext()) return
EmptyIterator\n return iterator<List<T>> {\n val bufferInitialCapacity = size.coerceAtMost(1024)\n val
gap = step - size\n if (gap >= 0) {\n var buffer = ArrayList<T>(bufferInitialCapacity)\n var skip =
0\n for (e in iterator) {\n if (skip > 0) { skip -= 1; continue }\n buffer.add(e)\n if (buffer.size == size) {\n yield(buffer)\n if (reuseBuffer) buffer.clear() else buffer = ArrayList(size)\n skip = gap\n }\n }\n if (buffer.isNotEmpty()) {\n if (partialWindows || buffer.size == size)\n yield(buffer)\n } else {\n var buffer = RingBuffer<T>(bufferInitialCapacity)\n for (e in
iterator) {\n buffer.add(e)\n if (buffer.isFull()) {\n if (buffer.size < size) { buffer =
buffer.expanded(maxCapacity = size); continue }\n yield(if (reuseBuffer) buffer else
ArrayList(buffer))\n buffer.removeFirst(step)\n }\n if (partialWindows) {\n while (buffer.size > step) {\n yield(if (reuseBuffer)
buffer else ArrayList(buffer))\n buffer.removeFirst(step)\n }\n if
(buffer.isNotEmpty()) yield(buffer)\n }\n }\n }\n }\n }\n}\n\ninternal class MovingSubList<out E>(private val
list: List<E>) : AbstractList<E>(), RandomAccess {\n private var fromIndex: Int = 0\n private var _size: Int =
0\n fun move(fromIndex: Int, toIndex: Int) {\n checkRangeIndexes(fromIndex, toIndex, list.size)\n this.fromIndex = fromIndex\n this._size = toIndex - fromIndex\n }\n override fun get(index: Int): E {\n checkElementIndex(index, _size)\n return list[fromIndex + index]\n }\n override val size: Int get() =
_size\n}\n\n/**\n * Provides ring buffer implementation.\n * Buffer overflow is not allowed so [add] doesn't
overwrite tail but raises an exception.\n */\nprivate class RingBuffer<T>(private val buffer: Array<Any?>,
filledSize: Int) : AbstractList<T>(), RandomAccess {\n init {\n require(filledSize >= 0) { "\"ring buffer filled size should not be negative but it is $filledSize\"" }\n require(filledSize <= buffer.size) { "\"ring buffer filled size: $filledSize cannot be larger than the buffer size:
${buffer.size}\" }\n }\n constructor(capacity: Int) : this(arrayOfNulls<Any?>(capacity), 0)\n private val
capacity = buffer.size\n private var startIndex: Int = 0\n override var size: Int = filledSize\n private set\n override fun get(index: Int): T {\n checkElementIndex(index, size)\n @Suppress(\"UNCHECKED_CAST\")\n return buffer[startIndex.forward(index)] as T\n }\n fun isFull() =
size == capacity\n override fun iterator(): Iterator<T> = object : AbstractIterator<T>() {\n private var count
= size\n private var index = startIndex\n override fun computeNext() {\n if (count == 0) {\n done()\n } else {\n @Suppress(\"UNCHECKED_CAST\")\n setNext(buffer[index] as T)\n index = index.forward(1)\n count--\n }\n }\n }\n @Suppress(\"UNCHECKED_CAST\")\n override fun <T> toArray(array: Array<T>): Array<T> {\n val result: Array<T?> =\n if (array.size < this.size) array.copyOf(this.size) else array as Array<T?>\n val size = this.size\n var widx = 0\n var idx = startIndex\n while (widx < size && idx < capacity)\n {\n result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n idx = 0\n while
(widx < size) {\n result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n if (result.size
> this.size) result[this.size] = null\n return result as Array<T>\n }\n override fun toArray():
Array<Any?> {\n return toArray(arrayOfNulls(size))\n }\n /**\n * Creates a new
ring buffer with the capacity equal to the minimum of [maxCapacity] and 1.5 * [capacity].\n * The returned ring
buffer contains the same elements as this ring buffer.\n */\n fun expanded(maxCapacity: Int): RingBuffer<T>
{\n val newCapacity = (capacity + (capacity shr 1) + 1).coerceAtMost(maxCapacity)\n val newBuffer = if
(startIndex == 0) buffer.copyOf(newCapacity) else toArray(arrayOfNulls(newCapacity))\n return
RingBuffer(newBuffer, size)\n }\n /**\n * Add [element] to the buffer or fail with [IllegalStateException] if
no free space available in the buffer\n */\n fun add(element: T) {\n if (isFull()) {\n throw
IllegalStateException(\"ring buffer is full\")\n }\n buffer[startIndex.forward(size)] = element\n }\n}

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size++\n } \n\n /**\n * Removes [n] first elements from the buffer or fails with [IllegalArgumentException] if
not enough elements in the buffer to remove\n */\n fun removeFirst(n:
Int) {\n require(n >= 0) { \"n shouldn't be negative but it is $n\" }\n require(n <= size) { \"n shouldn't be
greater than the buffer size: n = $n, size = $size\" }\n if (n > 0) {\n val start = startIndex\n val
end = start.forward(n)\n if (start > end) {\n buffer.fill(null, start, capacity)\n
buffer.fill(null, 0, end)\n } else {\n buffer.fill(null, start, end)\n }\n startIndex =
end\n size -= n\n }\n }\n\n @Suppress(\"NOTHING_TO_INLINE\")\n private inline fun
Int.forward(n: Int): Int = (this + n) % capacity\n\n\"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n// UByteArray
===== \n @Exp
erimentalUnsignedTypes\nprivate
fun partition(\n array: UByteArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot =
array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] >
pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n
i++\n j--\n }\n }\n return i\n}\n\n @ExperimentalUnsignedTypes\nprivate fun quickSort(\n
array: UByteArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n// UShortArray
===== \n @Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UShortArray, left: Int,
right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n
while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp =
array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return
i\n}\n\n @ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: UShortArray, left: Int, right: Int) {\n val
index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index <
right)\n quickSort(array, index, right)\n}\n\n// UIntArray
===== \n @Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: UIntArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n
array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n @ExperimentalUnsignedTypes\nprivate fun quickSort(\n
array: UIntArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index <
right)\n quickSort(array, index, right)\n}\n\n// ULongArray
===== \n @Exp
erimentalUnsignedTypes\nprivate fun partition(\n array: ULongArray, left: Int, right: Int): Int {\n var i = left\n
var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n
while (array[j] > pivot)\n j--\n if (i
<= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n
 }\n }\n return i\n}\n\n @ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: ULongArray, left: Int,
right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n
if (index < right)\n quickSort(array, index, right)\n}\n\n// Interfaces
===== \n /**\n * Sorts the given array using qsort algorithm.\n */\n\n @ExperimentalUnsignedTypes\ninternal fun sortArray(array:
UByteArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex -
1)\n\n @ExperimentalUnsignedTypes\ninternal fun sortArray(array: UShortArray, fromIndex: Int, toIndex: Int) =
quickSort(array, fromIndex, toIndex - 1)\n\n @ExperimentalUnsignedTypes\ninternal fun sortArray(array: UIntArray,
fromIndex: Int, toIndex:

```

```

Int) = quickSort(array, fromIndex, toIndex - 1)\n
@ExperimentalUnsignedTypes\n
internal fun sortArray(array:
ULongArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex - 1)", "/*\n
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2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n
package kotlin\n
import
kotlin.internal.InlineOnly\n
/**\n
* Compares this object with the specified object for order. Returns zero if this
object is equal\n
* to the specified [other] object, a negative number if it's less than [other], or a positive number\n
* if it's greater than [other].\n
*/\n
* This function delegates to [Comparable.compareTo] and allows to call it in infix
form.\n
*/\n
@InlineOnly\n
@SinceKotlin("1.6")\n
public inline infix fun <T> Comparable<T>.compareTo(other:
T): Int =\n
 this.compareTo(other)\n
", "/*\n
* Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
*/\n
package kotlin.contracts\n
import
kotlin.internal.ContractsDsl\n
import kotlin.internal.InlineOnly\n
/**\n
* This marker distinguishes the
experimental contract declaration API and is used to opt-in for that feature\n
* when declaring contracts of user
functions.\n
*/\n
* Any usage of a declaration annotated with `@ExperimentalContracts` must be accepted either
by\n
* annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalContracts::class)`,\n
* or by
using the compiler argument `-opt-in=kotlin.contracts.ExperimentalContracts`.\n
*/\n
@Retention(AnnotationRetention.BINARY)\n
@SinceKotlin("1.3")\n
@RequiresOptIn\n
@MustBeDocumente
d\n
public annotation class ExperimentalContracts\n
/**\n
* Provides a scope, where the functions of the contract
DSL, such as [returns], [callsInPlace], etc.,\n
* can be used to
describe the contract of a function.\n
*/\n
* This type is used as a receiver type of the lambda function passed to the
[contract] function.\n
*/\n
* @see contract\n
*/\n
@ContractsDsl\n
@ExperimentalContracts\n
@SinceKotlin("1.3")\n
public interface ContractBuilder {\n
 /**\n
 * Describes a situation when a function returns normally, without any exceptions thrown.\n
 */\n
 * Use
[SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n
 */\n
 *//
@sample samples.contracts.returnsContract\n
 @ContractsDsl public fun returns(): Returns\n
 /**\n
 *
Describes a situation when a function returns normally with the specified return [value].\n
 */\n
 * The possible
values of [value] are limited to `true`, `false` or `null`.\n
 */\n
 * Use [SimpleEffect.implies] function to describe a
conditional effect that happens in such case.\n
 */\n
 *// @sample samples.contracts.returnsTrueContract\n
 // @sample samples.contracts.returnsFalseContract\n
 // @sample samples.contracts.returnsNullContract\n
 @ContractsDsl public fun returns(value: Any?):
Returns\n
 /**\n
 * Describes a situation when a function returns normally with any value that is not `null`.\n
 */\n
 * Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n
 */\n
 *//
@sample samples.contracts.returnsNotNullContract\n
 @ContractsDsl public fun returnsNotNull():
ReturnsNotNull\n
 /**\n
 * Specifies that the function parameter [lambda] is invoked in place.\n
 */\n
 * This
contract specifies that:\n
 * 1. the function [lambda] can only be invoked during the call of the owner function,\n
 * and it won't be invoked after that owner function call is completed;\n
 * 2. _(optionally)_ the function [lambda]
is invoked the amount of times specified by the [kind] parameter,\n
 * see the [InvocationKind] enum for possible
values.\n
 */\n
 *
A function declaring the `callsInPlace` effect must be _inline_.\n
 */\n
 *// @sample
samples.contracts.callsInPlaceAtMostOnceContract\n
 * @sample
samples.contracts.callsInPlaceAtLeastOnceContract\n
 * @sample
samples.contracts.callsInPlaceExactlyOnceContract\n
 * @sample
samples.contracts.callsInPlaceUnknownContract\n
 */\n
 @ContractsDsl public fun <R> callsInPlace(lambda:
Function<R>, kind: InvocationKind = InvocationKind.UNKNOWN): CallsInPlace\n
 /**\n
 * Specifies how
many times a function invokes its function parameter in place.\n
 */\n
 * See [ContractBuilder.callsInPlace] for the
details of the call-in-place function contract.\n
 */\n
 *// @ContractsDsl\n
 @ExperimentalContracts\n
 @SinceKotlin("1.3")\n
 public enum class InvocationKind {\n
 /**\n
 * A function parameter will be invoked one time or not invoked at all.\n
 */\n
 *// @sample

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samples.contracts.callsInPlaceAtMostOnceContract\n @ContractsDsl AT_MOST_ONCE,\n\n /**\n * A
function parameter
will be invoked one or more times.\n *\n */\n // @sample
samples.contracts.callsInPlaceAtLeastOnceContract\n @ContractsDsl AT_LEAST_ONCE,\n\n /**\n * A
function parameter will be invoked exactly one time.\n *\n */\n // @sample
samples.contracts.callsInPlaceExactlyOnceContract\n @ContractsDsl EXACTLY_ONCE,\n\n /**\n * A
function parameter is called in place, but it's unknown how many times it can be called.\n *\n */\n // @sample
samples.contracts.callsInPlaceUnknownContract\n @ContractsDsl UNKNOWN\n}\n\n/**\n * Specifies the
contract of a function.\n * The contract description must be at the beginning of a function and have at least one
effect.\n * Only the top-level functions can have a contract for now.\n * @param builder the lambda where
the contract of a function is described with the help of the [ContractBuilder] members.\n * \n */\n @sample
samples.contracts.returnsContract\n * @sample samples.contracts.returnsTrueContract\n *
@sample samples.contracts.returnsFalseContract\n * @sample samples.contracts.returnsNullContract\n * @sample
samples.contracts.returnsNotNullContract\n * @sample samples.contracts.callsInPlaceAtMostOnceContract\n *
@sample samples.contracts.callsInPlaceAtLeastOnceContract\n * @sample
samples.contracts.callsInPlaceExactlyOnceContract\n * @sample
samples.contracts.callsInPlaceUnknownContract\n */\n\n@ContractsDsl\n@ExperimentalContracts\n@InlineOnly\n@
SinceKotlin("1.3")\n@Suppress("UNUSED_PARAMETER")\npublic inline fun contract(builder:
ContractBuilder.() -> Unit) { }\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n\npackage kotlin.coroutines\n\n/**\n * Marks coroutine context element that
intercepts coroutine continuations.\n * The coroutines framework uses [ContinuationInterceptor.Key] to retrieve the
interceptor
and\n * intercepts all coroutine continuations with [interceptContinuation] invocations.\n * \n */
[ContinuationInterceptor] behaves like a [polymorphic element][AbstractCoroutineContextKey], meaning that\n *
its implementation delegates [get][CoroutineContext.Element.get] and
[minusKey][CoroutineContext.Element.minusKey]\n * to [getPolymorphicElement] and [minusPolymorphicKey]
respectively.\n * [ContinuationInterceptor] subtypes can be extracted from the coroutine context using either
[ContinuationInterceptor.Key]\n * or subtype key if it extends [AbstractCoroutineContextKey].\n
*\n\n@SinceKotlin("1.3")\npublic interface ContinuationInterceptor : CoroutineContext.Element {\n /**\n *
The key that defines *the* context interceptor.\n * \n */\n companion object Key :
CoroutineContext.Key<ContinuationInterceptor>\n\n /**\n * Returns continuation that wraps the original
[continuation], thus intercepting all resumptions.\n * This function is invoked by coroutines framework
when needed and the resulting continuations are\n * cached internally per each instance of the original
[continuation].\n * \n * This function may simply return original [continuation] if it does not want to intercept
this particular continuation.\n * \n * When the original [continuation] completes, coroutine framework invokes
[releaseInterceptedContinuation]\n * with the resulting continuation if it was intercepted, that is if
`interceptContinuation` had previously\n * returned a different continuation instance.\n * \n */\n public fun <T>
interceptContinuation(continuation: Continuation<T>): Continuation<T>\n\n /**\n * Invoked for the
continuation instance returned by [interceptContinuation] when the original\n * continuation completes and will
not be used anymore. This function is invoked only if [interceptContinuation]\n * had returned a different
continuation instance from the one it was invoked with.\n * \n * Default implementation
does nothing.\n * \n * @param continuation Continuation instance returned by this interceptor's
[interceptContinuation] invocation.\n * \n */\n public fun releaseInterceptedContinuation(continuation:
Continuation<*>) {\n /* do nothing by default *\n }\n\n public override operator fun <E :
CoroutineContext.Element> get(key: CoroutineContext.Key<E>): E? {\n // getPolymorphicKey specialized for
ContinuationInterceptor key\n @OptIn(ExperimentalStdlibApi::class)\n if (key is
AbstractCoroutineContextKey<*, *>) {\n @Suppress("UNCHECKED_CAST")\n return if

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(key.isSubKey(this.key)) key.tryCast(this) as? E else null\n }\n @Suppress("\UNCHECKED_CAST")\n return if (ContinuationInterceptor === key) this as E else null\n }\n\n public override fun minusKey(key:
CoroutineContext.Key<*>): CoroutineContext {\n // minusPolymorphicKey specialized for
ContinuationInterceptor key\n @OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key) &&
key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if (ContinuationInterceptor ===
key) EmptyCoroutineContext else this\n }\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n *\npackage kotlin.coroutines\n\n/*\n * Persistent context for the
coroutine. It is an indexed set of [Element] instances.\n * An indexed set is a mix between a set and a map.\n *
Every element in this set has a unique [Key].\n *\n *\n@SinceKotlin("1.3")\npublic interface CoroutineContext {\n
/*\n * Returns the element with the given [key] from this context or `null`. \n * \n *\n public operator fun <E :
Element> get(key: Key<E>): E?\n\n /*\n * Accumulates entries
of this context starting with [initial] value and applying [operation]\n * from left to right to current accumulator
value and each element of this context.\n * \n *\n public fun <R> fold(initial: R, operation: (R, Element) -> R):
R\n\n /*\n * Returns a context containing elements from this context and elements from other [context]. \n *
The elements from this context with the same key as in the other one are dropped.\n * \n *\n public operator fun
plus(context: CoroutineContext): CoroutineContext =\n if (context === EmptyCoroutineContext) this else // fast
path -- avoid lambda creation\n context.fold(this) { acc, element ->\n val removed =
acc.minusKey(element.key)\n if (removed === EmptyCoroutineContext) element else {\n //
make sure interceptor is always last in the context (and thus is fast to get when present)\n val interceptor
= removed[ContinuationInterceptor]\n if (interceptor == null) CombinedContext(removed, element) else {\n
 val left =
removed.minusKey(ContinuationInterceptor)\n if (left === EmptyCoroutineContext)
CombinedContext(element, interceptor) else\n CombinedContext(CombinedContext(left, element),
interceptor)\n }\n }\n }\n\n /*\n * Returns a context containing elements from this
context, but without an element with\n * the specified [key]. \n *\n *\n public fun minusKey(key: Key<*>):
CoroutineContext\n\n /*\n * Key for the elements of [CoroutineContext]. [E] is a type of element with this
key.\n * \n *\n public interface Key<E : Element>\n\n /*\n * An element of the [CoroutineContext]. An
element of the coroutine context is a singleton context by itself.\n * \n *\n public interface Element :
CoroutineContext {\n\n /*\n * A key of this coroutine context element.\n\n *\n *\n public val key: Key<*>\n\n public override operator fun <E : Element> get(key: Key<E>): E?
=\n @Suppress("\UNCHECKED_CAST")\n if (this.key == key) this as E else null\n\n public
override fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n operation(initial, this)\n\n public
override fun minusKey(key: Key<*>): CoroutineContext =\n if (this.key == key) EmptyCoroutineContext
else this\n }\n}\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
*\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n *\npackage kotlin.coroutines\n\nimport kotlin.coroutines.CoroutineContext.Element\nimport
kotlin.coroutines.CoroutineContext.Key\n\n/*\n * Base class for [CoroutineContext.Element] implementations.\n
*\n *\n@SinceKotlin("1.3")\npublic abstract class AbstractCoroutineContextElement(public
override val key: Key<*>) : Element\n\n/*\n * Base class for [CoroutineContext.Key] associated with
polymorphic [CoroutineContext.Element] implementation.\n * Polymorphic element implementation implies
delegating its [get][Element.get] and [minusKey][Element.minusKey]\n * to [getPolymorphicElement] and
[minusPolymorphicKey] respectively.\n * \n *\n * Polymorphic elements can be extracted from the coroutine context
using both element key and its supertype key.\n * Example of polymorphic elements:\n * ```\n * open class
BaseElement : CoroutineContext.Element {\n * companion object Key : CoroutineContext.Key<BaseElement>\n *
override val key: CoroutineContext.Key<*> get() = Key\n * // It is important to use getPolymorphicKey and
minusPolymorphicKey\n * override fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):

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E? = getPolymorphicElement(key)\n * override fun minusKey(key: CoroutineContext.Key<*>):
CoroutineContext = minusPolymorphicKey(key)\n * }\n
*\n * class DerivedElement : BaseElement() {\n * companion object Key :
AbstractCoroutineContextKey<BaseElement, DerivedElement>(BaseElement, { it as? DerivedElement })\n * }\n *
// Now it is possible to query both `BaseElement` and `DerivedElement`\n * someContext[BaseElement] // Returns
BaseElement?, non-null both for BaseElement and DerivedElement instances\n * someContext[DerivedElement] //
Returns DerivedElement?, non-null only for DerivedElement instance\n * ```\n * @param B base class of a
polymorphic element\n * @param baseKey an instance of base key\n * @param E element type associated with the
current key\n * @param safeCast a function that can safely cast abstract [CoroutineContext.Element] to the concrete
[E] type\n * and return the element if it is a subtype of [E] or `null` otherwise.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public abstract class AbstractCoroutineContextKey<B :
Element, E : B>(\n baseKey: Key,\n private val safeCast:
(element: Element) -> E?\n) : Key<E> {\n private val topmostKey: Key<*> = if (baseKey is
AbstractCoroutineContextKey<*, *>) baseKey.topmostKey else baseKey\n\n internal fun tryCast(element:
Element): E? = safeCast(element)\n internal fun isSubKey(key: Key<*>): Boolean = key === this || topmostKey
=== key\n}\n\n/**\n * Returns the current element if it is associated with the given [key] in a polymorphic manner
or `null` otherwise.\n * This method returns non-null value if either [Element.key] is equal to the given [key] or if
the [key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See
[AbstractCoroutineContextKey] for the example of usage.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public fun <E : Element>
Element.getPolymorphicElement(key: Key<E>): E? {\n if (key is AbstractCoroutineContextKey<*, *>) {\n
@Suppress("UNCHECKED_CAST")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null\n
}\n @Suppress("UNCHECKED_CAST")\n return if (this.key === key) this as E else null\n}\n\n/**\n * Returns empty coroutine context if the element is
associated with the given [key] in a polymorphic manner\n * or `null` otherwise.\n * This method returns empty
context if either [Element.key] is equal to the given [key] or if the [key] is associated\n * with [Element.key] via
[AbstractCoroutineContextKey].\n * See [AbstractCoroutineContextKey] for the example of usage.\n
/\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public fun Element.minusPolymorphicKey(key: Key<>):
CoroutineContext {\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key)
&& key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if (this.key === key)
EmptyCoroutineContext else this\n}\n\n/**\n * An empty coroutine context.\n */\n @SinceKotlin("1.3")\n public
object EmptyCoroutineContext : CoroutineContext, Serializable {\n private const val serialVersionUID:
Long = 0\n private fun readResolve(): Any = EmptyCoroutineContext\n\n public override fun <E : Element>
get(key: Key<E>): E? = null\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R = initial\n
public override fun plus(context: CoroutineContext): CoroutineContext = context\n public override fun
minusKey(key: Key<*>): CoroutineContext = this\n public override fun hashCode(): Int = 0\n public override
fun toString(): String = "EmptyCoroutineContext"\n}\n\n//----- internal impl -----
this class is not exposed, but is hidden inside implementations\n// this is a left-biased list, so that `plus` works
naturally\n @SinceKotlin("1.3")\n internal class CombinedContext(\n private val left: CoroutineContext,\n
private val element: Element\n) : CoroutineContext, Serializable {\n override fun <E : Element> get(key:
Key<E>): E? {\n var cur = this\n while (true) {\n cur.element[key]?.let
{ return it }\n val next = cur.left\n if (next is CombinedContext) {\n cur = next\n }
else {\n return next[key]\n }\n }\n public override fun <R> fold(initial: R, operation:
(R, Element) -> R): R =\n operation(left.fold(initial, operation), element)\n public override fun
minusKey(key: Key<*>): CoroutineContext {\n element[key]?.let { return left }\n val newLeft =
left.minusKey(key)\n return when {\n newLeft === left -> this\n newLeft ===
EmptyCoroutineContext -> element\n else -> CombinedContext(newLeft, element)\n }\n }\n private fun size(): Int {\n var cur = this\n var size = 2\n while (true) {\n cur = cur.left as?

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CombinedContext ?: return size\n size++\n }\n }\n private fun contains(element: Element): Boolean
 =\n get(element.key)
 == element\n\n private fun containsAll(context: CombinedContext): Boolean {\n var cur = context\n while (true) {\n if (!contains(cur.element)) return false\n val next = cur.left\n if (next is
 CombinedContext) {\n cur = next\n } else {\n return contains(next as Element)\n
 }\n }\n }\n override fun equals(other: Any?): Boolean =\n this === other || other is CombinedContext
 && other.size() == size() && other.containsAll(this)\n\n override fun hashCode(): Int = left.hashCode() +
 element.hashCode()\n\n override fun toString(): String =\n "[" + fold("") { acc, element ->\n if
 (acc.isEmpty()) element.toString() else "$acc, $element"\n } + "]"
 private fun writeReplace(): Any {\n val n = size()\n val elements = arrayOfNulls<CoroutineContext>(n)\n var index = 0\n fold(Unit) { _,
 element -> elements[index++]
 = element }\n check(index == n)\n @Suppress("UNCHECKED_CAST")\n return
 Serialized(elements as Array<CoroutineContext>)\n }\n\n private class Serialized(val elements:
 Array<CoroutineContext>) : Serializable {\n companion object {\n private const val serialVersionUID:
 Long = 0L\n }\n\n private fun readResolve(): Any = elements.fold(EmptyCoroutineContext,
 CoroutineContext::plus)\n }\n }"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
 Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
 license/LICENSE.txt file.\n
 */\n\n @file:kotlin.jvm.JvmName("IntrinsicsKt")\n @file:kotlin.jvm.JvmMultifileClass\n @package
 kotlin.coroutines.intrinsics\n @nimport kotlin.contracts.*\n @nimport kotlin.coroutines.*\n @nimport
 kotlin.internal.InlineOnly\n /**\n * Obtains the current continuation instance inside suspend functions and either
 suspends\n * currently running
 coroutine or returns result immediately without suspension.\n * If the [block] returns the special
 [COROUTINE_SUSPENDED] value, it means that suspend function did suspend the execution and will\n * not
 return any result immediately. In this case, the [Continuation] provided to the [block] shall be\n * resumed by
 invoking [Continuation.resumeWith] at some moment in the\n * future when the result becomes available to resume
 the computation.\n * Otherwise, the return value of the [block] must have a type assignable to [T] and represents
 the result of this suspend function.\n * It means that the execution was not suspended and the [Continuation]
 provided to the [block] shall not be invoked.\n * As the result type of the [block] is declared as `Any?` and cannot be
 correctly type-checked,\n * its proper return type remains on the conscience of the suspend function's author.\n * Invocation of [Continuation.resumeWith] resumes coroutine directly in the invoker's thread without
 going through the\n * [ContinuationInterceptor] that might be present in the coroutine's [CoroutineContext].\n * It
 is the invoker's responsibility to ensure that a proper invocation context is established.\n * [Continuation.intercepted]
 can be used to acquire the intercepted continuation.\n * Note that it is not recommended to call either
 [Continuation.resume] nor [Continuation.resumeWithException] functions synchronously\n * in the same
 stackframe where suspension function is run. Use [suspendCoroutine] as a safer way to obtain current\n *
 continuation instance.\n */\n @SinceKotlin("1.3")\n @InlineOnly\n @Suppress("UNUSED_PARAMETER",
 "RedundantSuspendModifier")\n public suspend inline fun <T>
 suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T>) -> Any?): T {\n contract {
 callsInPlace(block, InvocationKind.EXACTLY_ONCE) }\n throw NotImplementedError("Implementation of
 suspendCoroutineUninterceptedOrReturn is intrinsic")\n }\n\n /**\n * This value is
 used as a return value of [suspendCoroutineUninterceptedOrReturn] `block` argument to state that\n * the execution
 was suspended and will not return any result immediately.\n * Note: this value should not be used in general
 code.** Using it outside of the context of\n * `suspendCoroutineUninterceptedOrReturn` function return value
 (including, but not limited to,\n * storing this value in other properties, returning it from other functions, etc)\n * can
 lead to unspecified behavior of the code.\n */\n // It is implemented as property with getter to avoid ProGuard
 <clinit> problem with multifile IntrinsicsKt class\n @SinceKotlin("1.3")\n public val COROUTINE_SUSPENDED:
 Any get() = CoroutineSingletons.COROUTINE_SUSPENDED\n // Using enum here ensures two important

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properties:\n// 1. It makes SafeContinuation serializable with all kinds of serialization frameworks (since all of them natively support enums)\n// 2. It improves debugging experience, since you clearly see toString() value of those objects and what package they come from\n@SinceKotlin("1.3")\n@PublishedApi // This class is Published API via serialized representation of SafeContinuation, don't rename/move\ninternal enum class CoroutineSingletons { COROUTINE\_SUSPENDED, UNDECIDED, RESUMED }n", "/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\npackage kotlin.experimental\n\n/\*\* Performs a bitwise AND operation between the two values.

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*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.and(other: Byte): Byte = (this.toInt() and other.toInt()).toByte()\n\n/** Performs a bitwise OR operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.or(other: Byte): Byte = (this.toInt() or other.toInt()).toByte()\n\n/** Performs a bitwise XOR operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.xor(other: Byte): Byte = (this.toInt() xor other.toInt()).toByte()\n\n/** Inverts the bits in this value.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte = (this.toInt().inv()).toByte()\n\n/** Performs a bitwise AND operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short = (this.toInt() and other.toInt()).toShort()\n\n/** Performs a bitwise OR operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short = (this.toInt() or other.toInt()).toShort()\n\n/** Performs a bitwise XOR operation between the two values.
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short = (this.toInt() xor other.toInt()).toShort()\n\n/** Inverts the bits in this value.
\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short = (this.toInt().inv()).toShort()\n\n", "/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.experimental\n\n/**\n * The experimental marker for type inference augmenting annotations.\n * Any usage of a declaration annotated with `@ExperimentalTypeInference` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalTypeInference::class)`,\n * or by using the compiler argument `-opt-in=kotlin.experimental.ExperimentalTypeInference`.\n */\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@SinceKotlin("1.3")\npublic annotation class ExperimentalTypeInference\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.internal\n\n/**\n * Specifies that the corresponding type should be ignored during type inference.\n */\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class NoInfer\n\n/**\n * Specifies that the constraint built for the type during type inference should be an equality one.\n */\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class Exact\n\n/**\n * Specifies that a corresponding member has the lowest priority in overload resolution.\n */\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class LowPriorityInOverloadResolution\n\n/**\n * Specifies that the corresponding member has the highest priority in overload resolution. Effectively this means that\n * an extension annotated with this annotation will win in overload resolution over a member with the same signature.\n */\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class HidesMembers\n\n/**\n * The value of this type parameter should be mentioned in input types (argument types,

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receiver type or expected type).\n

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*\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal
annotation class OnlyInputTypes\n\n/**\n * Specifies that this function should not be called directly without
inlining\n *\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,
AnnotationTarget.PROPERTY_GETTER,
AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
InlineOnly\n\n/**\n * Specifies that this declaration can have dynamic receiver
type.\n *\n@Target(AnnotationTarget.FUNCTION,
AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
DynamicExtension\n\n/**\n * The value of this parameter should be a property reference expression (`this::foo`),
referencing a `lateinit` property,\n * the backing field of which is accessible at the point where the corresponding
argument is passed.\n
*\n@Target(AnnotationTarget.VALUE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\n@SinceK
otlin("1.2")\ninternal annotation class AccessibleLateinitPropertyLiteral\n\n/**\n * Specifies that this declaration is
only completely supported since the specified version.\n *\n * The Kotlin compiler of an earlier version is going to
report a diagnostic on usages of this declaration.\n * The diagnostic message can be specified with [message], or via
[errorCode] (takes less space, but might not be immediately clear\n * to the user). The diagnostic severity can be
specified with [level]: WARNING/ERROR
mean that either a warning or an error\n * is going to be reported, HIDDEN means that the declaration is going to
be removed from resolution completely.\n *\n * [versionKind] specifies which version should be compared with the
[version] value, when compiling the usage of the annotated declaration.\n * Note that prior to 1.2, only
[RequireKotlinVersionKind.LANGUAGE_VERSION] was supported, so the Kotlin compiler before 1.2 is going
to\n * treat any [RequireKotlin] as if it requires the language version. Since 1.2, the Kotlin compiler supports\n *
[RequireKotlinVersionKind.LANGUAGE_VERSION], [RequireKotlinVersionKind.COMPILER_VERSION] and
[RequireKotlinVersionKind.API_VERSION].\n * If the actual value of [versionKind] is something different (e.g. a
new version kind, added in future versions of Kotlin),\n * Kotlin 1.2 is going to ignore this [RequireKotlin]
altogether, where as Kotlin before 1.2 is going to treat this as a requirement\n * on the language version.\n *\n *
This annotation is
erased at compile time; its arguments are stored in a more compact form in the Kotlin metadata.\n
*\n@Target(AnnotationTarget.CLASS, AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,
AnnotationTarget.CONSTRUCTOR,
AnnotationTarget.TYPEALIAS)\n@Retention(AnnotationRetention.SOURCE)\n@Repeatable\n@SinceKotlin("1.
2")\ninternal annotation class RequireKotlin(\n val version: String,\n val message: String = "",\n val level:
DeprecationLevel = DeprecationLevel.ERROR,\n val versionKind: RequireKotlinVersionKind =
RequireKotlinVersionKind.LANGUAGE_VERSION,\n val errorCode: Int = -1)\n\n/**\n * The kind of the
version that is required by [RequireKotlin].\n *\n@SinceKotlin("1.2")\ninternal enum class
RequireKotlinVersionKind {\n LANGUAGE_VERSION,\n COMPILER_VERSION,\n API_VERSION,\n}\n\n/**\n * Specifies that this declaration is a part of special DSL, used for constructing
function's contract.\n *\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.2")\ninternal
annotation class ContractsDsl\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n@npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Standard
property delegates.\n *\n@npublic object Delegates {\n /**\n * Returns a property delegate for a read/write
property with a non-`null` value that is initialized not during\n * object construction time but at a later time.
Trying to read the property before the initial value has been\n * assigned results in an exception.\n *\n *
@sample samples.properties.Delegates.notNullDelegate\n *\n public fun <T : Any> notNull():
ReadWriteProperty<Any?, T> = NotNullVar()\n\n /**\n * Returns a property delegate for a read/write property
that calls a specified callback function when changed.\n * @param initialValue the initial

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value of the property.\n * @param onChange the callback which is called after the change of the property is
made. The value of the property\n * has already been changed when this callback is invoked.\n *\n *
@sample samples.properties.Delegates.observableDelegate\n *^ public inline fun <T>
observable(initialValue: T, crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Unit):\n
 ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n override fun
afterChange(property: KProperty<*>, oldValue: T, newValue: T) = onChange(property, oldValue, newValue)\n
 }\n /**\n * Returns a property delegate for a read/write property that calls a specified callback function when
changed,\n * allowing the callback to veto the modification.\n * @param initialValue the initial value of the
property.\n * @param onChange the callback which is called before a change to the property
value is attempted.\n * The value of the property hasn't been changed yet, when this callback is invoked.\n *
If the callback returns `true` the value of the property is being set to the new value,\n * and if the callback returns
`false` the new value is discarded and the property remains its old value.\n *\n * @sample
samples.properties.Delegates.vetoableDelegate\n * @sample
samples.properties.Delegates.throwVetoableDelegate\n *^ public inline fun <T> vetoable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Boolean):\n
 ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n override fun
beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue,
newValue)\n }\n }\n\nprivate class NotNullVar<T : Any>(): ReadWriteProperty<Any?, T> {\n private var
value: T? = null\n public override fun getValue(thisRef:
Any?, property: KProperty<*>): T {\n return value ?: throw IllegalStateException("Property
${property.name} should be initialized before get.")\n }\n public override fun setValue(thisRef: Any?,
property: KProperty<*>, value: T) {\n this.value = value\n }\n}\n\n/**\n * Copyright 2010-2020 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport
kotlin.reflect.KProperty\n\n/**\n * Base interface that can be used for implementing property delegates of read-only
properties.\n * This is provided only for convenience; you don't have to extend this interface\n * as long as your
property delegate has methods with the same signatures.\n * @param T the type of object which owns the
delegated property.\n * @param V the type of the property value.\n */\n\npublic fun interface ReadOnlyProperty<in
T, out V> {\n /**\n * Returns the value of the property for the given object.\n * @param thisRef the object
for which the value is requested.\n * @param property the metadata for the property.\n * @return the property
value.\n */\n public operator fun getValue(thisRef: T, property: KProperty<*>): V\n}\n\n/**\n * Base interface
that can be used for implementing property delegates of read-write properties.\n * This is provided only for
convenience; you don't have to extend this interface\n * as long as your property delegate has methods with the
same signatures.\n * @param T the type of object which owns the delegated property.\n * @param V the type of
the property value.\n */\n\npublic interface ReadWriteProperty<in T, V> : ReadOnlyProperty<T, V> {\n /**\n *
Returns the value of the property for the given object.\n * @param thisRef the object for which the value is
requested.\n * @param property the metadata for the property.\n * @return the property value.\n */\n public override operator fun getValue(thisRef: T, property:
KProperty<*>): V\n\n /**\n * Sets the value of the property for the given object.\n * @param thisRef the
object for which the value is requested.\n * @param property the metadata for the property.\n * @param value
the value to set.\n */\n public operator fun setValue(thisRef: T, property: KProperty<*>, value: V)\n}\n\n/**\n *
Base interface that can be used for implementing property delegate providers.\n * This is provided only for
convenience; you don't have to extend this interface\n * as long as your delegate provider has a method with the
same signature.\n * @param T the type of object which owns the delegated property.\n * @param D the type of
property delegates this provider provides.\n */\n\n@SinceKotlin("1.4")\npublic fun interface
PropertyDelegateProvider<in T, out D> {\n /**\n * Returns the delegate of the property for the given object.\n
 *\n * This function can be used to extend the logic of creating the object (e.g. perform validation checks)\n *
to which the property implementation is delegated.\n *\n * @param thisRef the object for which property

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delegate is requested.\n * @param property the metadata for the property.\n * @return the property delegate.\n */\n public operator fun provideDelegate(thisRef: T, property: KProperty<*>): D{\n }"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Implements the core logic of a property delegate for a read/write property that calls callback functions when changed.\n * @param initialValue the initial value of the property.\n */\npublic abstract class ObservableProperty<V>(initialValue: V) : ReadWriteProperty<Any?, V> {\n private var value = initialValue\n\n /**\n * The callback which is called before a change to the property value is attempted.\n * The value of the property hasn't been changed yet, when this callback is invoked.\n * If the callback returns `true` the value of the property is being set to the new value,\n * and if the callback returns `false` the new value is discarded and the property remains its old value.\n */\n protected open fun beforeChange(property: KProperty<*>, oldValue: V, newValue: V): Boolean = true\n\n /**\n * The callback which is called after the change of the property is made. The value of the property\n * has already been changed when this callback is invoked.\n */\n protected open fun afterChange(property: KProperty<*>, oldValue: V, newValue: V): Unit {} \n\n public override fun getValue(thisRef: Any?, property: KProperty<*>): V {\n return value\n }\n\n public override fun setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n val oldValue = this.value\n if (!beforeChange(property, oldValue, value))\n return\n this.value = value\n afterChange(property, oldValue, value)\n }\n}"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress("PackageDirectoryMismatch")\npackage kotlin\n\nimport kotlin.reflect.*\n\n/**\n * An extension operator that allows delegating a read-only property of type [V]\n * to a property reference to a property of type [V] or its subtype.\n * @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n * The reference is without a receiver, i.e. it either references a top-level property or\n * has the receiver bound to it.\n * Example:\n * ```\n * class Login(val\n * username: String)\n * val defaultLogin = Login("Admin")\n * val defaultUsername by defaultLogin::username\n * // equivalent to\n * val defaultUserName get() = defaultLogin.username\n * ```\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>\nKProperty0<V>.getValue(thisRef: Any?, property: KProperty<*>): V {\n return get()\n}"/*\n * An extension operator that allows delegating a mutable property of type [V]\n * to a property reference to a mutable property of the same type [V].\n * @receiver A property reference to a mutable property of type [V].\n * The reference is without a receiver, i.e. it either references a top-level property or\n * has the receiver bound to it.\n * Example:\n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int = 0)\n * val defaultLogin = Login("Admin")\n * var defaultLoginAttempts by defaultLogin::incorrectAttemptCounter\n * // equivalent to\n * var defaultLoginAttempts: Int\n * get() = defaultLogin.incorrectAttemptCounter\n * set(value) { defaultLogin.incorrectAttemptCounter = value }\n * ```\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>\nKMutableProperty0<V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n set(value)\n}"/*\n * An extension operator that allows delegating a read-only member or extension property of type [V]\n * to a property reference to a member or extension property of type [V] or its subtype.\n * @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n * The reference has an unbound receiver of type [T].\n * Example:\n * ```\n * class Login(val username: String)\n * val Login.user by Login::username\n * // equivalent to\n * val Login.user get() = this.username\n * ```\n */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KProperty1<T, V>.getValue(thisRef: T, property: KProperty<*>):\n V {\n return get(thisRef)\n}"/*\n * An extension operator that allows delegating a mutable member or extension property of type [V]\n * to a property reference to a member or extension mutable property of the same type [V].\n * @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n */

```

The reference has an unbound receiver of type [T].\n \* Example:\n \* ```\n \* class Login(val username: String, var incorrectAttemptCounter: Int)\n \* var Login.attempts by Login::incorrectAttemptCounter\n \* // equivalent to\n \* var Login.attempts: Int\n \* get() = this.incorrectAttemptCounter\n \* set(value) { this.incorrectAttemptCounter = value }\n \* ```\n \* ^\n \* @SinceKotlin("1.4")\n \* @kotlin.internal.InlineOnly\n \* public inline operator fun <T, V> KMutableProperty1<T, V>.setValue(thisRef: T, property: KProperty<\*>, value: V) {\n \* set(thisRef, value)\n \* }"/\n \* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n

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```

package kotlin.random
import kotlin.math.nextDown

/**
 * An abstract class that is implemented by random number generator algorithms.
 * The companion object [Random.Default] is the default instance of [Random].
 * To get a seeded instance of random generator use [Random] function.
 * @sample samples.random.Randoms.defaultRandom
 * ^\n * @SinceKotlin("1.3")\n * public abstract class Random {\n * /**
 * Gets the next random [bitCount] number of bits.
 * Generates an `Int` whose lower [bitCount] bits are filled with random values and the remaining upper bits are zero.
 * @param bitCount number of bits to generate, must be in range 0..32, otherwise the behavior is unspecified.
 * @sample samples.random.Randoms.nextBits
 * ^\n public abstract fun nextBits(bitCount: Int): Int\n /**
 * Gets the next random `Int` from the random number generator.
 * Generates an `Int` random value uniformly distributed between `Int.MIN_VALUE` and `Int.MAX_VALUE` (inclusive).
 * @sample samples.random.Randoms.nextInt
 * ^\n public open fun nextInt(): Int = nextBits(32)\n /**
 * Gets the next random non-negative `Int` from the random number generator less than the specified [until] bound.
 * Generates an `Int` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).
 * @param until must be positive.
 * @throws IllegalArgumentException if [until] is negative or zero.
 * @sample samples.random.Randoms.nextIntFromUntil
 * ^\n public open fun nextInt(until: Int): Int = nextInt(0, until)\n /**
 * Gets the next random `Int` from the random number generator in the specified range.
 * Generates an `Int` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.
 * @throws IllegalArgumentException if [from] is greater than or equal to [until].
 * @sample samples.random.Randoms.nextIntFromUntil
 * ^\n public open fun nextInt(from: Int, until: Int): Int {\n checkRangeBounds(from, until)\n val n = until - from\n if (n > 0 || n == Int.MIN_VALUE) {\n val rnd = if (n and -n == n) {\n val bitCount = fastLog2(n)\n nextBits(bitCount)\n } else {\n var v: Int\n do {\n val bits = nextInt().ushr(1)\n v = bits % n\n } while (bits - v + (n - 1) < 0)\n v\n } return from + rnd\n } else {\n while (true) {\n val rnd = nextInt()\n if (rnd in from until until) return rnd\n }\n }\n }\n /**
 * Gets the next random `Long` from the random number generator.
 * Generates a `Long` random value uniformly distributed between `Long.MIN_VALUE` and `Long.MAX_VALUE` (inclusive).
 * @sample samples.random.Randoms.nextLong
 * ^\n public open fun nextLong(): Long = nextInt().toLong().shl(32) + nextInt()\n /**
 * Gets the next random non-negative `Long` from the random number generator less than the specified [until] bound.
 * Generates a `Long` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).
 * @param until must be positive.
 * @throws IllegalArgumentException if [until] is negative or zero.
 * @sample samples.random.Randoms.nextLongFromUntil
 * ^\n public open fun nextLong(until: Long): Long = nextLong(0, until)\n /**
 * Gets the next random `Long` from the random number generator in the specified range.

```

```

 * Generates a `Long` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.
 * @throws IllegalArgumentException if [from] is greater than or equal to [until].
 * @sample samples.random.Randoms.nextLongFromUntil
 * ^\n public open fun nextLong(from: Long, until: Long): Long {\n checkRangeBounds(from, until)\n val n = until - from\n if (n > 0) {\n val rnd: Long\n if (n and -n == n) {\n val nLow = n.toInt()\n val nHigh

```

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= (n ushr 32).toInt()\n rnd = when {\n nLow != 0 -> {\n val bitCount =
fastLog2(nLow)\n // toUInt().toLong()\n nextBits(bitCount).toLong() and
0xFFFF_FFFF\n }\n nHigh == 1 ->\n // toUInt().toLong()\n nextInt().toLong() and
0xFFFF_FFFF\n else -> {\n val bitCount = fastLog2(nHigh)\n nextBits(bitCount).toLong().shl(32) + (nextInt().toLong() and 0xFFFF_FFFF)\n }\n }\n } else {\n var v: Long\n do {\n val bits = nextLong().ushr(1)\n v = bits %
n\n } while (bits - v + (n - 1) < 0)\n rnd = v\n }\n return from + rnd\n } else {\n while (true) {\n val rnd = nextLong()\n if (rnd in from until until) return rnd\n }\n }\n }\n /**\n * Gets the next random [Boolean] value.\n *\n * @sample
samples.random.Randoms.nextBoolean\n *\n public open fun nextBoolean(): Boolean = nextBits(1) != 0\n /**\n * Gets the next random [Double] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n *\n * @sample samples.random.Randoms.nextDouble\n *\n public open fun nextDouble(): Double =
doubleFromParts(nextBits(26), nextBits(27))\n /**\n * Gets the next random non-negative `Double` from the
random number generator less than the specified [until] bound.\n *\n * Generates a `Double` random value
uniformly distributed between 0 (inclusive) and [until] (exclusive).\n *\n * @throws IllegalArgumentException
if [until] is negative or zero.\n *\n * @sample samples.random.Randoms.nextDoubleFromUntil\n *\n public open fun nextDouble(until: Double): Double = nextDouble(0.0, until)\n /**\n * Gets the next random
`Double` from the random number generator in the specified range.\n *\n * Generates a `Double` random value
uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * [from]
and [until] must be finite otherwise the behavior is unspecified.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n *\n * @sample
samples.random.Randoms.nextDoubleFromUntil\n *\n public open fun nextDouble(from: Double, until:
Double): Double {\n checkRangeBounds(from, until)\n val size = until - from\n val r = if
(size.isInfinite() && from.isFinite() && until.isFinite()) {\n val r1 = nextDouble() * (until / 2 - from / 2)\n from + r1 + r1\n } else {\n from + nextDouble() * size\n }\n return if (r >= until)
until.nextDown() else r\n }\n /**\n * Gets the next random [Float] value uniformly distributed between 0
(inclusive) and 1 (exclusive).\n *\n * @sample samples.random.Randoms.nextFloat\n *\n public open fun
nextFloat(): Float = nextBits(24) / (1 shl 24).toFloat()\n /**\n * Fills a subrange of the specified byte [array]
starting from [fromIndex] inclusive and ending [toIndex] exclusive\n *\n * with random bytes.\n *\n * @return [array] with the subrange filled with random bytes.\n *\n *
@sample samples.random.Randoms.nextBytes\n *\n public open fun nextBytes(array: ByteArray, fromIndex:
Int = 0, toIndex: Int = array.size): ByteArray {\n require(fromIndex in 0..array.size && toIndex in 0..array.size)
{\n require(fromIndex <=
toIndex) {\n require(fromIndex ($fromIndex) or toIndex ($toIndex) are out of range: 0..${array.size}.)\n }\n require(fromIndex <=
toIndex) {\n require(fromIndex ($fromIndex) must be not greater than toIndex ($toIndex).)\n }\n val steps = (toIndex -
fromIndex) / 4\n var position = fromIndex\n repeat(steps) {\n val v = nextInt()\n array[position] = v.toByte()\n array[position + 1] = v.ushr(8).toByte()\n array[position + 2] =
v.ushr(16).toByte()\n array[position + 3] = v.ushr(24).toByte()\n position += 4\n }\n val
remainder = toIndex - position\n val vr =
nextBits(remainder * 8)\n for (i in 0 until remainder) {\n array[position + i] = vr.ushr(i * 8).toByte()\n }\n return array\n }\n /**\n * Fills the specified byte [array] with random bytes and returns it.\n *\n * @return [array] filled with random bytes.\n *\n * @sample samples.random.Randoms.nextBytes\n *\n public open fun nextBytes(array: ByteArray): ByteArray = nextBytes(array, 0, array.size)\n /**\n *
Creates a byte array of the specified [size], filled with random bytes.\n *\n * @sample
samples.random.Randoms.nextBytes\n *\n public open fun nextBytes(size: Int): ByteArray =
nextBytes(ByteArray(size))\n /**\n * The default random number generator.\n *\n * On JVM this
generator is thread-safe, its methods can be invoked from multiple threads.\n *\n * @sample
samples.random.Randoms.defaultRandom\n *\n companion object Default : Random(), Serializable {\n

```

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private val defaultRandom: Random = defaultPlatformRandom()\n\n private object Serialized : Serializable
{\n private const val serialVersionUID = 0L\n private fun readResolve(): Any = Random\n }\n private fun writeReplace(): Any = Serialized\n override fun nextBits(bitCount: Int): Int =
defaultRandom.nextBits(bitCount)\n override fun nextInt(): Int = defaultRandom.nextInt()\n override fun
nextInt(until: Int): Int = defaultRandom.nextInt(until)\n override fun nextInt(from: Int, until: Int): Int =
defaultRandom.nextInt(from, until)\n override fun nextLong(): Long = defaultRandom.nextLong()\n
override fun nextLong(until: Long): Long = defaultRandom.nextLong(until)\n override fun nextLong(from:
Long, until: Long): Long = defaultRandom.nextLong(from, until)\n override fun nextBoolean(): Boolean =
defaultRandom.nextBoolean()\n\n override fun nextDouble(): Double = defaultRandom.nextDouble()\n
 override fun nextDouble(until: Double): Double = defaultRandom.nextDouble(until)\n override fun
nextDouble(from: Double, until: Double): Double = defaultRandom.nextDouble(from, until)\n override fun
nextFloat(): Float = defaultRandom.nextFloat()\n\n override fun nextBytes(array: ByteArray): ByteArray =
defaultRandom.nextBytes(array)\n override fun nextBytes(size: Int): ByteArray =
defaultRandom.nextBytes(size)\n override fun nextBytes(array: ByteArray, fromIndex: Int, toIndex: Int):
ByteArray =\n defaultRandom.nextBytes(array, fromIndex, toIndex)\n }\n}\n\n/**\n * Returns a repeatable
random number generator seeded with the given [seed] `Int` value.\n * Two generators with the same seed
produce the same sequence of values within the same version of Kotlin runtime.\n * *Note:* Future versions of
Kotlin may change the algorithm of this seeded number generator so that it will return\n * a sequence of values
different from the current one for a given seed.\n * On JVM the returned generator is NOT thread-safe. Do not
invoke it from multiple threads without proper synchronization.\n * @sample
samples.random.Randoms.seededRandom\n * \n * @SinceKotlin("1.3")\n * \n * public fun Random(seed: Int): Random =
XorWowRandom(seed, seed.shr(31))\n * \n * Returns a repeatable random number generator seeded with the
given [seed] `Long` value.\n * Two generators with the same seed produce the same sequence of values within
the same version of Kotlin runtime.\n * *Note:* Future versions of Kotlin may change the algorithm of this
seeded number generator so that it will return\n * a sequence of values different from the current one for a
given seed.\n * On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without
proper synchronization.\n * @sample samples.random.Randoms.seededRandom\n * \n * @SinceKotlin("1.3")\n * \n *
public fun Random(seed: Long): Random
= XorWowRandom(seed.toInt(), seed.shr(32).toInt())\n * \n * Gets the next random `Int` from the random
number generator in the specified [range].\n * Generates an `Int` random value uniformly distributed in the
specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n * @throws
IllegalArgumentException if [range] is empty.\n * \n * @SinceKotlin("1.3")\n * \n * public fun Random.nextInt(range:
IntRange): Int = when {\n * range.isEmpty() -> throw IllegalArgumentException("Cannot get random in empty
range: $range")\n * range.last < Int.MAX_VALUE -> nextInt(range.first, range.last + 1)\n * range.first >
Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1\n * else -> nextInt()\n * }\n * \n * Gets the next random
`Long` from the random number generator in the specified [range].\n * Generates a `Long` random value
uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n
* @throws
IllegalArgumentException if [range] is empty.\n * \n * @SinceKotlin("1.3")\n * \n * public fun Random.nextLong(range:
LongRange): Long = when {\n * range.isEmpty() -> throw IllegalArgumentException("Cannot get random in
empty range: $range")\n * range.last < Long.MAX_VALUE -> nextLong(range.first, range.last + 1)\n * range.first >
Long.MIN_VALUE -> nextLong(range.first - 1, range.last) + 1\n * else -> nextLong()\n * }\n * \n * internal expect fun
defaultPlatformRandom(): Random\n * internal expect fun doubleFromParts(hi26: Int, low27: Int): Double\n * internal
fun fastLog2(value: Int): Int = 31 - value.countLeadingZeroBits()\n * \n * Takes upper [bitCount] bits (0..32) from
this number.\n * \n * internal fun Int.takeUpperBits(bitCount: Int): Int =\n * this.ushr(32 - bitCount) and (-
bitCount).shr(31)\n * \n * internal fun checkRangeBounds(from: Int, until: Int) = require(until > from) {\n *
 boundsErrorMessage(from, until)\n * }\n * \n * internal fun checkRangeBounds(from: Long, until: Long) = require(until >
from) {\n * boundsErrorMessage(from,

```



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until) }\ninternal fun checkRangeBounds(from: Double, until: Double) = require(until > from) {
boundsErrorMessage(from, until) }\n\ninternal fun boundsErrorMessage(from: Any, until: Any) = \"Random range
is empty: [$from, $until].\"\\n\", \"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\n/**\n * Gets the next random [UInt] from the random
number generator.\n */\n * Generates a [UInt] random value uniformly distributed between [UInt.MIN_VALUE] and
[UInt.MAX_VALUE] (inclusive).\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(): UInt = nextInt().toUInt()\n\n/**\n * Gets the next random [UInt] from the random number
generator less than the specified [until] bound.\n */\n * Generates a [UInt] random value uniformly distributed
between
`0` (inclusive) and the specified [until] bound (exclusive).\n */\n * @throws IllegalArgumentException if [until] is
zero.\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(until: UInt): UInt = nextUInt(0u, until)\n\n/**\n * Gets the next random [UInt] from the random
number generator in the specified range.\n */\n * Generates a [UInt] random value uniformly distributed between the
specified [from] (inclusive) and [until] (exclusive) bounds.\n */\n * @throws IllegalArgumentException if [from] is
greater than or equal to [until].\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(from: UInt, until: UInt): UInt {\n checkUIntRangeBounds(from, until)\n\n val signedFrom =
from.toInt() xor Int.MIN_VALUE\n val signedUntil = until.toInt() xor Int.MIN_VALUE\n\n val signedResult =
nextInt(signedFrom, signedUntil) xor Int.MIN_VALUE\n return signedResult.toUInt()\n}\n\n/**\n * Gets the next random [UInt] from the random number generator in the specified [range].\n */\n * Generates a
[UInt] random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to
`range.endInclusive` inclusive.\n */\n * @throws IllegalArgumentException if [range] is empty.\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextUInt(range: UIntRange): UInt = when {\n range.isEmpty() -> throw
IllegalArgumentException(\"Cannot get random in empty range: $range\")\n range.last < UInt.MAX_VALUE ->
nextUInt(range.first, range.last + 1u)\n range.first > UInt.MIN_VALUE -> nextUInt(range.first - 1u, range.last) +
1u\n else -> nextUInt()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator.\n */\n *
Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and
[ULong.MAX_VALUE] (inclusive).\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic
fun Random.nextULong(): ULong = nextLong().toULong()\n\n/**\n * Gets the next random [ULong] from the
random number generator less than the specified [until] bound.\n */\n * Generates a [ULong] random value
uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n */\n * @throws
IllegalArgumentException if [until] is zero.\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n/**\n * Gets the next random [ULong] from
the random number generator in the specified range.\n */\n * Generates a [ULong] random value uniformly
distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n */\n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n\n\n*\n@SinceKotlin(\"1.5\")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
Random.nextULong(from: ULong, until: ULong): ULong
{\n checkULongRangeBounds(from, until)\n\n val signedFrom = from.toLong() xor Long.MIN_VALUE\n val
signedUntil = until.toLong() xor Long.MIN_VALUE\n\n val signedResult = nextLong(signedFrom,
signedUntil) xor Long.MIN_VALUE\n return signedResult.toULong()\n}\n\n/**\n * Gets the next random
[ULong] from the random number generator in the specified [range].\n */\n * Generates a [ULong] random value
uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n

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*\n * @throws IllegalArgumentException if [range] is empty.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
Random.nextULong(range: ULongRange): ULong = when {\n range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n range.last < ULong.MAX_VALUE -
> nextULong(range.first, range.last + 1u)\n range.first > ULong.MIN_VALUE -> nextULong(range.first - 1u,
range.last) + 1u\n
 else -> nextULong()}\n\n**\n * Fills the specified unsigned byte [array] with random bytes and returns it.\n *\n
* @return [array] filled with random bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun Random.nextUBytes(array: UByteArray): UByteArray {\n nextBytes(array.asByteArray())\n return
array}\n\n**\n * Creates an unsigned byte array of the specified [size], filled with random bytes.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(size: Int): UByteArray
= nextBytes(size).asUByteArray()\n\n**\n * Fills a subrange of the specified `UByte` [array] starting from
[fromIndex] inclusive and ending [toIndex] exclusive with random UBytes.\n *\n * @return [array] with the
subrange filled with random bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Random.nextUBytes(array: UByteArray, fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n
 nextBytes(array.asByteArray(), fromIndex,
 toIndex)\n return array}\n\n\ninternal fun checkUIntRangeBounds(from: UInt, until: UInt) = require(until >
from) { boundsErrorMessage(from, until) }\ninternal fun checkULongRangeBounds(from: ULong, until: ULong) =
require(until > from) { boundsErrorMessage(from, until) }\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\n**\n * Random number generator,
using Marsaglia's "xorwow" algorithm\n *\n * Cycles after 2^192 - 2^32 repetitions.\n *\n * For more details, see
Marsaglia, George (July 2003). "Xorshift RNGs". Journal of Statistical Software. 8 (14).
doi:10.18637/jss.v008.i14\n *\n * Available at https://www.jstatsoft.org/v08/i14/paper\n *\n */\n\ninternal class
XorWowRandom internal constructor(\n private var x: Int,\n private var y: Int,\n private var z: Int,\n private
var w: Int,\n private var v: Int,\n private var addend: Int\n) : Random(), Serializable {\n\n internal
constructor(seed1: Int, seed2: Int) :n this(seed1, seed2, 0, 0, seed1.inv(), (seed1 shl 10) xor (seed2 ushr
4))\n\n init {\n require((x or y or z or w or v) != 0) { "Initial state must have at least one non-zero element."
}\n\n // some trivial seeds can produce several values with zeroes in upper bits, so we discard first 64\n
repeat(64) { nextInt() }\n }\n\n override fun nextInt(): Int {\n // Equivalent to the xorwow algorithm\n //
From Marsaglia, G. 2003. Xorshift RNGs. J. Statis. Soft. 8, 14, p. 5\n var t = x\n t = t xor (t ushr 2)\n x
= y\n y = z\n z = w\n val v0 = v\n w = v0\n t = (t xor (t shl 1)) xor v0 xor (v0 shl 4)\n v =
t\n addend += 362437\n return t + addend\n }\n\n override fun nextBits(bitCount: Int): Int =\n
nextInt().takeUpperBits(bitCount)\n\n private companion object {\n private const val serialVersionUID: Long = 0L\n }\n\n"/**\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage
kotlin.ranges\n\n**\n * Represents a range of [Comparable] values.\n *\nprivate open class ComparableRange<T> :
Comparable<T>>(\n override val start: T,\n override val endInclusive: T\n) : ClosedRange<T> {\n\n override
fun equals(other: Any?): Boolean {\n return other is ComparableRange<*> && (isEmpty() && other.isEmpty())
||\n start == other.start && endInclusive == other.endInclusive)\n }\n\n override fun hashCode(): Int
{\n return if (isEmpty()) -1 else 31 * start.hashCode() + endInclusive.hashCode()\n }\n\n override
fun toString(): String = "$start..$endInclusive"\n\n**\n * Creates a range from this [Comparable] value to the
specified [that] value.\n *\n * This value needs to be smaller than or equal to [that] value, otherwise the returned
range will be empty.\n *\n * @sample samples.ranges.Ranges.rangeFromComparable\n */\n\npublic operator fun <T> :
Comparable<T>> T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n**\n * Represents a

```

range of floating point numbers.  
 \* Extends [ClosedRange] interface providing custom operation  
 [lessThanOrEquals] for comparing values of range domain type.  
 \* This interface is implemented by floating point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to  
 \* achieve IEEE-754 comparison order instead of total order of floating point numbers.  
 \*  
 @SinceKotlin("1.1")  
 public interface  
 ClosedFloatingPointRange<T : Comparable<T>> : ClosedRange<T> {  
 override fun contains(value: T): Boolean = lessThanOrEquals(start,  
 value) && lessThanOrEquals(value, endInclusive)  
 override fun isEmpty(): Boolean = !lessThanOrEquals(start, endInclusive)  
 /\*\*  
 \* Compares two values of range domain type and returns true if first is less than or equal to second.  
 \*/  
 fun lessThanOrEquals(a: T, b: T): Boolean  
 }  
 \* A closed range of values of type `Double`.  
 \* Numbers are compared with the ends of this range according to IEEE-754.  
 \*  
 private class ClosedDoubleRange(  
 start: Double,  
 endInclusive: Double  
 ) : ClosedFloatingPointRange<Double> {  
 private val \_start = start  
 private val \_endInclusive = endInclusive  
 override val start: Double get() = \_start  
 override val endInclusive: Double get() = \_endInclusive  
 override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b  
 override fun contains(value: Double): Boolean = value >= \_start && value <= \_endInclusive  
 override fun isEmpty(): Boolean = !(\_start <= \_endInclusive)  
 override fun equals(other: Any?): Boolean {  
 return other is ClosedDoubleRange && (isEmpty() && other.isEmpty() ||  
 \_start == other.\_start && \_endInclusive == other.\_endInclusive)  
 }  
 override fun hashCode(): Int {  
 return if (isEmpty()) -1 else 31 \* \_start.hashCode() + \_endInclusive.hashCode()  
 }  
 override fun toString(): String = "\$\_start..\$\_endInclusive"  
 }  
 \* Creates a range from this [Double] value to the specified [that] value.  
 \* Numbers are compared with the ends of this range according to IEEE-754.  
 \*  
 @sample samples.ranges.Ranges.rangeFromDouble  
 \*  
 @SinceKotlin("1.1")  
 public operator fun  
 Double.rangeTo(that: Double): ClosedFloatingPointRange<Double> = ClosedDoubleRange(this, that)  
 \* A closed range of values of type `Float`.  
 \* Numbers are compared with the ends of this range according to IEEE-754.  
 \*  
 private class ClosedFloatRange(  
 start: Float,  
 endInclusive: Float  
 ) :  
 ClosedFloatingPointRange<Float>  
 {  
 private val \_start = start  
 private val \_endInclusive = endInclusive  
 override val start: Float get() = \_start  
 override val endInclusive: Float get() = \_endInclusive  
 override fun lessThanOrEquals(a: Float, b: Float): Boolean = a <= b  
 override fun contains(value: Float): Boolean = value >= \_start && value <= \_endInclusive  
 override fun isEmpty(): Boolean = !(\_start <= \_endInclusive)  
 override fun equals(other: Any?): Boolean {  
 return other is ClosedFloatRange && (isEmpty() && other.isEmpty() ||  
 \_start == other.\_start && \_endInclusive == other.\_endInclusive)  
 }  
 override fun hashCode(): Int {  
 return if (isEmpty()) -1 else 31 \* \_start.hashCode() + \_endInclusive.hashCode()  
 }  
 override fun toString(): String = "\$\_start..\$\_endInclusive"  
 }  
 \* Creates a range from this [Float] value to the specified [that] value.  
 \* Numbers are compared with the ends  
 of this range according to IEEE-754.  
 \*  
 @sample samples.ranges.Ranges.rangeFromFloat  
 \*  
 @SinceKotlin("1.1")  
 public operator fun  
 Float.rangeTo(that: Float): ClosedFloatingPointRange<Float> =  
 ClosedFloatRange(this, that)  
 \* Returns `true` if this iterable range contains the specified [element].  
 \* Always returns `false` if the [element] is `null`.  
 \*  
 @SinceKotlin("1.3")  
 @kotlin.internal.InlineOnly  
 public  
 inline operator fun  
 <T, R> R.contains(element: T?): Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T>  
 =  
 element != null && contains(element)  
 internal fun checkStepIsPositive(isPositive: Boolean, step: Number) {  
 if (!isPositive) throw IllegalArgumentException("Step must be positive, was: \$step.")  
 }  
 \*  
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 \*  
 @file:kotlin.jvm.JvmName("KClasses")  
 @file:Suppress("UNCHECKED\_CAST")  
 package  
 kotlin.reflect  
 import kotlin.internal.LowPriorityInOverloadResolution  
 \* Casts the given [value] to the class represented by this [KClass] object.  
 \* Throws an exception if the value is `null` or if it is not an instance of this class.  
 \* This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.  
 \*  
 @see [KClass.isInstance]  
 \*  
 @see [KClass.safeCast]

```

*\/n@SinceKotlin("1.4")\/n@WasExperimental(ExperimentalStdlibApi::class)\/n@LowPriorityInOverloadResoluti
on\/nfun <T : Any> KClass<T>.cast(value: Any?): T {\/n if (!isInstance(value)) throw ClassCastException("Value
cannot be cast to $qualifiedOrSimpleName")\/n return value as T\/n}\/n// TODO: replace with qualifiedName
when it is fully supported in K/JS\/ninternal expect val KClass<*>.qualifiedOrSimpleName: String?\/n/**\/n * Casts
the given [value] to the class represented by this [KClass] object.\/n * Returns
`null` if the value is `null` or if it is not an instance of this class.\/n *\/n * This is an experimental function that
behaves as a similar function from kotlin.reflect.full on JVM.\/n *\/n * @see [KClass.isInstance]\/n * @see
[KClass.cast]\/n
*\/n@SinceKotlin("1.4")\/n@WasExperimental(ExperimentalStdlibApi::class)\/n@LowPriorityInOverloadResoluti
on\/nfun <T : Any> KClass<T>.safeCast(value: Any?): T? {\/n return if (isInstance(value)) value as T else
null\/n}\/n", /*\/n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\/n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\/n
*\/n\/npackage kotlin.reflect\/nimport kotlin.jvm.JvmField\/nimport kotlin.jvm.JvmStatic\/n\/n/**\/n * Represents
a type projection. Type projection is usually the argument to another type in a type usage.\/n * For example, in the
type `Array<out Number>`, `out Number` is the covariant projection of the type represented
by the class `Number`.\/n *\/n * Type projection is either the star projection, or an entity consisting of a specific type
plus optional variance.\/n *\/n * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/generics.html#type-projections)\/n * for more information.\/n
*\/n@SinceKotlin("1.1")\/npublic data class KTypeProjection constructor(\/n /**\/n * The use-site variance
specified in the projection, or `null` if this is a star projection.\/n *\/n public val variance: KVariance?,\/n /**\/n
* The type specified in the projection, or `null` if this is a star projection.\/n *\/n public val type: KType?)
{\/n\/n init {\/n require((variance == null) == (type == null)) {\/n if (variance == null)\/n "Star
projection must have no type specified."\/n else\/n "The projection variance $variance requires type
to be specified."\/n }\/n }\/n\/n override fun toString(): String = when (variance)
{\/n null -> "*"\/n KVariance.INVARIANT -> type.toString()\/n KVariance.IN -> "in $type"\/n
KVariance.OUT -> "out $type"\/n }\/n\/n public companion object {\/n // provided for compiler access\/n
@JvmField\/n @PublishedApi\/n internal val star: KTypeProjection = KTypeProjection(null, null)\/n
/**\/n * Star projection, denoted by the `*` character.\/n * For example, in the type `KClass<*>`, `*` is the
star projection.\/n * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections)\/n * for more
information.\/n *\/n public val STAR: KTypeProjection get() = star\/n\/n /**\/n * Creates an
invariant projection of a given type. Invariant projection is just the type itself,\/n * without any use-site variance
modifiers applied to it.\/n * For example, in the type `Set<String>`, `String` is an invariant projection
of the type represented by the class `String`.\/n *\/n @JvmStatic\/n public fun invariant(type: KType):
KTypeProjection =\/n KTypeProjection(KVariance.INVARIANT, type)\/n\/n /**\/n * Creates a
contravariant projection of a given type, denoted by the `in` modifier applied to a type.\/n * For example, in the
type `MutableList<in Number>`, `in Number` is a contravariant projection of the type of class `Number`.\/n *\/n
@JvmStatic\/n public fun contravariant(type: KType): KTypeProjection =\/n
KTypeProjection(KVariance.IN, type)\/n\/n /**\/n * Creates a covariant projection of a given type, denoted
by the `out` modifier applied to a type.\/n * For example, in the type `Array<out Number>`, `out Number` is a
covariant projection of the type of class `Number`.\/n *\/n @JvmStatic\/n public fun covariant(type:
KType): KTypeProjection =\/n KTypeProjection(KVariance.OUT,
type)\/n }\/n", /*\/n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\/n *
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*\/n\/npackage kotlin.reflect\/n/**\/n * Represents variance applied to a type parameter on the declaration site
(*declaration-site variance*),\/n * or to a type in a projection (*use-site variance*).\/n *\/n * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/generics.html#variance)\/n * for more information.\/n *\/n
* @see [KTypeParameter.variance]\/n * @see [KTypeProjection]\/n *\/n@SinceKotlin("1.1")\/nenum class KVariance

```

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{\n /**\n * The affected type parameter or type is *invariant*, which means it has no variance applied to it.\n
 *\n INVARIANT,\n \n /**\n * The affected type parameter or type is *contravariant*. Denoted by the `in`
 modifier in the source code.\n
 *\n IN,\n \n /**\n * The affected
 type parameter or type is *covariant*. Denoted by the `out` modifier in the source code.\n
 \n OUT,\n \n}"/\n
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 */\n\npackage
kotlin.reflect\n\n/**\n * Returns a runtime representation of the given reified type [T] as an instance of [KType].\n
 *\n * Note that on JVM, the created type has no annotations ([KType.annotations] returns an empty list)\n
 * even if
 the type in the source code is annotated. Support for type annotations might be added in a future version.\n
 *\n @SinceKotlin("1.6")\n @WasExperimental(ExperimentalStdlibApi::class)\n public inline fun <reified T>
 typeOf(): KType =\n
 throw UnsupportedOperationException("This function is implemented as an intrinsic on all
 supported platforms.")\n
 \n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
 contributors.\n
 * Use of this source code is governed by the Apache 2.0 license that can be found in the
 license/LICENSE.txt file.\n
 */\n\n@file:kotlin.jvm.JvmMultifileClass\n @file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/**\n * An object to which char sequences and values can be appended.\n
 *\n next interface
 Appendable {\n
 /**\n * Appends the specified character [value] to this Appendable and returns this instance.\n
 *\n * @param value the character to append.\n
 *\n fun append(value: Char): Appendable\n
 \n\n /**\n *
 Appends the specified character sequence [value] to this Appendable and returns this instance.\n
 *\n * @param
 value the character sequence to append. If [value] is `null`, then the four characters `null` are appended to this
 Appendable.\n
 *\n fun append(value: CharSequence?): Appendable\n
 \n\n /**\n * Appends a subsequence of
 the specified character sequence [value] to this Appendable and returns
 this instance.\n
 *\n * @param value the character sequence from which a subsequence is appended. If [value]
 is `null`,\n
 * then characters are appended as if [value] contained the four characters `null`.\n
 *\n * @param
 startIndex the beginning (inclusive) of the subsequence to append.\n
 * @param endIndex the end (exclusive) of
 the subsequence to append.\n
 *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException]
 when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex >
 endIndex`.\n
 *\n fun append(value: CharSequence?, startIndex: Int, endIndex: Int): Appendable\n
 \n\n\n /**\n *
 Appends a subsequence of the specified character sequence [value] to this Appendable and returns this instance.\n
 *\n * @param
 value the character sequence from which a subsequence is appended.\n
 * @param startIndex the
 beginning (inclusive) of the subsequence to append.\n
 * @param endIndex the end (exclusive) of
 the subsequence to append.\n
 *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
 [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex >
 endIndex`.\n
 *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun <T :
 Appendable> T.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): T {\n
 \n\n @Suppress("UNCHECKED_CAST")\n
 return append(value, startIndex, endIndex) as T\n
 }\n
 \n\n /**\n * Appends
 all arguments to the given [Appendable].\n
 *\n public fun <T : Appendable> T.append(vararg value:
 CharSequence?): T {\n
 \n for (item in value)\n
 append(item)\n
 return this\n
 }\n
 \n\n /**\n * Appends a line feed
 character (`\n`) to this Appendable.\n
 *\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline fun
 Appendable.appendLine(): Appendable = append("\n")\n
 \n\n /**\n * Appends value to the given Appendable and a line
 feed character (`\n`) after it.\n
 *\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public
 inline fun Appendable.appendLine(value: CharSequence?): Appendable = append(value).appendLine()\n
 \n\n /**\n *
 Appends value to the given Appendable and a line feed character (`\n`) after it.\n
 *\n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline fun Appendable.appendLine(value: Char):
 Appendable = append(value).appendLine()\n
 \n\n\n internal <T> Appendable.appendElement(element: T,
 transform: ((T) -> CharSequence?) {\n
 \n when {\n
 transform != null -> append(transform(element))\n
 element is CharSequence? -> append(element)\n
 element is Char -> append(element)\n
 \n else ->
 append(element.toString())\n
 }\n
 }\n
 \n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming

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license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\\StringsKt")\n\npackage
kotlin.text\n\n/**\n
 * Trims leading whitespace characters followed by [marginPrefix] from every line of a source string and removes\n
 * the first and the last lines if they are blank (notice difference blank vs empty).\n * Doesn't affect a line if it
doesn't contain [marginPrefix] except the first and the last blank lines.\n * Doesn't preserve the original line
endings.\n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is `|` (pipe
character).\n * @sample samples.text.Strings.trimMargin\n * @see trimIndent\n * @see
kotlin.text.isWhitespace\n */\n\npublic fun String.trimMargin(marginPrefix: String = "\\|"): String =\n
replaceIndentByMargin("\\", marginPrefix)\n\n/**\n
 * Detects indent by [marginPrefix] as it does [trimMargin] and
replace it with [newIndent].\n * @param marginPrefix non-blank string, which is used as a margin delimiter.
Default is `|` (pipe character).\n */\n\npublic fun String.replaceIndentByMargin(newIndent: String =
"\n", marginPrefix: String = "\\|"): String {\n
 require(marginPrefix.isNotBlank()) { "marginPrefix must be non-
blank string." }\n
 val lines = lines()\n
 return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line ->\n
 val firstNonWhitespaceIndex = line.indexOfFirst { !it.isWhitespace()
}\n
 when {\n
 firstNonWhitespaceIndex == -1 -> null\n
 line.startsWith(marginPrefix,
firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex + marginPrefix.length)\n
 else -> null\n
 }\n
 })\n
}\n\n/**\n
 * Detects a common minimal indent of all the input lines, removes it from every line and
also removes the first and the last\n * lines if they are blank (notice difference blank vs empty).\n * Note that
blank lines do not affect the detected indent level.\n * In case if there are non-blank lines with no leading
whitespace characters (no indent at all) then the\n * common indent is 0,
and therefore this function doesn't change the indentation.\n * Doesn't preserve the original line endings.\n *
@sample samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n */\n\npublic fun
String.trimIndent(): String = replaceIndent("\\")\n\n/**\n
 * Detects a common minimal indent like it does
[trimIndent] and replaces it with the specified [newIndent].\n */\n\npublic fun String.replaceIndent(newIndent: String
= "\\n"): String {\n
 val lines = lines()\n
 val minCommonIndent = lines\n
 .filter(String::isNotBlank)\n
 .map(String::indentWidth)\n
 .minOrNull() ?: 0\n
 return lines.reindent(length + newIndent.length *
lines.size, getIndentFunction(newIndent), { line -> line.drop(minCommonIndent) })\n
}\n\n/**\n
 * Prepends [indent]
to every line of the original string.\n * Doesn't preserve the original line endings.\n */\n\npublic fun
String.prependIndent(indent: String = "\n |"): String =\n
lineSequence()\n
 .map {\n
 when {\n
 it.isBlank() -> {\n
 when {\n
 it.length < indent.length ->
indent\n
 else -> it\n
 }\n
 }\n
 else -> indent + it\n
 }\n
 }\n
 .joinToString("\\n")\n\nprivate fun String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1)
length else it }\n\nprivate fun getIndentFunction(indent: String) = when {\n
 indent.isEmpty() -> { line: String ->
line }\n
 else -> { line: String -> indent + line }\n
}\n\nprivate inline fun List<String>.reindent(\n
resultSizeEstimate: Int,\n
indentAddFunction: (String) -> String,\n
indentCutFunction: (String) -> String?):\n
String {\n
 val lastIndex = lastIndex\n
 return mapIndexedNotNull { index, value ->\n
 if ((index == 0 || index
== lastIndex) && value.isBlank())\n
 null\n
 else\n
 indentCutFunction(value)?.let(indentAddFunction)
?: value\n
 }\n
 .joinTo(StringBuilder(resultSizeEstimate), "\\n")\n
 .toString()\n
}\n\n/**\n
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2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n
 * Defines names for Unicode symbols used in proper Typography.\n */\n\npublic object Typography {\n
 /** The
character " \u2013 quotation mark */\n
 public const val quote: Char = "\u0022"\n
 /** The character
$ \u2013 dollar sign */\n
 public const val dollar: Char = "\u0024"\n
 /** The character & \u2013
ampersand */\n
 public const val amp: Char = "\u0026"\n
 /** The character < \u2013 less-than sign */\n
 public const val less: Char = "\u003C"\n
 /** The character > \u2013 greater-than sign */\n
 public const val

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greater: Char = "\u003E" /** The non-breaking space character */
public const val nbsp: Char = "\u00A0" /** The character × */ public const val times: Char =
"\u00D7" /** The character ¢ */ public const val cent: Char = "\u00A2" /** The character £
*/ public const val pound: Char = "\u00A3" /** The character § */ public const val section: Char =
"\u00A7" /** The character © */ public const val copyright: Char = "\u00A9" /** The character
« */ @SinceKotlin("1.6") public const val leftGuillemet: Char = "\u00AB" /** The character
» */ @SinceKotlin("1.6") public const val rightGuillemet: Char = "\u00BB" /** The character
® */ public const val registered: Char = "\u00AE" /** The character ° */ public const val
degree: Char = "\u00B0" /** The character ± */ public const val plusMinus: Char = "\u00B1" /**
The character ¶ */ public const val paragraph: Char = "\u00B6"
/** The character · */ public const val middleDot: Char = "\u00B7" /** The character ½ */
public const val half: Char = "\u00BD" /** The character – */ public const val ndash: Char =
"\u2013" /** The character — */ public const val mdash: Char = "\u2014" /** The character
‘ */ public const val leftSingleQuote: Char = "\u2018" /** The character ’ */ public
const val rightSingleQuote: Char = "\u2019" /** The character ‚ */ public const val
lowSingleQuote: Char = "\u201A" /** The character “ */ public const val leftDoubleQuote: Char =
"\u201C" /** The character ” */ public const val rightDoubleQuote: Char = "\u201D" /** The
character „ */ public const val lowDoubleQuote: Char = "\u201E" /** The character † */
public const val dagger: Char = "\u2020" /** The character ‡ */ public
const val doubleDagger: Char = "\u2021" /** The character • */ public const val bullet: Char =
"\u2022" /** The character … */ public const val ellipsis: Char = "\u2026" /** The character
′ */ public const val prime: Char = "\u2032" /** The character ″ */ public const val
doublePrime: Char = "\u2033" /** The character € */ public const val euro: Char = "\u20AC"
/** The character ™ */ public const val tm: Char = "\u2122" /** The character ≈ */
public const val almostEqual: Char = "\u2248" /** The character ≠ */ public const val notEqual:
Char = "\u2260" /** The character ≤ */ public const val lessOrEqual: Char = "\u2264" /** The
character ≥ */ public const val greaterOrEqual: Char = "\u2265" /** The character « */
@Deprecated("This constant has a typo in the name. Use leftGuillemet instead.")
ReplaceWith("Typography.leftGuillemet")) @DeprecatedSinceKotlin("1.6") public const val
leftGuillemete: Char = "\u00AB" /** The character » */ @Deprecated("This constant has a typo in
the name. Use rightGuillemet instead.") ReplaceWith("Typography.rightGuillemet"))
@DeprecatedSinceKotlin("1.6") public const val rightGuillemete: Char = "\u00BB" },"/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.text\n\n/**\n *
Represents a collection of captured groups in a single match of a regular expression.\n *\n * This collection has size
of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n *\n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n *\n * An element of the
collection
at the particular index can be `null`,\n *\n * if the corresponding group in the regular expression is optional and\n *\n
there was no match captured by that group.\n */\npublic interface MatchGroupCollection :
Collection<MatchGroup?> {\n\n /** Returns a group with the specified [index].\n *\n * @return An instance
of [MatchGroup] if the group with the specified [index] was matched or `null` otherwise.\n *\n * Groups are
indexed from 1 to the count of groups in the regular expression. A group with the index 0\n *\n * corresponds to the
entire match.\n *\n */\n public operator fun get(index: Int): MatchGroup?\n\n /** Extends
[MatchGroupCollection] by introducing a way to get matched groups by name, when regex supports it.\n
*/\n @SinceKotlin("1.1")\npublic interface MatchNamedGroupCollection : MatchGroupCollection {\n\n /**\n *
Returns a named group with the specified [name].\n *\n * @return An instance of [MatchGroup] if the group with the
specified [name] was

```

```

 matched or `null` otherwise.\n * @throws IllegalArgumentException if there is no group with the specified
[name] defined in the regex pattern.\n * @throws UnsupportedOperationException if this match group collection
doesn't support getting match groups by name,\n * for example, when it's not supported by the current platform.\n
 */\n public operator fun get(name: String): MatchGroup?\n\n/**\n * Represents the results from a single
regular expression match.\n */\npublic interface MatchResult {\n /** The range of indices in the original string
where match was captured. */\n public val range: IntRange\n /** The substring from the input string captured by
this match. */\n public val value: String\n /**\n * A collection of groups matched by the regular expression.\n
 */\n * This collection has size of `groupCount + 1` where `groupCount` is the count of groups in the regular
expression.\n * Groups are indexed from 1 to `groupCount` and group
with the index 0 corresponds to the entire match.\n */\n public val groups: MatchGroupCollection\n /**\n *
A list of matched indexed group values.\n */\n * This list has size of `groupCount + 1` where `groupCount` is
the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the
index 0 corresponds to the entire match.\n */\n * If the group in the regular expression is optional and there were
no match captured by that group,\n * corresponding item in [groupValues] is an empty string.\n */\n *
@sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public val groupValues:
List<String>\n /**\n * An instance of [MatchResult.Destructured] wrapper providing components for
destructuring assignment of group values.\n */\n * component1 corresponds to the value of the first group,
component2 \u2014 of the second, and so on.\n */\n * @sample
samples.text.Regexps.matchDestructuringToGroupValues\n
 */\n public val destructured: Destructured get() = Destructured(this)\n /** Returns a new [MatchResult]
with the results for the next match, starting at the position\n * at which the last match ended (at the character after
the last matched character).\n */\n public fun next(): MatchResult?\n /**\n * Provides components for
destructuring assignment of group values.\n */\n * [component1] corresponds to the value of the first group,
[component2] \u2014 of the second, and so on.\n */\n * If the group in the regular expression is optional and
there were no match captured by that group,\n * corresponding component value is an empty string.\n */\n *
@sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public class Destructured internal
constructor(public val match: MatchResult) {\n @kotlin.internal.InlineOnly\n public operator inline fun
component1(): String = match.groupValues[1]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component2(): String = match.groupValues[2]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component3(): String = match.groupValues[3]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component4(): String = match.groupValues[4]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component5(): String = match.groupValues[5]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component6(): String = match.groupValues[6]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component7(): String = match.groupValues[7]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component8(): String = match.groupValues[8]\n
 @kotlin.internal.InlineOnly\n public operator inline fun component9(): String = match.groupValues[9]\n
 @kotlin.internal.InlineOnly\n
 public operator inline fun component10(): String = match.groupValues[10]\n /**\n * Returns
destructured group values as a list of strings.\n * First value in the returned list corresponds to the value of the
first group, and so on.\n */\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n
 */\n public fun toList(): List<String> = match.groupValues.subList(1, match.groupValues.size)\n }
}\n\n/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass()\n@file:kotlin.jvm.JvmName("DurationUnitKt")\n\npackage
kotlin.time\n\n/**\n * The list of possible time measurement units, in which a duration can be expressed.\n */\n *
The smallest time unit is [NANOSECONDS] and the largest is [DAYS], which corresponds to exactly 24
[HOURS].\n */\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic expect enum class
DurationUnit {\n /**\n * Time unit representing one nanosecond, which is 1/1000 of a microsecond.\n */\n
}

```



```

NANOSECONDS,\n /**\n * Time unit representing one microsecond, which is 1/1000 of a millisecond.\n
*\n MICROSECONDS,\n /**\n * Time unit representing one millisecond, which is 1/1000 of a second.\n
*\n MILLISECONDS,\n /**\n * Time unit representing one second.\n * \n SECONDS,\n /**\n *
Time unit representing one minute.\n * \n MINUTES,\n /**\n * Time unit representing one hour.\n * \n
HOURS,\n /**\n * Time unit representing one day, which is always equal to 24 hours.\n * \n
DAYS;\n}\n\n/** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified
[targetUnit]. *\n@SinceKotlin("1.3")\ninternal expect fun convertDurationUnit(value: Double,
sourceUnit: DurationUnit, targetUnit: DurationUnit): Double\n\n// overflown result is
unspecified\n@SinceKotlin("1.5")\ninternal expect fun convertDurationUnitOverflow(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Long\n\n// overflown result is coerced in the Long range
boundaries\n@SinceKotlin("1.5")\ninternal expect fun convertDurationUnit(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit):
Long\n\n\n@SinceKotlin("1.3")\n@Suppress("REDUNDANT_ELSE_IN_WHEN")\ninternal fun
DurationUnit.shortName(): String = when (this) {\n DurationUnit.NANOSECONDS -> "ns"\n
DurationUnit.MICROSECONDS -> "us"\n DurationUnit.MILLISECONDS -> "ms"\n
DurationUnit.SECONDS -> "s"\n DurationUnit.MINUTES -> "m"\n DurationUnit.HOURS -> "h"\n
DurationUnit.DAYS -> "d"\n else -> error("Unknown unit: $this")\n}\n\n\n@SinceKotlin("1.5")\ninternal fun
durationUnitByShortName(shortName: String): DurationUnit = when (shortName) {\n "ns"
-> DurationUnit.NANOSECONDS\n "us" -> DurationUnit.MICROSECONDS\n "ms" ->
DurationUnit.MILLISECONDS\n "s" -> DurationUnit.SECONDS\n "m" -> DurationUnit.MINUTES\n
"h" -> DurationUnit.HOURS\n "d" -> DurationUnit.DAYS\n else -> throw
IllegalArgumentException("Unknown duration unit short name:
$shortName")\n}\n\n\n@SinceKotlin("1.5")\ninternal fun durationUnitByIsoChar(isoChar: Char,
isTimeComponent: Boolean): DurationUnit =\n when {\n !isTimeComponent -> {\n when (isoChar)
{\n 'D' -> DurationUnit.DAYS\n else -> throw IllegalArgumentException("Invalid or
unsupported duration ISO non-time unit: $isoChar")\n } }\n else -> {\n when (isoChar) {\n
'H' -> DurationUnit.HOURS\n 'M' -> DurationUnit.MINUTES\n 'S' ->
DurationUnit.SECONDS\n else -> throw IllegalArgumentException("Invalid duration ISO time unit:
$isoChar")\n }\n }\n },"/>\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n *
This annotation marks the experimental preview of the standard library API for measuring time and working with
durations.\n */\n * > Note that this API is in a preview state and has a very high chance of being changed in the
future.\n * Do not use it if you develop a library since your library will become binary incompatible\n * with the
future versions of the standard library.\n */\n * Any usage of a declaration annotated with `@ExperimentalTime`
must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g.
`@OptIn(ExperimentalTime::class)`,\n * or by using the compiler argument `-opt-
in=kotlin.time.ExperimentalTime`.\n */\n@RequiresOptIn(level
=
RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(\n
CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n
VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n
PROPERTY_SETTER,\n TYPEALIAS)\n@SinceKotlin("1.3")\npublic annotation class
ExperimentalTime\n"/>\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.jvm.JvmInline\n\n/**\n * A source of time
for measuring time intervals.\n */\n * The only operation provided by the time source is [markNow]. It returns a

```

[TimeMark], which can be used to query the elapsed time later. @see [measureTime] @see [measureTimedValue] @SinceKotlin("1.3") @ExperimentalTime\npublic interface TimeSource {\n /\*\*\n \*

Marks a point in time on this time source. The returned [TimeMark] instance encapsulates the captured time point and allows querying the duration of time interval [elapsed][TimeMark.elapsedNow] from that point. public fun markNow(): TimeMark\n /\*\*\n \* The most precise time source available in the platform. This time source returns its readings from a source of monotonic time when it is available in a target platform, and resorts to a non-monotonic time source otherwise. The function [markNow] of this time source returns the specialized [ValueTimeMark] that is an inline value class wrapping a platform-dependent time reading value. public object Monotonic : TimeSource {\n override fun markNow(): ValueTimeMark = MonotonicTimeSource.markNow()\n override fun toString(): String = MonotonicTimeSource.toString()\n /\*\*\n \* A specialized [kotlin.time.TimeMark] returned by [TimeSource.Monotonic].\n \* This time mark is implemented as an inline value class wrapping a platform-dependent time reading value of the default monotonic time source, thus allowing to avoid additional boxing of that value.\n \* The operations [plus] and [minus] are also specialized to return [ValueTimeMark] type. @ExperimentalTime @SinceKotlin("1.7")\n @JvmInline\n public value class ValueTimeMark internal constructor(internal val reading: ValueTimeMarkReading) : TimeMark {\n override fun elapsedNow(): Duration = MonotonicTimeSource.elapsedFrom(this)\n override fun plus(duration: Duration): ValueTimeMark = MonotonicTimeSource.adjustReading(this, duration)\n override fun minus(duration: Duration): ValueTimeMark = MonotonicTimeSource.adjustReading(this, -duration)\n override fun hasPassedNow(): Boolean = !elapsedNow().isNegative()\n override fun hasNotPassedNow(): Boolean = elapsedNow().isNegative()\n }\n }\n\n public companion object {\n }\n\n /\*\* A platform-specific reading type that is wrapped by [TimeSource.Monotonic.ValueTimeMark] inline class. internal expect class ValueTimeMarkReading\n /\*\*\n \* Represents a time point notched on a particular [TimeSource]. Remains bound to the time source it was taken from and allows querying for the duration of time elapsed from that point (see the function [elapsedNow]).\n \* @SinceKotlin("1.3") @ExperimentalTime\npublic interface TimeMark {\n /\*\*\n \* Returns the amount of time passed from this mark measured with the time source from which this mark was taken. Note that the value returned by this function can change on subsequent invocations. @throws IllegalArgumentException an implementation may throw if calculating the elapsed time involves adding a positive infinite duration to an infinitely distant past time mark or a negative infinite duration to an infinitely distant future time mark. public abstract fun elapsedNow(): Duration\n /\*\*\n \* Returns a time mark on the same time source that is ahead of this time mark by the specified [duration]. The returned time mark is more `_late_` when the [duration] is positive, and more `_early_` when the [duration] is negative. If the time mark is adjusted too far in the past or in the future, it may saturate to an infinitely distant time mark. In that case, [elapsedNow] will return an infinite duration elapsed from such infinitely distant mark. @throws IllegalArgumentException an implementation may throw if a positive infinite duration is added to an infinitely distant past time mark or a negative infinite duration is added to an infinitely distant future time mark.\n /\*\*\n public open operator fun plus(duration: Duration): TimeMark = AdjustedTimeMark(this, duration)\n /\*\*\n \* Returns a time mark on the same time source that is behind this time mark by the specified [duration]. The returned time mark is more `_early_` when the [duration] is positive, and more `_late_` when the [duration] is negative. If the time mark is adjusted too far in the past or in the future, it may saturate to an infinitely distant time mark. In that case, [elapsedNow] will return an infinite duration elapsed from such infinitely distant mark. @throws IllegalArgumentException an implementation may throw if a positive infinite duration is subtracted from an infinitely distant future time mark or a negative infinite duration is subtracted from an infinitely distant past



```

override fun plus(duration: Duration): TimeMark = DoubleTimeMark(startedAt, timeSource, offset + duration)\n
}\n\n override fun markNow(): TimeMark = DoubleTimeMark(read(), this, Duration.ZERO)\n}\n\n/**\n * A time\n source that has programmatically updatable readings. It is useful as a predictable source of time in tests.\n *\n * The\n current reading value can be advanced by the specified duration\n amount with the operator [plusAssign]:\n *\n * val timeSource = TestTimeSource()\n * timeSource +=\n 10.seconds\n *\n * Implementation note: the current reading value is stored as a [Long] number of\n nanoseconds,\n * thus it's capable to represent a time range of approximately 1292 years.\n * Should the\n reading value overflow as the result of [plusAssign] operation, an [IllegalStateException] is thrown.\n\n *\n * @SinceKotlin("1.3")\n * @ExperimentalTime\n public class TestTimeSource : AbstractLongTimeSource(unit =\n DurationUnit.NANOSECONDS) {\n private var reading: Long = 0L\n\n override fun read(): Long = reading\n\n /**\n * Advances the current reading value of this time source by the specified [duration].\n *\n * [duration]\n value is rounded down towards zero when converting it to a [Long] number of nanoseconds.\n *\n * For example, if\n the duration being added is `0.6.nanoseconds`, the reading doesn't advance because\n * the duration value is\n rounded to zero nanoseconds.\n *\n * @throws IllegalStateException when the reading value overflows as the\n result of this operation.\n *\n public operator fun plusAssign(duration: Duration) {\n val longDelta =\n duration.toLong(unit)\n reading = if (longDelta != Long.MIN_VALUE && longDelta != Long.MAX_VALUE)\n {\n // when delta fits in long, add it as long\n val newReading = reading + longDelta\n if\n (reading xor longDelta >= 0 && reading xor newReading < 0) overflow(duration)\n newReading\n } else\n {\n val delta = duration.toDouble(unit)\n // when delta is greater than long, add it as double\n val newReading = reading + delta\n if (newReading > Long.MAX_VALUE || newReading <\n Long.MIN_VALUE) overflow(duration)\n newReading.toLong()\n }\n }\n\n private fun\n overflow(duration: Duration) {\n throw IllegalStateException("TestTimeSource will\n overflow if its reading ${reading}ns is advanced by $duration.")\n }\n\n /**\n * Copyright 2010-2022\n JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the\n Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n package kotlin.time\n\n import\n kotlin.time.Duration.Companion.milliseconds\n\n import\n kotlin.time.Duration.Companion.nanoseconds\n\n // Long\n time reading saturation math, shared between JVM and Native\n\n internal fun saturatingAdd(longNs: Long,\n duration: Duration): Long {\n val durationNs = duration.inWholeNanoseconds\n if ((longNs - 1) or 1 ==\n Long.MAX_VALUE) { // MIN_VALUE or MAX_VALUE - the reading is infinite\n return\n checkInfiniteSumDefined(longNs, duration, durationNs)\n }\n if ((durationNs - 1) or 1 == Long.MAX_VALUE)\n { // duration doesn't fit in Long nanos\n return saturatingAddInHalves(longNs, duration)\n }\n val result =\n longNs + durationNs\n if (((longNs\n xor result) and (durationNs xor result)) < 0) {\n return if (longNs < 0) Long.MIN_VALUE else\n Long.MAX_VALUE\n }\n return result\n }\n\n private fun checkInfiniteSumDefined(longNs: Long, duration:\n Duration, durationNs: Long): Long {\n if (duration.isInfinite() && (longNs xor durationNs < 0)) throw\n IllegalArgumentException("Summing infinities of different signs")\n return longNs\n }\n\n private fun\n saturatingAddInHalves(longNs: Long, duration: Duration): Long {\n val half = duration / 2\n if\n ((half.inWholeNanoseconds - 1) or 1 == Long.MAX_VALUE) {\n // this will definitely saturate\n return\n (longNs + duration.toDouble(DurationUnit.NANOSECONDS)).toLong()\n } else {\n return\n saturatingAdd(saturatingAdd(longNs, half), half)\n }\n }\n\n internal fun saturatingDiff(valueNs: Long, originNs:\n Long): Duration {\n if ((originNs - 1) or 1 == Long.MAX_VALUE) { // MIN_VALUE or MAX_VALUE\n return -(originNs.toDuration(DurationUnit.DAYS)) // saturate\n to infinity\n }\n val result = valueNs - originNs\n if ((result xor valueNs) and (result xor originNs).inv() < 0)\n {\n val resultMs = valueNs / NANOS_IN_MILLIS - originNs / NANOS_IN_MILLIS\n val resultNs =\n valueNs % NANOS_IN_MILLIS - originNs % NANOS_IN_MILLIS\n return resultMs.milliseconds +\n resultNs.nanoseconds\n }\n return result.nanoseconds\n }\n\n /**\n * Copyright 2010-2022 JetBrains s.r.o. and\n Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\n can be found in the license/LICENSE.txt file.\n *\n package kotlin.time\n\n import\n kotlin.contracts.*\n\n *

```

```

Executes the given function [block] and returns the duration of elapsed time interval.
 * The elapsed time is measured with [TimeSource.Monotonic].
@SinceKotlin("1.3")@ExperimentalTime
public inline fun measureTime(block: () -> Unit): Duration {
 contract {
 callsInPlace(block,
 InvocationKind.EXACTLY_ONCE)
 }
 return TimeSource.Monotonic.measureTime(block)
}

 * Executes the given function [block] and returns the duration of elapsed time interval.
 * The elapsed time is measured with the specified `this` [TimeSource] instance.
@SinceKotlin("1.3")@ExperimentalTime
public inline fun TimeSource.measureTime(block: () -> Unit): Duration {
 contract {
 callsInPlace(block,
 InvocationKind.EXACTLY_ONCE)
 }
 val mark = markNow()
 block()
 return mark.elapsedNow()
}

 * Executes the given function [block] and returns the duration of elapsed time interval.
 * The elapsed time is measured with the specified `this` [TimeSource.Monotonic] instance.
@SinceKotlin("1.7")@ExperimentalTime
public inline fun TimeSource.Monotonic.measureTime(block: () -> Unit): Duration {
 contract {
 callsInPlace(block, InvocationKind.EXACTLY_ONCE)
 }
 val mark = markNow()
 block()
 return mark.elapsedNow()
}

 * Data class representing a result of executing an action, along with the duration of elapsed time interval.
 * @property value the result of the action.
 * @property duration the time elapsed to execute the action.
@SinceKotlin("1.3")@ExperimentalTime
public data class TimedValue<T>(val value: T, val duration: Duration)

 * Executes the given function [block] and returns an instance of [TimedValue] class, containing both
 * the result of the function execution and the duration of elapsed time interval.
 * The elapsed time is measured with [TimeSource.Monotonic].
@SinceKotlin("1.3")@ExperimentalTime
public inline fun <T> measureTimedValue(block: () -> T): TimedValue<T> {
 contract {
 callsInPlace(block,
 InvocationKind.EXACTLY_ONCE)
 }
 return TimeSource.Monotonic.measureTimedValue(block)
}

 * Executes the given [block] and returns an instance of [TimedValue] class, containing both
 * the result of function execution and the duration of elapsed time interval.
 * The elapsed time is measured with the specified `this` [TimeSource] instance.
@SinceKotlin("1.3")@ExperimentalTime
public inline fun <T> TimeSource.measureTimedValue(block: () -> T): TimedValue<T> {
 contract {
 callsInPlace(block,
 InvocationKind.EXACTLY_ONCE)
 }
 val mark = markNow()
 val result = block()
 return TimedValue(result, mark.elapsedNow())
}

 * Executes the given [block] and returns an instance of [TimedValue] class, containing both
 * the result of function execution and the duration of elapsed time interval.
 * The elapsed time is measured with the specified `this` [TimeSource.Monotonic] instance.
@SinceKotlin("1.7")@ExperimentalTime
public inline fun <T> TimeSource.Monotonic.measureTimedValue(block: () -> T): TimedValue<T> {
 contract {
 callsInPlace(block, InvocationKind.EXACTLY_ONCE)
 }
 val mark = markNow()
 val result = block()
 return TimedValue(result, mark.elapsedNow())
}

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package kotlin
import kotlin.coroutines.*
import kotlin.coroutines.intrinsics.*
import kotlin.native.concurrent.SharedImmutable

 * Defines deep recursive function that keeps its stack on the heap,
 * which allows very deep recursive computations that do not use the actual call stack.
 * To initiate a call to this deep recursive function use its [invoke] function.
 * As a rule of thumb, it should be used if recursion goes deeper than a thousand calls.
 * The [DeepRecursiveFunction] takes one parameter of type [T] and returns a result of type [R].
 * The [block] of code defines the body of a recursive function. In this block
 * [callRecursive][DeepRecursiveScope.callRecursive] function can be used to make a recursive call
 * to the declared function. Other instances of [DeepRecursiveFunction] can be called
 * in this scope with `callRecursive` extension, too.
 * For example, take a look at the following recursive tree class and a deeply
 * recursive instance of this tree with 100K nodes:
 * class Tree(val left: Tree? = null, val right: Tree? = null) {

```

```

Tree(it) }.take(100_000).last())\n * ```\n *\n * A regular recursive function can be defined to compute a depth of a
tree:\n *\n * ```\n * fun depth(t: Tree?): Int =\n * if (t == null) 0 else max(depth(t.left), depth(t.right)) + 1\n *
println(depth(deepTree)) // StackOverflowError\n * ```\n *\n * If this `depth` function is called for a `deepTree` it
produces `StackOverflowError` because of deep recursion.\n * However, the `depth` function can be rewritten using
`DeepRecursiveFunction` in the following way, and then\n * it successfully computes
[depth(deepTree)][DeepRecursiveFunction.invoke] expression:\n *\n * ```\n * val depth =
DeepRecursiveFunction<Tree?, Int> { t ->\n * if (t == null) 0 else max(callRecursive(t.left),
callRecursive(t.right)) + 1\n * }\n * println(depth(deepTree)) // Ok\n * ```\n *\n * Deep recursive functions can also
mutually call each other using a heap for the stack via\n * [callRecursive][DeepRecursiveScope.callRecursive]
extension. For example, the\n * following pair of mutually recursive functions computes the number of tree nodes at
even depth in the tree.\n *\n * ```\n * val mutualRecursion = object {\n * val even:
DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t ->\n * if (t == null) 0 else
odd.callRecursive(t.left) + odd.callRecursive(t.right) + 1\n * }\n * val odd: DeepRecursiveFunction<Tree?,
Int> = DeepRecursiveFunction { t ->\n * if (t == null) 0 else even.callRecursive(t.left) +
even.callRecursive(t.right)\n * }\n * }\n * ```\n *\n * @param [T] the function parameter type.\n * @param [R] the function result type.\n * @param block the function
body.\n * ^\n * @SinceKotlin("1.7")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * public class
DeepRecursiveFunction<T, R>(\n * internal val block: suspend DeepRecursiveScope<T, R>.(T) -> R)\n *)\n * /**\n *
Initiates a call to this deep recursive function, forming a root of the call tree.\n * This operator should not be
used from inside of [DeepRecursiveScope] as it uses the call stack slot for\n * initial recursive invocation. From
inside of [DeepRecursiveScope] use\n * [callRecursive][DeepRecursiveScope.callRecursive].\n *
^ \n * @SinceKotlin("1.7")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * public operator fun <T, R>
DeepRecursiveFunction<T, R>.invoke(value: T): R =\n * DeepRecursiveScopeImpl<T, R>(block,
value).runCallLoop()\n * /**\n *
A scope class for [DeepRecursiveFunction] function declaration that defines
[callRecursive] methods to\n * recursively call this function
or another [DeepRecursiveFunction] putting the call activation frame on the heap.\n *
^ \n * @param [T] function
parameter type.\n * @param [R] function result type.\n *
^ \n * @RestrictsSuspension\n * @SinceKotlin("1.7")\n * @WasExperimental(ExperimentalStdlibApi::class)\n * public
sealed class DeepRecursiveScope<T, R> {\n * /**\n * * Makes recursive call to this [DeepRecursiveFunction]
function putting the call activation frame on the heap,\n * * as opposed to the actual call stack that is used by a
regular recursive call.\n * * ^ \n * public abstract suspend fun callRecursive(value: T): R\n * * /**\n * * Makes call
to the specified [DeepRecursiveFunction] function putting the call activation frame on the heap,\n * * as opposed
to the actual call stack that is used by a regular call.\n * * ^ \n * public abstract suspend fun <U, S>
DeepRecursiveFunction<U, S>.callRecursive(value: U): S\n * * @Deprecated(\n * level =
DeprecationLevel.ERROR,\n * message =\n * \\'\'invoke\
should not be called from DeepRecursiveScope.\'\' +\n * \\'\'Use \'callRecursive\' to do recursion in the heap
instead of the call stack.\'\' ,\n * replaceWith = ReplaceWith(\\'\'this.callRecursive(value)\'\')\n *)\n *
^ \n * @Suppress(\\'\'UNUSED_PARAMETER\')\n * public operator fun DeepRecursiveFunction<*, *>.invoke(value:
Any?): Nothing =\n * throw UnsupportedOperationException(\\'\'Should not be called from
DeepRecursiveScope\')\n * }\n * // ===== Implementation =====\n * private
typealias DeepRecursiveFunctionBlock = suspend DeepRecursiveScope<*, *>.(Any?) ->
Any?\n * private val UNDEFINED_RESULT =
Result.success(COROUTINE_SUSPENDED)\n * @Suppress(\\'\'UNCHECKED_CAST\')\n * private class
DeepRecursiveScopeImpl<T, R>(\n * block: suspend DeepRecursiveScope<T, R>.(T) -> R,\n * value: T)\n * :
DeepRecursiveScope<T, R>(), Continuation<R> {\n * // Active function block\n * private var function:
DeepRecursiveFunctionBlock = block as DeepRecursiveFunctionBlock\n *
^ \n * // Value to call function with\n * private var value: Any? = value\n * // Continuation of the current call\n *
private var cont: Continuation<Any?>? = this as Continuation<Any?>\n * // Completion result (completion of the

```

```

whole call stack)\n private var result: Result<Any?> = UNDEFINED_RESULT\n\n override val context:
CoroutineContext\n get() = EmptyCoroutineContext\n\n override fun resumeWith(result: Result<R>) {\n
this.cont = null\n this.result = result\n }\n\n override suspend fun callRecursive(value: T): R =
suspendCoroutineUninterceptedOrReturn { cont ->\n // calling the same function that is currently active\n
this.cont = cont as Continuation<Any?>\n this.value = value\n COROUTINE_SUSPENDED\n }\n\n
override suspend fun <U, S> DeepRecursiveFunction<U, S>.callRecursive(value: U): S =
suspendCoroutineUninterceptedOrReturn { cont ->\n // calling another recursive function\n val
function = block as DeepRecursiveFunctionBlock\n with(this@DeepRecursiveScopeImpl) {\n val
currentFunction = this.function\n if (function !== currentFunction) {\n // calling a different function
-- create a trampoline to restore function ref\n this.function = function\n this.cont =
crossFunctionCompletion(currentFunction, cont as Continuation<Any?>)\n } else {\n // calling the
same function -- direct\n this.cont = cont as Continuation<Any?>\n }\n this.value = value\n
}\n COROUTINE_SUSPENDED\n }\n\n private fun crossFunctionCompletion(\n currentFunction:
DeepRecursiveFunctionBlock,\n cont: Continuation<Any?>\n): Continuation<Any?> =
Continuation(EmptyCoroutineContext) {\n this.function = currentFunction\n // When going back from a
trampoline we cannot just call cont.resume (stack usage!)\n //
We delegate the cont.resumeWith(it) call to runCallLoop\n this.cont = cont\n this.result = it\n }\n\n
@Suppress("UNCHECKED_CAST")\n fun runCallLoop(): R {\n while (true) {\n // Note: cont is set
to null in DeepRecursiveScopeImpl.resumeWith when the whole computation completes\n val result =
this.result\n val cont = this.cont\n ?: return (result as Result<R>).getOrThrow() // done -- final
result\n // The order of comparison is important here for that case of rogue class with broken equals\n
if (UNDEFINED_RESULT == result) {\n // call "function" with "value" using "cont" as completion\n
val r = try {\n // This is block.startCoroutine(this, value, cont)\n
function.startCoroutineUninterceptedOrReturn(this, value, cont)\n } catch (e: Throwable) {\n
cont.resumeWithException(e)\n
continue\n }\n // If the function returns without suspension -- calls its continuation
immediately\n if (r !== COROUTINE_SUSPENDED)\n cont.resume(r as R)\n } else
{\n // we returned from a crossFunctionCompletion trampoline -- call resume here\n this.result =
UNDEFINED_RESULT // reset result back\n cont.resumeWith(result)\n }\n }\n }\n\n"/*\n
* Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated
file. DO NOT
EDIT!\n\n@file:kotlin.jvm.JvmName("NumbersKt")\n@file:kotlin.jvm.JvmMultifileClass\npackage
kotlin\nimport kotlin.math.sign\n/** Divides this value by the other value, flooring the result to an integer that is
closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic
inline fun Byte.floorDiv(other: Byte): Int = \n this.toInt().floorDiv(other.toInt())\n\n**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign
as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Byte): Byte = \n
this.toInt().mod(other.toInt()).toByte()\n\n**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Short): Int = \n this.toInt().floorDiv(other.toInt())\n\n**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the
absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.mod(other: Short): Short = \n this.toInt().mod(other.toInt()).toShort()\n\n**\n * Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.floorDiv(other: Int): Int = \n

```

```

this.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.mod(other: Int): Int = \n this.toInt().mod(other)\n\n/** Divides this value by the other value, flooring the
result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline
fun Byte.floorDiv(other: Long): Long = \n this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
divisor and has the absolute value less than the absolute value of the divisor.\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Long): Long = \n
this.toLong().mod(other)\n\n/** Divides this value by the other value, flooring the result to an integer that is closer
to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other:
Byte): Int = \n this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute
value less than the absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic
inline fun Short.mod(other: Byte): Byte = \n this.toInt().mod(other.toInt()).toByte()\n\n/** Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Short): Int = \n
this.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Short): Short = \n this.toInt().mod(other.toInt()).toShort()\n\n/** Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Int): Int =
\n this.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Int): Int = \n this.toInt().mod(other)\n\n/** Divides this value by the other value, flooring the
result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Long): Long = \n
this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Long):
Long = \n this.toLong().mod(other)\n\n/** Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Int.floorDiv(other: Byte): Int = \n this.floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and
has the absolute value less than the absolute value of the divisor.\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Byte): Byte = \n
this.mod(other.toInt()).toByte()\n\n/** Divides this value by the other value, flooring the result to an integer that is
closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Int.floorDiv(other: Short): Int = \n this.floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring
division of
this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the
absolute value less than the absolute value of the divisor.\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Short): Short = \n
this.mod(other.toInt()).toShort()\n\n/** Divides this value by the other value, flooring the result to an integer that is

```



closer to negative infinity. `*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Int): Int {\n var q = this / other\n if (this xor other < 0 && q * other != this) q--\n return q}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Int): Int {\n val r = this % other\n return r + (other and (((r xor other) and (r or -r)) shr 31))}\n\n/** Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.`

`*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Long): Long = \n this.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Long): Long = \n this.toLong().mod(other)\n\n/** Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.`

`*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Byte): Long = \n this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Byte): Byte = \n this.mod(other.toLong()).toByte()\n\n/** Divides this value by the other value, flooring the result to an integer that is closer to negative infinity. *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Short): Long = \n this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Short): Short = \n this.mod(other.toLong()).toShort()\n\n/**\n Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.`

`*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Int): Long = \n this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Int): Int = \n this.mod(other.toLong()).toInt()\n\n/** Divides this value by the other value, flooring the result to an integer that is closer to negative infinity.`

`*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Long): Long {\n var q = this / other\n if (this xor other < 0 && q * other != this) q--\n return q}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Long): Long {\n val r = this % other\n return r + (other and (((r xor other) and (r or -r)) shr 63))}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.\n *\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Float.mod(other: Float): Float {\n val r = this % other\n return if (r != 0.0.toFloat() && r.sign != other.sign) r + other else r}\n\n/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the`

`_divisor_` and has the absolute value less than the absolute value of the divisor.  
 \* If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or `_equal to_` the absolute value of the divisor.

```

@SinceKotlin("1.5")@kotlin.internal.InlineOnly
public inline fun Float.mod(other: Double): Double =
 this.toDouble().mod(other)
 * Calculates the remainder of flooring division of this value by the other value.
 * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.
 * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.
@SinceKotlin("1.5")@kotlin.internal.InlineOnly
public inline fun Double.mod(other: Float): Double =
 this.mod(other.toDouble())
 * Calculates the remainder of flooring division of this value by the other value.
 * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the absolute value of the divisor.
 * If the result cannot be represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of the divisor.
@SinceKotlin("1.5")@kotlin.internal.InlineOnly
public inline fun Double.mod(other: Double): Double {
 val r = this % other
 return if (r != 0.0 && r.sign != other.sign) r + other else r
}
 * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
@package kotlin.nimpor kotlin.internal.InlineOnly
Returns a hash code value for the object or zero if the object is null.
 * @see Any.hashCode
@SinceKotlin("1.3")@InlineOnly
public inline fun Any?.hashCode(): Int = this?.hashCode() ?: 0
 * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
@package kotlin
 * Represents a version of the Kotlin standard library.
 * [major], [minor] and [patch] are integer components of a version,
 * they must be non-negative and not greater than 255 ([MAX_COMPONENT_VALUE]).
 * @constructor Creates a version from all three components.
@SinceKotlin("1.1")
public class KotlinVersion(val
 major: Int, val minor: Int, val patch: Int) : Comparable<KotlinVersion> {
 /**
 * Creates a version from [major] and [minor] components, leaving [patch] component zero.
 */
 public constructor(major: Int, minor: Int) : this(major, minor, 0)
 private val version = versionOf(major, minor, patch)
 private fun versionOf(major: Int, minor: Int, patch: Int): Int {
 require(major in 0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in 0..MAX_COMPONENT_VALUE) {
 "Version components are out of range: $major.$minor.$patch"
 }
 return major.shl(16) + minor.shl(8) + patch
 }
 /**
 * Returns the string representation of this version
 */
 override fun toString(): String = "$major.$minor.$patch"
 override fun equals(other: Any?): Boolean {
 if (this === other) return true
 val otherVersion = (other as? KotlinVersion)?: return false
 return this.version == otherVersion.version
 }
 override fun hashCode(): Int = version
 override fun compareTo(other: KotlinVersion): Int = version - other.version
 /**
 * Returns true if this version is not less than the version specified
 * with the provided [major] and [minor] components.
 */
 public fun isAtLeast(major: Int, minor: Int): Boolean =
 this.version >= versionOf(major, minor, 0) ||
 this.major > major || (this.major == major && this.minor >= minor)
 /**
 * Returns true if this version is not less than the version specified
 * with the provided [major], [minor] and [patch] components.
 */
 public fun isAtLeast(major: Int, minor: Int, patch: Int): Boolean =
 this.version >= versionOf(major, minor, patch) ||
 this.major > major || (this.major == major && (this.minor > minor || this.minor == minor && this.patch >= patch))
 companion object {
 /**
 * Maximum value a version component can have, a constant value 255.
 */
 // NOTE: Must be placed before CURRENT because its initialization requires this field being initialized in JS
 public const val MAX_COMPONENT_VALUE = 255
 /**
 * Returns the current version of the Kotlin standard

```

```

library.\n *\n @kotlin.jvm.JvmField\n public val CURRENT: KotlinVersion =
KotlinVersionCurrentValue.get()\n }\n}\n\n// this class is ignored during classpath normalization when
considering whether to recompile dependencies in Kotlin build\nprivate object KotlinVersionCurrentValue {\n
 @kotlin.jvm.JvmStatic\n fun get(): KotlinVersion = KotlinVersion(1, 7, 10) // value is written here automatically
during build\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("LateinitKt")\n@file:Suppress("unused")\n\npackage
kotlin\n\nimport kotlin.internal.InlineOnly\nimport kotlin.internal.AccessibleLateinitPropertyLiteral\nimport
kotlin.reflect.KProperty0\n\n/**\n * Returns `true` if this lateinit property has been assigned a value, and `false`
otherwise.\n *\n * Cannot be used in an inline function, to avoid binary compatibility issues.\n
*/\n\n@SinceKotlin("1.2")\n@InlineOnly\ninline val @receiver:AccessibleLateinitPropertyLiteral
KProperty0<*>.isInitialized: Boolean\n get() = throw NotImplementedError("Implementation is
intrinsic")\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("LazyKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin\n\nimport
kotlin.reflect.KProperty\n\n/**\n * Represents a value with lazy initialization.\n
*\n * To create an instance of [Lazy] use the [lazy] function.\n */\npublic interface Lazy<out T> {\n /**\n *
Gets the lazily initialized value of the current Lazy instance.\n * Once the value was initialized it must not change
during the rest of lifetime of this Lazy instance.\n */\n public val value: T\n /**\n * Returns `true` if a
value for this Lazy instance has been already initialized, and `false` otherwise.\n * Once this function has returned
`true` it stays `true` for the rest of lifetime of this Lazy instance.\n */\n public fun isInitialized():
Boolean\n}\n\n/**\n * Creates a new instance of the [Lazy] that is already initialized with the specified [value].\n
*/\n\npublic fun <T> lazyOf(value: T): Lazy<T> = InitializedLazyImpl(value)\n\n/**\n * An extension to delegate a
read-only property of type [T] to an instance of [Lazy].\n *\n * This extension allows to use instances of Lazy for
property delegation:\n *\n `val property: String
 by lazy { initializer }`\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <T>
Lazy<T>.getValue(thisRef: Any?, property: KProperty<*>): T = value\n\n/**\n * Specifies how a [Lazy] instance
synchronizes initialization among multiple threads.\n */\n\npublic enum class LazyThreadSafetyMode {\n /**\n *
Locks are used to ensure that only a single thread can initialize the [Lazy] instance.\n */\n SYNCHRONIZED,\n /**\n * Initializer function can be called several times on concurrent access to
uninitialized [Lazy] instance value,\n * but only the first returned value will be used as the value of [Lazy]
instance.\n */\n PUBLICATION,\n /**\n * No locks are used to synchronize an access to the [Lazy]
instance value; if the instance is accessed from multiple threads, its behavior is undefined.\n *\n * This mode
should not be used unless the [Lazy] instance is guaranteed never to be initialized from more than one thread.\n
*/\n *\n NONE,\n}\n\n\ninternal object UNINITIALIZED_VALUE\n\n// internal to be called from lazy in JS\ninternal
class UnsafeLazyImpl<out T>(initializer: () -> T) : Lazy<T>, Serializable {\n private var initializer: (() -> T)? =
initializer\n private var _value: Any? = UNINITIALIZED_VALUE\n\n override val value: T\n get() {\n
 if (_value === UNINITIALIZED_VALUE) {\n _value = initializer!!()\n initializer = null\n
 }\n @Suppress("UNCHECKED_CAST")\n return _value as T\n }\n\n override fun
isInitialized(): Boolean = _value !== UNINITIALIZED_VALUE\n\n override fun toString(): String = if
(isInitialized()) value.toString() else "Lazy value not initialized yet.\n\n private fun writeReplace(): Any =
InitializedLazyImpl(value)\n}\n\n\ninternal class InitializedLazyImpl<out T>(override val value: T) : Lazy<T>,
Serializable {\n override fun isInitialized(): Boolean = true\n\n override fun
toString(): String = value.toString()\n}\n}"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("NumbersKt")\n\npackage kotlin\n\n/**\n *

```

Counts the number of set bits in the binary representation of this [Int] number.\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary
representation of this [Int] number.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Int] number.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Int.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the
most significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeHighestOneBit(): Int\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeLowestOneBit(): Int\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified
[bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least
significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it
right by the negated bit
count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [Int.SIZE_BITS]
(32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
```

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.rotateLeft(bitCount: Int): Int\n\n/**\n * Rotates the binary representation of this [Int] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a
multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 32)`\n
```

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Int.rotateRight(bitCount: Int): Int\n\n/**\n * Counts the number of set bits in the binary representation
of this [Long] number.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Long.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero
in the binary representation of this [Long] number.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Long] number.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Long.takeHighestOneBit(): Long\n\n/**\n * Returns a number having a single bit set in the position of
the least significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.takeLowestOneBit(): Long\n\n/**\n * Rotates the binary representation of this [Long] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as
the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 64)`\n
```

```

*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic
expect fun Long.rotateLeft(bitCount: Int): Long\n\n**\n * Rotates the binary representation of this [Long] number
right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter
the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is
the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n *
Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.rotateRight(bitCount: Int): Long\n\n**\n * Counts the number of set bits in the binary representation of this
[Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countOneBits():
Int = (toInt() and 0xFF).countOneBits()\n\n**\n * Counts the number of consecutive most significant bits that are
zero in the binary representation of this [Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countLeadingZeroBits(): Int = (toInt() and 0xFF).countLeadingZeroBits() - (Int.SIZE_BITS -
Byte.SIZE_BITS)\n\n**\n * Counts the number of consecutive least significant bits that are zero in the binary
representation of this [Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countTrailingZeroBits(): Int = (toInt() or 0x100).countTrailingZeroBits()\n\n**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [Byte] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c
inline fun Byte.takeHighestOneBit(): Byte = (toInt() and 0xFF).takeHighestOneBit().toByte()\n\n**\n * Returns a
number having a single bit set in the position of the least significant set bit of this [Byte] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.takeLowestOneBit(): Byte = toInt().takeLowestOneBit().toByte()\n\n**\n * Rotates the binary
representation of this [Byte] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the
number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-
n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or
more generally\n * `number.rotateLeft(n)
== number.rotateLeft(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Byte.rotateLeft(bitCount: Int): Byte =\n (toInt().shl(bitCount and 7) or (toInt() and 0xFF).ushr(8 - (bitCount and
7))).toByte()\n\n**\n * Rotates the binary representation of this [Byte] number right by the specified [bitCount]
number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most
significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it
left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of
[Byte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Byte.rotateRight(bitCount: Int): Byte =\n (toInt().shl(8 - (bitCount and 7)) or (toInt() and
0xFF).ushr(bitCount and 7)).toByte()\n\n**\n * Counts the number of set bits in the binary representation of this
[Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli

```

```

c inline fun Short.countOneBits(): Int = (toInt() and 0xFFFF).countOneBits()\n\n/**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c inline fun Short.countLeadingZeroBits(): Int =\n (toInt() and 0xFFFF).countLeadingZeroBits() - (Int.SIZE_BITS
- Short.SIZE_BITS)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary
representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c inline fun Short.countTrailingZeroBits(): Int = (toInt()
or 0x10000).countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Short] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c inline fun Short.takeHighestOneBit(): Short = (toInt() and 0xFFFF).takeHighestOneBit().toShort()\n\n/**\n *
Returns a number having a single bit set in the position of the least significant set bit of this [Short] number,\n *
or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c inline fun Short.takeLowestOneBit(): Short = toInt().takeLowestOneBit().toShort()\n\n/**\n * Rotates the binary
representation of this [Short] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number as the least significant bits on the
right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit
count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [Short.SIZE_BITS]
(16) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Short.rotateLeft(bitCount: Int): Short =\n (toInt().shl(bitCount and 15) or (toInt() and 0xFFFF).ushr(16 - (bitCount
and 15))).toShort()\n\n/**\n * Rotates the binary representation of this [Short] number right by the specified
[bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the
most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as rotating
it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating
by a multiple of [Short.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateRight(n)
== number.rotateRight(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Short.rotateRight(bitCount: Int): Short =\n (toInt().shl(16 - (bitCount and 15)) or (toInt() and
0xFFFF).ushr(bitCount and 15)).toShort()\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n@kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.2")\n@Suppress("IN
VISIBLE_MEMBER", "INVISIBLE_REFERENCE")\n@RequireKotlin("1.2.30", level =
DeprecationLevel.HIDDEN, versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic inline fun
<R> suspend(noinline block: suspend () -> R): suspend () ->
R = block\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmName("TuplesKt")\n\npackage kotlin\n\n/**\n * Represents a generic pair of two
values.\n * There is no meaning attached to values in this class, it can be used for any purpose.\n * Pair exhibits
value semantics, i.e. two pairs are equal if both components are equal.\n * An example of decomposing it into
values:\n * @sample samples.misc.Tuples.pairDestructuring\n * @param A type of the first value.\n * @param
B type of the second value.\n * @property first First value.\n * @property second Second value.\n * @constructor
Creates a new instance of Pair.\n */\npublic data class Pair<out A, out B>(\n public val first: A,\n public val
second: B)\n) : Serializable {\n\n /**\n * Returns string representation of the [Pair]

```

```

including its [first] and [second] values.\n *\n public override fun toString(): String = \"($first,
$second)\"")\n\n/**\n * Creates a tuple of type [Pair] from this and [that].\n *\n * This can be useful for creating
[Map] literals with less noise, for example:\n * @sample samples.collections.Maps.instantiation.mapFromPairs\n
*\npublic infix fun <A, B> A.to(that: B): Pair<A, B> = Pair(this, that)\n\n/**\n * Converts this pair into a list.\n *\n
@sample samples.misc.Tuples.pairToList\n *\npublic fun <T> Pair<T, T>.toList(): List<T> = listOf(first,
second)\n\n/**\n * Represents a triad of values\n *\n * There is no meaning attached to values in this class, it can be
used for any purpose.\n * Triple exhibits value semantics, i.e. two triples are equal if all three components are
equal.\n * An example of decomposing it into values:\n * @sample samples.misc.Tuples.tripleDestructuring\n *\n *\n
@param A type of the first value.\n * @param B type of the second value.\n * @param C type
of the third value.\n * @property first First value.\n * @property second Second value.\n * @property third Third
value.\n *\npublic data class Triple<out A, out B, out C>(\n public val first: A,\n public val second: B,\n
 public val third: C\n) : Serializable {\n\n /**\n * Returns string representation of the [Triple] including its [first],
[second] and [third] values.\n *\n * public override fun toString(): String = \"($first, $second,
$third)\"")\n\n\n/**\n * Converts this triple into a list.\n * @sample samples.misc.Tuples.tripleToList\n *\npublic
fun <T> Triple<T, T, T>.toList(): List<T> = listOf(first, second, third)\n\n", "\n * Copyright 2010-2022 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin.ranges\n\nimport kotlin.internal.*\n\n/**\n * A range of values of
type `UInt`.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic class
UIntRange(start: UInt, endInclusive: UInt) : UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {\n
 override val start: UInt get() = first\n override val endInclusive: UInt get() = last\n\n override fun contains(value:
UInt): Boolean = first <= value && value <= last\n\n /**\n * Checks if the range is empty.\n *\n * The
range is empty if its start value is greater than the end value.\n *\n * override fun isEmpty(): Boolean = first >
last\n\n * override fun equals(other: Any?): Boolean =\n other is UIntRange && (isEmpty() &&
other.isEmpty() ||\n first == other.first && last == other.last)\n\n * override fun hashCode(): Int =\n if
(isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n\n * override fun toString(): String = \"$first..$last\"\n\n
 companion object {\n /**\n * An empty range of values of type
UInt.\n *\n * public val EMPTY: UIntRange = UIntRange(UInt.MAX_VALUE, UInt.MIN_VALUE)\n\n
 }\n\n\n/**\n * A progression of values of type `UInt`.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic open class
UIntProgression\n internal constructor(\n start: UInt,\n endInclusive: UInt,\n step: Int\n) : Iterable<UInt> {\n
 init {\n if (step == 0.toInt()) throw kotlin.IllegalArgumentException("Step must be non-zero.")\n if (step
== Int.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE to
avoid overflow on negation.")\n }\n\n /**\n * The first element in the progression.\n *\n * public val first:
UInt = start\n\n * /**\n * The last element in the progression.\n *\n * public val last: UInt =
getProgressionLastElement(start, endInclusive, step)\n\n * /**\n * The step of the progression.\n *\n * public
val step: Int = step\n\n * final override fun
iterator(): Iterator<UInt> = UIntProgressionIterator(first, last, step)\n\n * /**\n *\n * Checks if the progression is
empty.\n *\n * Progression with a positive step is empty if its first element is greater than the last element.\n *\n
 * Progression with a negative step is empty if its first element is less than the last element.\n *\n * public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n * override fun equals(other: Any?): Boolean =\n other
is UIntProgression && (isEmpty() && other.isEmpty() ||\n first == other.first && last == other.last
&& step == other.step)\n\n * override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first.toInt() +
last.toInt()) + step.toInt())\n\n * override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first
downTo $last step ${-step}\"\n\n * companion object {\n /**\n * Creates UIntProgression within the
specified bounds
of a closed range.\n *\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd]
value not excluding it, with the specified [step].\n *\n * In order to go backwards the [step] must be negative.\n

```

```

*\n * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun
fromClosedRange(rangeStart: UInt, rangeEnd: UInt, step: Int): UIntProgression = UIntProgression(rangeStart,
rangeEnd, step)\n }\n}\n\n/**\n * An iterator over a progression of values of type `UInt`.\n * @property step the
number by which the value is incremented on each step.\n */\n@SinceKotlin("1.3")\nprivate class
UIntProgressionIterator(first: UInt, last: UInt, step: Int) : Iterator<UInt> {\n private val finalElement = last\n
private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n private val step = step.toUInt() // use 2-
complement math for negative steps\n private var next = if (hasNext)\n first else finalElement\n\n override fun hasNext(): Boolean = hasNext\n\n override fun next(): UInt {\n val
value = next\n if (value == finalElement) {\n if (!hasNext) throw kotlin.NoSuchElementException()\n
 hasNext = false\n } else {\n next += step\n }\n return value\n }\n}\n\n"/\n * Copyright
2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin.ranges\n\nimport kotlin.internal.*\n\n/**\n * A range of values of type `ULong`.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic class
ULongRange(start: ULong, endInclusive: ULong) : ULongProgression(start, endInclusive, 1),
ClosedRange<ULong> {\n override val start: ULong get() = first\n override val endInclusive: ULong
get() = last\n\n override fun contains(value: ULong): Boolean = first <= value && value <= last\n\n /**\n *
Checks if the range is empty.\n *\n * The range is empty if its start value is greater than the end value.\n */\n
 override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n other is
ULongRange && (isEmpty() && other.isEmpty() ||\n first == other.first && last == other.last)\n\n
 override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() + (last xor (last shr
32)).toInt())\n\n override fun toString(): String = "$first..$last"\n\n companion object {\n /**\n * An empty
range of values of type ULong.\n */\n public val EMPTY: ULongRange = ULongRange(ULong.MAX_VALUE,
ULong.MIN_VALUE)\n }\n}\n\n/**\n * A progression of values of type `ULong`.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic open
class ULongProgression\n internal constructor(\n start: ULong,\n endInclusive: ULong,\n step: Long\n) :
Iterable<ULong> {\n init {\n if (step == 0.toLong()) throw kotlin.IllegalArgumentException("Step must be
non-zero.")\n if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater
than Long.MIN_VALUE to avoid overflow on negation.")\n }\n\n /**\n * The first element in the
progression.\n */\n public val first: ULong = start\n\n /**\n * The last element in the progression.\n */\n
 public val last: ULong = getProgressionLastElement(start, endInclusive, step)\n\n /**\n * The step of the
progression.\n */\n public val step: Long = step\n\n final override fun iterator(): Iterator<ULong> =
ULongProgressionIterator(first, last, step)\n\n /**\n *\n * Checks if the progression is empty.\n *\n *
Progression with a positive step is empty if its first element is greater than the last
element.\n *\n * Progression with a negative step is empty if its first element is less than the last element.\n */\n
 public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?):
Boolean =\n other is ULongProgression && (isEmpty() && other.isEmpty() ||\n first == other.first
&& last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 *
(31 * (first xor (first shr 32)).toInt() + (last xor (last shr 32)).toInt()) + (step xor (step ushr 32)).toInt())\n\n
 override fun toString(): String = if (step > 0) "$first..$last step $step" else "$first downTo $last step ${-step}"\n\n
 companion object {\n /**\n *\n * Creates ULongProgression within the specified bounds of a closed
range.\n *\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not
excluding it, with the specified [step].\n *\n * In order to go backwards the [step] must be negative.\n */\n
 *\n * [step] must be greater than
`Long.MIN_VALUE` and not equal to zero.\n */\n public fun fromClosedRange(rangeStart: ULong,
rangeEnd: ULong, step: Long): ULongProgression = ULongProgression(rangeStart, rangeEnd, step)\n }\n}\n\n/**\n * An iterator over a progression of values of type `ULong`.\n
*/\n@SinceKotlin("1.3")\nprivate class ULongProgressionIterator(first:

```



```

ULong, last: ULong, step: Long) : Iterator<ULong> {
 private val finalElement = last
 private var hasNext: Boolean = if (step > 0) first <= last else first >= last
 private val step = step.toULong() // use 2-complement math for negative steps
 private var next = if (hasNext) first else finalElement
 override fun hasNext(): Boolean = hasNext
 override fun next(): ULong {
 val value = next
 if (value == finalElement) {
 if (!hasNext) throw kotlin.NoSuchElementException()
 hasNext = false
 } else {
 next += step
 }
 return value
 }
}
}

/*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun min(a: UInt, b: UInt): UInt {\n return minOf(a, b)\n}\n\n/*\n * Returns the smaller of two values.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun min(a: ULong, b: ULong): ULong {\n return minOf(a, b)\n}\n\n/*\n * Returns the greater of two values.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic\n inline fun max(a: UInt, b: UInt): UInt {\n return maxOf(a, b)\n }\n\n/*\n * Returns the greater of two values.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun max(a: ULong, b: ULong): ULong {\n return maxOf(a, b)\n}\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n*\n@file:kotlin.jvm.JvmName("\nUNumbersKt\n")\npackage kotlin\n\n/*\n * Counts the number of set bits in the binary representation of this [UInt] number.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countOneBits(): Int =\ntoInt().countOneBits()\n\n/*\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [UInt] number.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countLeadingZeroBits(): Int =\ntoInt().countLeadingZeroBits()\n\n/*\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [UInt] number.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countTrailingZeroBits(): Int =\ntoInt().countTrailingZeroBits()\n\n/*\n * Returns a number having a single bit set in the position of the most significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeHighestOneBit(): UInt =\ntoInt().takeHighestOneBit().toInt()\n\n/*\n * Returns a number having a single bit set in the position of the least significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeLowestOneBit(): UInt =\ntoInt().takeLowestOneBit().toInt()\n\n/*\n * Rotates the binary representation of this [UInt] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n %

```

```

32)\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateLeft(bitCount: Int):
UInt = toInt().rotateLeft(bitCount).toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number
right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter
the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is
the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n *
Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateRight(bitCount: Int):
UInt = toInt().rotateRight(bitCount).toUInt()\n\n/**\n * Counts the number of set bits in the binary representation
of this [ULong] number.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countOneBits(): Int =
toLong().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countLeadingZeroBits(): Int
= toLong().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline
fun ULong.countTrailingZeroBits(): Int = toLong().countTrailingZeroBits()\n\n/**\n * Returns a number having a
single bit set in the position of the most significant set bit of this [ULong] number,\n * or zero, if this number is
zero.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeHighestOneBit(): ULong
= toLong().takeHighestOneBit().toULong()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeLowestOneBit(): ULong
= toLong().takeLowestOneBit().toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number left
by the specified [bitCount] number of bits.\n * The most significant
bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating
the number left by a negative bit count is the same as rotating it right by the negated bit count:\n *
`number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [ULong.SIZE_BITS] (64)
returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateLeft(bitCount:
Int): ULong = toLong().rotateLeft(bitCount).toULong()\n\n/**\n * Rotates the binary representation of this [ULong]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit
count is the same as rotating it
left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple
of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 64)`\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateRight(bitCount:
Int): ULong = toLong().rotateRight(bitCount).toULong()\n\n/**\n * Counts the number of set bits in the binary
representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,

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ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countLeadingZeroBits(): Int
= toByte().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countTrailingZeroBits(): Int =
toByte().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeHighestOneBit(): UByte
= toInt().takeHighestOneBit().toUByte()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit
of this [UByte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeLowestOneBit(): UByte =
toInt().takeLowestOneBit().toUByte()\n\n/**\n * Rotates the binary representation of this [UByte] number left by
the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the
same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n *
`number.rotateLeft(n) == number.rotateLeft(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic
inline fun UByte.rotateLeft(bitCount: Int): UByte = toByte().rotateLeft(bitCount).toUByte()\n\n/**\n * Rotates the
binary representation of this [UByte] number right by the specified [bitCount] number of bits.\n * The least
significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *
Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateRight(bitCount:
Int): UByte = toByte().rotateRight(bitCount).toUByte()\n\n/**\n * Counts the number of set bits in the binary
representation of this [UShort]
number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countLeadingZeroBits(): Int
= toShort().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countTrailingZeroBits(): Int
= toShort().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in

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the position of the most significant set bit of this [UShort] number, \n \* or zero, if this number is zero.\n

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*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeHighestOneBit(): UShort
= toInt().takeHighestOneBit().toUShort()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [UShort] number, \n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeLowestOneBit(): UShort
= toInt().takeLowestOneBit().toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number left
by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n * \n * Rotating
the number left by a negative bit count is the same as rotating it right by the negated bit count:\n *
`number.rotateLeft(-n) == number.rotateRight(n)`\n * \n * Rotating by a multiple of [UShort.SIZE_BITS] (16)
returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateLeft(bitCount:
Int): UShort = toShort().rotateLeft(bitCount).toUShort()\n\n/**\n * Rotates the binary representation of this
[UShort] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the
right side reenter the number as the most significant bits on the left side.\n * \n * Rotating the number right by a
negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) ==
number.rotateLeft(n)`\n * \n * Rotating by a multiple
of [UShort.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateRight(bitCount:
Int): UShort = toShort().rotateRight(bitCount).toUShort()\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n * \n * \npackage kotlin.internal\n\n// (a - b) mod c\nprivate fun
differenceModulo(a: UInt, b: UInt, c: UInt): UInt {\n val ac = a % c\n val bc = b % c\n return if (ac >= bc) ac -
bc else ac - bc + c\n}\n\nprivate fun differenceModulo(a: ULong, b: ULong, c: ULong): ULong {\n val ac = a %
c\n val bc = b % c\n return if (ac >= bc) ac - bc else ac - bc + c\n}\n\n/**\n * Calculates the final element
of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start]
to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * \n * No validation
on passed parameters is performed. The given parameters should satisfy the condition:\n * \n * - either `step > 0` and
`start <= end`, \n * - or `step < 0` and `start >= end`.\n * \n * @param start first element of the progression\n *
@param end ending bound for the progression\n * @param step increment, or difference of successive elements in
the progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: UInt, end: UInt, step:
Int): UInt = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())\n
step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())\n else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * \n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * \n * - either `step > 0` and `start <=
end`, \n * - or `step < 0` and `start >= end`.\n * \n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: ULong, end: ULong,
step: Long): ULong = when {\n step > 0 -> if (start >= end) end else end - differenceModulo(end, start,
step.toULong())\n step <

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0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toULong())\n else -> throw
kotlin.IllegalArgumentException{"Step is zero."}\n}\n","/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *^\n\n@file:kotlin.jvm.JvmName("UStringsKt") // string representation
of unsigned numbers\n\npackage kotlin.text\n\n/**\n * Returns a string representation of this [Byte] value in the
specified [radix].\n *^\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string
conversion.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\n//@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UByte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string
representation of this [Short] value in the specified [radix].\n *^\n * @throws IllegalArgumentException
when [radix] is not a valid radix for number to string conversion.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\n//@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UShort.toString(radix: Int): String = this.toInt().toString(radix)\n\n\n/**\n * Returns a string
representation of this [Int] value in the specified [radix].\n *^\n * @throws IllegalArgumentException when [radix] is
not a valid radix for number to string conversion.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\n//@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UInt.toString(radix: Int): String = this.toLong().toString(radix)\n\n\n/**\n * Returns a string
representation of this [Long] value in the specified [radix].\n *^\n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
ULong.toString(radix: Int):
String = ulongToString(this.toLong(), checkRadix(radix))\n\n\n/**\n * Parses the string as a signed [UByte]
number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n *^\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
String.toUByte(): UByte = toUByteOrNull() ?: numberFormatError(this)\n\n\n/**\n * Parses the string as a signed
[UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to
number conversion.\n *^\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic
fun String.toUByte(radix: Int): UByte = toUByteOrNull(radix) ?: numberFormatError(this)\n\n\n\n/**\n * Parses the
string as a [UShort] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation
of a number.\n *^\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
String.toUShort(): UShort = toUShortOrNull() ?: numberFormatError(this)\n\n\n\n/**\n * Parses the string as a
[UShort] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to
number conversion.\n *^\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic
fun String.toUShort(radix: Int): UShort = toUShortOrNull(radix) ?: numberFormatError(this)\n\n\n\n\n/**\n * Parses the
string as an [UInt] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun String.toUInt():
UInt = toUIntOrNull() ?: numberFormatError(this)\n\n\n\n\n/**\n * Parses the string as an [UInt] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n\n*\n\n@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun
String.toUInt(radix: Int): UInt = toUIntOrNull(radix) ?: numberFormatError(this)\n\n\n\n\n\n/**\n * Parses the string as a
[ULong] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n\n*\n\n@SinceKotlin("1.5")\n\n@WasExperimental(ExperimentalUnsignedTypes::class)\n\npublic fun String.toULong():

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ULong = toULongOrNull()?: numberFormatError(this)\n\n/**\n * Parses the string as a [ULong] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
fun String.toULong(radix: Int): ULong = toULongOrNull(radix)?: numberFormatError(this)\n\n\n\n\n\n/**\n *
Parses the string as an [UByte] number and returns the result\n * or `null` if the string is not a valid representation of
a number.\n * @SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByteOrNull(): UByte? = toUByteOrNull(radix = 10)\n\n/**\n * Parses the string as an [UByte] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByteOrNull(radix: Int): UByte? {\n val int = this.toUIntOrNull(radix)?: return null\n if (int >
UByte.MAX_VALUE) return null\n return int.toUByte()\n}\n\n/**\n * Parses the string
as an [UShort] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShortOrNull(): UShort? = toUShortOrNull(radix = 10)\n\n/**\n * Parses the string as an [UShort] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShortOrNull(radix: Int): UShort? {\n val int = this.toUIntOrNull(radix)?: return null\n if (int >
UShort.MAX_VALUE) return null\n return int.toUShort()\n}\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic
fun String.toUIntOrNull(): UInt? = toUIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(radix: Int): UInt? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0)
return null\n\n val limit: UInt = UInt.MAX_VALUE\n val start: Int\n val firstChar = this[0]\n if (firstChar < '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val
limitForMaxRadix = 119304647u // limit / 36\n var limitBeforeMul = limitForMaxRadix\n val uradix =
radix.toUInt()\n var result = 0u\n for (i in start until length) {\n val
digit = digitOf(this[i], radix)\n if (digit < 0) return null\n if (result > limitBeforeMul) {\n if
(limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / uradix\n } else {\n return null\n }\n } else {\n return null\n }\n }\n\n result *= uradix\n val beforeAdding = result\n result += digit.toUInt()\n if (result <
beforeAdding) return null // overflow has happened\n return result\n}\n\n/**\n * Parses the string as an
[ULong] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULongOrNull(): ULong? = toULongOrNull(radix = 10)\n\n/**\n * Parses the string as an [ULong] number
and returns the result\n * or `null` if the string is not a
valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for
string to number conversion.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULongOrNull(radix: Int): ULong? {\n checkRadix(radix)\n\n val length = this.length\n if (length ==
0) return null\n\n val limit: ULong = ULong.MAX_VALUE\n val start: Int\n val firstChar = this[0]\n if
(firstChar < '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val
limitForMaxRadix = 512409557603043100uL // limit / 36\n var limitBeforeMul =

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limitForMaxRadix\n val uradix = radix.toULong()\n var result = 0uL\n for (i in start until length) {\n val
digit = digitOf(this[i], radix)\n if (digit < 0) return null\n if (result > limitBeforeMul) {\n if
(limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / uradix\n if (result > limitBeforeMul) {\n return null\n }\n } else {\n return null\n }\n }\n result *= uradix\n val beforeAdding =
result\n result += digit.toUInt()\n if (result < beforeAdding) return null // overflow has happened\n }\n return result\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\npackage kotlin\nimport
kotlin.annotation.AnnotationTarget\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n/**\n * Marks the API that is dependent on the experimental unsigned
types, including those types themselves.\n * Usages of such API will be
reported as warnings unless an explicit opt-in with the [OptIn] annotation, e.g.
`@OptIn(ExperimentalUnsignedTypes::class)` or with the `opt-in=kotlin.ExperimentalUnsignedTypes`
compiler option is given.\n * It's recommended to propagate the experimental status to the API that depends on
unsigned types by annotating it with this annotation.\n */\n@RequiresOptIn(level =
RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Target(CLASS, ANNOTATION_CLASS,
PROPERTY, FIELD, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION,
PROPERTY_GETTER, PROPERTY_SETTER,
TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalUnsignedTypes\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MathKt")\npackage
kotlin.math\n// constants, can't use them from nativeMath as they are not constants there\n/** Ratio of the
circumference of a circle to its diameter, approximately 3.14159. */\n@SinceKotlin("1.2")\npublic const val PI:
Double = 3.141592653589793\n/** Base of the natural logarithms, approximately 2.71828.
*/\n@SinceKotlin("1.2")\npublic const val E: Double = 2.718281828459045\n// region =====\nDouble Math
===== \n/** Computes the sine of the angle [x]
given in radians. \n * Special cases: \n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic
expect fun sin(x: Double): Double\n/** Computes the cosine of the angle [x] given in radians. \n * Special
cases: \n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun cos(x: Double):
Double\n/** Computes the tangent of the angle [x] given in radians. \n * Special
cases: \n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun tan(x: Double):
Double\n/** \n * Computes the arc sine of the value [x]; \n * the returned value is an angle in the range from
`-PI/2` to `PI/2` radians. \n * Special cases: \n * - `asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n
*/\n@SinceKotlin("1.2")\npublic expect fun asin(x: Double): Double\n/** \n * Computes the arc cosine of the
value [x]; \n * the returned value is an angle in the range from `0.0` to `PI` radians. \n * Special cases: \n *
- `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun acos(x: Double):
Double\n/** \n * Computes the arc tangent of the value [x]; \n * the returned value is an angle in the range from
`-PI/2` to `PI/2` radians. \n * Special cases: \n * - `atan(NaN)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic
expect fun atan(x: Double): Double\n/** \n * Returns the angle `theta` of the polar coordinates
`(r, theta)` that correspond \n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value
[y] /
[x]; \n * the returned value is an angle in the range from `-PI` to `PI` radians. \n * Special cases: \n * -
`atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0`\n * -
`atan2(-0.0, x)` is `-0.0` for `x > 0`
and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for
`-Inf < y < 0`\n * - `atan2(y, -
Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n * - `atan2(y, 0.0)` is `PI/2` for `y > 0`
and `-PI/2` for `y
< 0`\n * - `atan2(+Inf, x)` is `PI/2` for finite `x`\n * - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n * -
`atan2(NaN,

```

`x)` and `atan2(y, NaN)` is `NaN` `@SinceKotlin("1.2")` `public expect fun atan2(y: Double, x: Double): Double` `n/n/**` `n * Computes the hyperbolic sine of the value [x].` `n * Special cases:` `n * - sinh(NaN) is NaN` `n * - sinh(+Inf)` `is +Inf` `n * - sinh(-Inf) is -Inf` `n * @SinceKotlin("1.2")` `public expect fun sinh(x: Double): Double` `n/n/**` `n * Computes the hyperbolic cosine of the value [x].` `n * Special cases:` `n * - cosh(NaN) is NaN` `n * - cosh(+Inf) is +Inf` `n * @SinceKotlin("1.2")` `public expect fun cosh(x: Double): Double` `n/n/**` `n * Computes the hyperbolic tangent of the value [x].` `n * Special cases:` `n * - tanh(NaN) is NaN` `n * - tanh(+Inf) is 1.0` `n * - tanh(-Inf) is -1.0` `n * @SinceKotlin("1.2")` `public expect fun tanh(x: Double): Double` `n/n/**` `n * Computes the inverse hyperbolic sine of the value [x].` `n * The returned value is y` `such that sinh(y) == x.` `n * Special cases:` `n * - asinh(NaN) is NaN` `n * - asinh(+Inf) is +Inf` `n * - asinh(-Inf) is -Inf` `n * @SinceKotlin("1.2")` `public expect fun asinh(x: Double): Double` `n/n/**` `n * Computes the inverse hyperbolic cosine of the value [x].` `n * The returned value is positive` `y such that cosh(y) == x.` `n * Special cases:` `n * - acosh(NaN) is NaN` `n * - acosh(x) is NaN when x < 1` `n * - acosh(+Inf) is +Inf` `n * @SinceKotlin("1.2")` `public expect fun acosh(x: Double): Double` `n/n/**` `n * Computes the inverse hyperbolic tangent of the value [x].` `n * The returned value is y such` `that tanh(y) == x.` `n * Special cases:` `n * - tanh(NaN) is NaN` `n * - tanh(x) is NaN when x > 1 or x < -1` `n * - tanh(1.0) is +Inf` `n * - tanh(-1.0) is -Inf` `n * @SinceKotlin("1.2")` `public expect fun atanh(x: Double): Double` `n/n/**` `n * Computes sqrt(x^2 + y^2) without intermediate overflow or underflow.` `n * Special cases:` `n * - returns +Inf if any of arguments is infinite` `n * - returns NaN if any of arguments is NaN and the other is not infinite` `n * @SinceKotlin("1.2")` `public expect fun hypot(x: Double, y: Double): Double` `n/n/**` `n * Computes the positive square root of the value [x].` `n * Special cases:` `n * - sqrt(x) is NaN when x < 0 or x is NaN` `n * @SinceKotlin("1.2")` `public expect fun sqrt(x: Double): Double` `n/n/**` `n * Computes Euler's number e raised to the power of the value [x].` `n * Special cases:` `n * - exp(NaN) is NaN` `n * - exp(+Inf) is +Inf` `n * - exp(-Inf) is 0.0` `n * @SinceKotlin("1.2")` `public expect fun exp(x: Double): Double` `n/n/**` `n * Computes exp(x) - 1.` `n * This function can be implemented to produce more precise result for [x] near zero.` `n * Special cases:` `n * - expm1(NaN) is NaN` `n * - expm1(+Inf) is +Inf` `n * - expm1(-Inf) is -1.0` `n * @see [exp] function.` `n * @SinceKotlin("1.2")` `public expect fun expm1(x: Double): Double` `n/n/**` `n * Computes the logarithm of the value [x] to the given [base].` `n * Special cases:` `n * - log(x, b) is NaN if either x or b are NaN` `n * - log(x, b) is NaN when x < 0 or b <= 0 or b == 1.0` `n * - log(+Inf, +Inf) is NaN` `n * - log(+Inf, b) is +Inf for b > 1 and -Inf for b < 1` `n * - log(0.0, b) is -Inf for b > 1 and +Inf for b > 1` `n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].` `n * @SinceKotlin("1.2")` `public expect fun log(x: Double, base: Double): Double` `n/n/**` `n * Computes the natural logarithm (base E) of the value [x].` `n * Special cases:` `n * - ln(NaN) is NaN` `n * - ln(x) is NaN when x < 0.0` `n * - ln(+Inf) is +Inf` `n * - ln(0.0) is -Inf` `n * @SinceKotlin("1.2")` `public expect fun ln(x: Double): Double` `n/n/**` `n * Computes the common logarithm (base 10) of the value [x].` `n * @see [ln] function for special cases.` `n * @SinceKotlin("1.2")` `public expect fun log10(x: Double): Double` `n/n/**` `n * Computes the binary logarithm (base 2) of the value [x].` `n * @see [ln] function for special cases.` `n * @SinceKotlin("1.2")` `public expect fun log2(x: Double): Double` `n/n/**` `n * Computes ln(x + 1).` `n * This function can be implemented to produce more precise result for [x] near zero.` `n * Special cases:` `n * - ln1p(NaN) is NaN` `n * - ln1p(x) is NaN where x < -1.0` `n * - ln1p(-1.0) is -Inf` `n * - ln1p(+Inf) is +Inf` `n * @see [ln] function` `n * @see [expm1] function` `n * @SinceKotlin("1.2")` `public expect fun ln1p(x: Double): Double` `n/n/**` `n * Rounds the given value [x] to an integer towards positive infinity.` `n * @return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.` `n * Special cases:` `n * - ceil(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.` `n * @SinceKotlin("1.2")` `public expect fun ceil(x: Double): Double` `n/n/**` `n * Rounds the given value [x] to an integer towards negative infinity.` `n * @return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.` `n * Special cases:` `n * - floor(x)`



is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.

`floor(x: Double): Double` Rounds the given value [x] to an integer towards zero.

`truncate(x: Double): Double` Rounds the given value [x] towards the closest integer with ties rounded towards even integer.

`round(x: Double): Double` Returns the absolute value of the given value [x].

`abs(x: Double): Double` Returns the sign of the given value [x]:

- 1.0 if the value is negative,
- zero if the value is zero,
- 1.0 if the value is positive

`sign(x: Double): Double` Returns the smaller of two values.

`min(a: Double, b: Double): Double` Returns the greater of two values.

`max(a: Double, b: Double): Double` Raises this value to the power [x].

`b.pow(x: Double): Double` Raises this value to the power [x].

- `b.pow(0.0)` is 1.0
- `b.pow(1.0) == b`
- `b.pow(NaN)` is NaN
- `NaN.pow(x)` is NaN for `x != 0.0`
- `b.pow(Inf)` is NaN for `abs(b) == 1.0`
- `b.pow(x)` is NaN for `b < 0` and `x` is finite and not an integer

`Double.pow(x: Double): Double` Raises this value to the integer power [n].

`Double.pow(n: Int): Double` Returns the absolute value of this value.

`Double.absoluteValue: Double` Returns the sign of this value:

- 1.0 if the value is negative,
- zero if the value is zero,
- 1.0 if the value is positive

`Double.sign: Double` Returns this value with the sign bit same as of the [sign] value.

`Double.withSign(sign: Double): Double` Returns this value with the sign bit same as of the [sign] value.

`Double.withSign(sign: Int): Double` Returns the ulp (unit in the last place) of this value.

`Double.ulp: Double` Returns the [Double] value nearest to this value in direction of positive infinity.

`Double.nextUp(): Double` Returns the [Double] value nearest to this value in direction of negative infinity.

`Double.nextDown(): Double` Returns the [Double] value nearest to this value towards

the value [to].

`Double.nextTowards(to: Double): Double` Rounds this [Double] value to the nearest integer and converts the result to [Int].

`Double.roundToInt(): Int` Rounds this [Double] value to the nearest integer and converts the result to [Long].

`Double.roundToLong(): Long` Rounds this [Double] value to the nearest integer and converts the result to [Long].

when this value is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun Double.roundToLong(): Long\n\n// endregion\n\n\n// region ===== Float Math

=====\n\n\*\* Computes the sine of the angle [x] given in radians.\n \*^n \* Special cases:\n \* - `sin(NaN|+Inf|-Inf)` is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun sin(x: Float): Float\n\n\*\* Computes the cosine of the angle [x] given in radians.\n \*^n \* Special cases:\n \* - `cos(NaN|+Inf|-Inf)` is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun cos(x: Float): Float\n\n\*\* Computes the tangent of the angle [x] given in radians.\n \*^n \* Special cases:\n \* - `tan(NaN|+Inf|-Inf)` is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun tan(x: Float): Float\n\n\*\*\n \* Computes the arc sine of the value [x];\n \* the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.\n \*^n \* Special cases:\n \* - `asin(x)` is NaN, when  $abs(x) > 1$  or x is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun asin(x: Float): Float\n\n\*\*\n \* Computes the arc cosine of the value [x];\n \* the returned value is an angle in the range from  $0.0$  to  $\pi$  radians.\n \*^n \* Special cases:\n \* - `acos(x)` is NaN, when  $abs(x) > 1$  or x is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun acos(x: Float): Float\n\n\*\*\n \* Computes the arc tangent of the value [x];\n \* the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.\n \*^n \* Special cases:\n \* - `atan(NaN)` is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun atan(x: Float): Float\n\n\*\*\n \* Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n \* to the rectangular coordinates `(x, y)` by computing the arc tangent of the value  $y / x$ ;\n \* the returned value is an angle in the range from  $-\pi$  to  $\pi$  radians.\n \*^n \* Special cases:\n \* - `atan2(0.0, 0.0)` is  $0.0$ \n \* - `atan2(0.0, x)` is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$ \n \* - `atan2(-0.0, x)` is  $-0.0$  for  $x > 0$  and  $-\pi$  for  $x < 0$ \n \* - `atan2(y, +Inf)` is  $0.0$  for  $0 < y < +Inf$  and  $-0.0$  for  $-Inf < y < 0$ \n \* - `atan2(y, -Inf)` is  $\pi$  for  $0 < y < +Inf$  and  $-\pi$  for  $-Inf < y < 0$ \n \* - `atan2(y, 0.0)` is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$ \n \* - `atan2(+Inf, x)` is  $\pi/2$  for finite  $x$ \n \* - `atan2(-Inf, x)` is  $-\pi/2$  for finite  $x$ \n \* - `atan2(NaN, x)` and `atan2(y, NaN)` is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun atan2(y: Float, x: Float): Float\n\n\*\*\n \* Computes the hyperbolic sine of the value [x].\n \*^n \* Special cases:\n \* - `sinh(NaN)` is NaN\n \* - `sinh(+Inf)` is  $+Inf$ \n \* - `sinh(-Inf)` is  $-Inf$ \n \*^n@SinceKotlin("1.2")\npublic expect fun sinh(x: Float): Float\n\n\*\*\n \* Computes the hyperbolic cosine of the value [x].\n \*^n \* Special cases:\n \* - `cosh(NaN)` is NaN\n \* - `cosh(+Inf|-Inf)` is  $+Inf$ \n \*^n@SinceKotlin("1.2")\npublic expect fun cosh(x: Float): Float\n\n\*\*\n \* Computes the hyperbolic tangent of the value [x].\n \*^n \* Special cases:\n \* - `tanh(NaN)` is NaN\n \* - `tanh(+Inf)` is  $1.0$ \n \* - `tanh(-Inf)` is  $-1.0$ \n \*^n@SinceKotlin("1.2")\npublic expect fun tanh(x: Float): Float\n\n\*\*\n \* Computes the inverse hyperbolic sine of the value [x].\n \*^n \* The returned value is `y` such that  $sinh(y) == x$ .\n \*^n \* Special cases:\n \* - `asinh(NaN)` is NaN\n \* - `asinh(+Inf)` is  $+Inf$ \n \* - `asinh(-Inf)` is  $-Inf$ \n \*^n@SinceKotlin("1.2")\npublic expect fun asinh(x: Float): Float\n\n\*\*\n \* Computes the inverse hyperbolic cosine of the value [x].\n \*^n \* The returned value is positive `y` such that  $cosh(y) == x$ .\n \*^n \* Special cases:\n \* - `acosh(NaN)` is NaN\n \* - `acosh(x)` is NaN when  $x < 1$ \n \* - `acosh(+Inf)` is  $+Inf$ \n \*^n@SinceKotlin("1.2")\npublic expect fun acosh(x: Float): Float\n\n\*\*\n \* Computes the inverse hyperbolic tangent of the value [x].\n \*^n \* The returned value is `y` such that  $tanh(y) == x$ .\n \*^n \* Special cases:\n \* - `tanh(NaN)` is NaN\n \* - `tanh(x)` is NaN when  $x > 1$  or  $x < -1$ \n \* - `tanh(1.0)` is  $+Inf$ \n \* - `tanh(-1.0)` is  $-Inf$ \n \*^n@SinceKotlin("1.2")\npublic expect fun atanh(x: Float): Float\n\n\*\*\n \* Computes  $\sqrt{x^2 + y^2}$  without intermediate overflow or underflow.\n \*^n \* Special cases:\n \* - returns  $+Inf$  if any of arguments is infinite\n \* - returns NaN if any of arguments is NaN and the other is not infinite\n \*^n@SinceKotlin("1.2")\npublic expect fun hypot(x: Float, y: Float): Float\n\n\*\*\n \* Computes the positive square root of the value [x].\n \*^n \* Special cases:\n \* - `sqrt(x)` is NaN when  $x < 0$  or  $x$  is NaN\n \*^n@SinceKotlin("1.2")\npublic expect fun sqrt(x: Float): Float\n\n\*\*\n \* Computes Euler's number `e` raised to the power of the value [x].\n \*^n \* Special cases:\n \* - `exp(NaN)` is NaN\n \* - `exp(+Inf)` is  $+Inf$ \n \* - `exp(-Inf)` is  $0.0$ \n \*^n@SinceKotlin("1.2")\npublic expect fun exp(x: Float): Float\n\n\*\*\n \* Computes  $\exp(x) - 1$ .\n \*^n \* This function can be implemented to produce more precise result for [x] near zero.\n \*^n \* Special cases:\n \* - `expm1(NaN)` is NaN\n \* -

`expm1(+Inf)` is `+Inf` \* `expm1(-Inf)` is `-1.0` \* `@see [exp]` function.  
`*\n@SinceKotlin("1.2")\npublic expect fun expm1(x: Float): Float\n/**\n * Computes the logarithm of the value [x] to the given [base].\n * Special cases:\n * - log(x, b) is NaN if either x or b are NaN\n * - log(x, b) is NaN when x < 0 or b <= 0 or b == 1.0\n * - log(+Inf, +Inf) is NaN\n * - log(+Inf, b) is +Inf for b > 1 and -Inf for b < 1\n * - log(0.0, b) is -Inf for b > 1 and +Inf for b > 1\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].  
*\n@SinceKotlin("1.2")\npublic expect fun log(x: Float, base: Float): Float\n\n/**\n * Computes the natural logarithm (base E) of the value [x].\n * Special cases:\n * - ln(NaN) is NaN\n * - ln(x) is NaN when x < 0.0\n * - ln(+Inf) is +Inf\n * - ln(0.0) is -Inf\n */\n@SinceKotlin("1.2")\npublic expect fun ln(x: Float): Float\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n * @see [ln] function for special cases.  
*\n@SinceKotlin("1.2")\npublic expect fun log10(x: Float): Float\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n * @see [ln] function for special cases.  
*\n@SinceKotlin("1.2")\npublic expect fun log2(x: Float): Float\n\n/**\n * Computes ln(a + 1).  
*\n * This function can be implemented to produce more precise result for [x] near zero.\n * Special cases:\n * - ln1p(NaN) is NaN\n * - ln1p(x) is NaN where x < -1.0\n * - ln1p(-1.0) is -Inf\n * - ln1p(+Inf) is +Inf\n * @see [ln] function\n * @see [expm1] function  
*\n@SinceKotlin("1.2")\npublic expect fun ln1p(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n * @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - ceil(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.  
*\n@SinceKotlin("1.2")\npublic expect fun ceil(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n * @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - floor(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.  
*\n@SinceKotlin("1.2")\npublic expect fun floor(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n * @return the value [x] having its fractional part truncated.\n * Special cases:\n * - truncate(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.  
*\n@SinceKotlin("1.2")\npublic expect fun truncate(x: Float): Float\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n * Special cases:\n * - round(x) is x where x is NaN or +Inf or -Inf or already a mathematical integer.  
*\n@SinceKotlin("1.2")\npublic expect fun round(x: Float): Float\n\n/**\n * Returns the absolute value of the given value [x].\n * Special cases:\n * - abs(NaN) is NaN\n * @see absoluteValue extension property for [Float]\n */\n@SinceKotlin("1.2")\npublic expect fun abs(x: Float): Float\n\n/**\n * Returns the sign of the given value [x]:\n * - -1.0 if the value is negative,\n * - zero if the value is zero,\n * - 1.0 if the value is positive\n * Special case:\n * - sign(NaN) is NaN\n */\n@SinceKotlin("1.2")\npublic expect fun sign(x: Float): Float\n\n/**\n * Returns the smaller of two values.  
*\n * If either value is NaN, then the result is NaN.  
*\n@SinceKotlin("1.2")\npublic expect fun min(a: Float, b: Float): Float\n\n/**\n * Returns the greater of two values.  
*\n * If either value is NaN, then the result is NaN.  
*\n@SinceKotlin("1.2")\npublic expect fun max(a: Float, b: Float): Float\n\n\n/**\n * Raises this value to the power [x].\n * Special cases:\n * - b.pow(0.0) is 1.0\n * - b.pow(1.0) == b\n * - b.pow(NaN) is NaN\n * - NaN.pow(x) is NaN for x != 0.0\n * - b.pow(Inf) is NaN for abs(b) == 1.0\n * - b.pow(x) is NaN for b < 0 and x is finite and not an integer  
*\n@SinceKotlin("1.2")\npublic expect fun Float.pow(x: Float): Float\n\n/**\n * Raises this value to the integer power [n].\n * See the other overload of [pow] for details.  
*\n@SinceKotlin("1.2")\npublic expect fun Float.pow(n: Int): Float\n\n/**\n * Returns the absolute value of this value.\n * Special cases:\n * - NaN.absoluteValue is NaN\n * @see abs function  
*\n@SinceKotlin("1.2")\npublic expect val Float.absoluteValue: Float\n\n/**\n * Returns the sign of this value:\n * - -1.0 if the value is negative,\n * - zero if the value is zero,\n * - 1.0 if the value is positive\n * Special case:\n * - NaN.sign is NaN\n */\n@SinceKotlin("1.2")\npublic expect val Float.sign: Float\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.  
*\n * If [sign] is NaN the sign of the result is undefined.\n */\n`

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*^@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Float): Float\n\n**\n * Returns this value with
the sign bit same as of the [sign] value.\n *^@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Int):
Float\n\n**\n * Rounds this [Float] value to the nearest integer and converts the result to [Int].\n * Ties are
rounded towards positive infinity.\n *^ * Special cases:\n * - `x.roundToInt() == Int.MAX_VALUE` when
`x > Int.MAX_VALUE`\n * - `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *^ *
@throws IllegalArgumentException when this value is `NaN`\n *^@SinceKotlin("1.2")\npublic expect fun
Float.roundToInt(): Int\n\n**\n * Rounds this [Float] value to the nearest integer and converts the result to
[Long].\n * Ties are rounded towards positive infinity.\n *^ * Special cases:\n * - `x.roundToLong() ==
Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x
< Long.MIN_VALUE`\n *^ * @throws IllegalArgumentException when this value is `NaN`\n
*^@SinceKotlin("1.2")\npublic expect fun Float.roundToLong(): Long\n\n// endregion\n\n// region
===== Integer Math =====\n\n**\n * Returns
the absolute value of the given value [n].\n *^ * Special cases:\n * - `abs(Int.MIN_VALUE)` is
`Int.MIN_VALUE` due to an overflow\n *^ * @see absoluteValue extension property for [Int]\n
*^@SinceKotlin("1.2")\npublic
expect fun abs(n: Int): Int\n\n**\n * Returns the smaller of two values.\n *^@SinceKotlin("1.2")\npublic expect
fun min(a: Int, b: Int): Int\n\n**\n * Returns the greater of two values.\n *^@SinceKotlin("1.2")\npublic expect
fun max(a: Int, b: Int): Int\n\n**\n * Returns the absolute value of this value.\n *^ * Special cases:\n * -
`Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n *^ * @see abs function\n
*^@SinceKotlin("1.2")\npublic expect val Int.absoluteValue: Int\n\n**\n * Returns the sign of this value:\n * -
`-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n
*^@SinceKotlin("1.2")\npublic expect val Int.sign: Int\n\n**\n * Returns the absolute value of the given
value [n].\n *^ * Special cases:\n * - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n *^
* @see absoluteValue extension property for [Long]\n *^@SinceKotlin("1.2")\npublic expect
fun abs(n: Long): Long\n\n**\n * Returns the smaller of two values.\n *^@SinceKotlin("1.2")\npublic expect
fun min(a: Long, b: Long): Long\n\n**\n * Returns the greater of two values.\n *^@SinceKotlin("1.2")\npublic
expect fun max(a: Long, b: Long): Long\n\n**\n * Returns the absolute value of this value.\n *^ * Special cases:\n
* - `Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n *^ * @see abs function\n
*^@SinceKotlin("1.2")\npublic expect val Long.absoluteValue: Long\n\n**\n * Returns the sign of this value:\n
* - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n
^@SinceKotlin("1.2")\npublic expect val Long.sign: Int\n\n// endregion\n", /\n * Copyright 2010-2022
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *^@npackage kotlin.js\n\n**\n *
Exposes the JavaScript [Math
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Math) to Kotlin.\n
*^@PublishedApi\n@JsName("Math")\ninternal external object JsMath {\n val LN2: Double\n fun
abs(value: Double): Double\n fun acos(value: Double): Double\n fun asin(value: Double): Double\n fun
atan(value: Double): Double\n fun atan2(y: Double, x: Double): Double\n fun cos(value: Double): Double\n
fun sin(value: Double): Double\n fun exp(value: Double): Double\n fun max(vararg values: Int): Int\n fun
max(vararg values: Float): Float\n fun max(vararg values: Double): Double\n fun min(vararg values: Int): Int\n
fun min(vararg values: Float): Float\n fun min(vararg values: Double): Double\n fun sqrt(value: Double):
Double\n fun tan(value: Double): Double\n fun log(value: Double): Double\n fun pow(base: Double, exp:
Double): Double\n fun round(value: Number): Double\n fun floor(value: Number):
Double\n fun ceil(value: Number): Double\n}\n\ninternal const val defineTaylorNBound = ""\n var epsilon =
2.220446049250313E-16;\n var taylor_2_bound = Math.sqrt(epsilon);\n var taylor_n_bound =
Math.sqrt(taylor_2_bound);\n\ninternal const val defineUpperTaylor2Bound = ""\n
$defineTaylorNBound\n var upper_taylor_2_bound = 1/taylor_2_bound;\n\ninternal const val
defineUpperTaylorNBound = ""\n $defineUpperTaylor2Bound\n var upper_taylor_n_bound =

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D;MArPA,yC;QASW,kBAAU,oB;QAqPD,Q;QAAhB,iD;UAAgB,cAAhB,e;UACI,UAtPoD,WAsP1C,CAAY,OA  
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AW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;;QAEvC,eAAe,oB;QACf,IAAI,CAAC,QAAS,UAAd,C;UACI,OAAO,I;QACX,WAAW,QAAS,O;QACpB,OAAO,QAAS,UAAhB,C;UACI,OAAO,QAAS,O;QACpB,OAAO,I;;K;IAKnB,kC;MAMI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;K;6FAGpC,gC;MAOoB,Q;MADhB,WAAe,I;MACC,2B;MAAhB,OAAgB,cAAhB,C;QAAGb,yB;QACZ,IAAI,UAAU,OAAV,CAAJ,C;UACI,OAAO,O;;;MAGf,OAAO,I;K;6FAGX,gC;MAMI,eAAe,SAAK,sBAAa,cAAb,C;MACpB,OAAO,QAAS,cAAhB,C;QACI,cAAc,QAAS,W;QACvB,IAAI,UAAU,OAAV,CAAJ,C;UAAwB,OAAO,O;;MAEnC,OAAO,I;K;qFAGX,yB;MAAA,mC;MAAA,gD;MAAA,4B;QAQI,OAAO,kBAAO,cAAP,C;O;KARX,C;IAWA,sC;MAOI,IAAI,mBAAJ,C;QACI,MAAM,2BAAuB,sBAAvB,C;MACV,OAAO,qBAAU,MAAO,iBAAQ,cAAR,CAAjB,C;K;iGAGX,yB;MAAA,mC;MAAA,4D;MAAA,4B;QAOI,OAAO,wBAAa,cAAb,C;O;KAPX,C;IAUA,4C;MAMI,IAAI,mBAAJ,C;QACI,OAAO,I;MACX,OAAO,qBAAU,MAAO,iBAAQ,cAAR,CAAjB,C;K;IAGX,8B;MAKQ,kBADE,SACF,Q;QAAW,OAAy,UAAI,SAAK,C;;QAEEnB,eAAe,oB;QACf,IAAI,CAAC,QAAS,UAAd,C;UACI,MAAM,2BAAuB,sBAAvB,C;QACV,aAAa,QAAS,O;QACtB,IAAI,QAAS,UAAb,C;UACI,MAAM,gCAAYB,uCAAzB,C;QACV,OAAO,M;;K;IAKnB,8B;MAIiB,IAAN,I;MAAA,QAAM,cAAN,C;aACH,C;UAAK,MAAM,2BAAuB,gBAAvB,C;aACX,C;UAAK,6BAAK,CAAL,C;UAAI,K;;UACQ,MAAM,gCAAYB,iCAAZB,C;;MAHIB,W;K;qFAOJ,yB;MAAA,kF;MAAA,iE;MAAA,gB;MAAA,8B;MAAA,uC;QAMoB,UAST,M;QAXP,aAAiB,I;QACjB,YAAY,K;QACI,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,IAAI,UAAU,OAAV,CAAJ,C;YACI,IAAI,KAJ,C;cAAW,MAAM,8BAAyB,qDAAzB,C;YACjB,SAAS,O;YACT,QAAQ,I;;;QAGhB,IAAI,CAAC,KAAL,C;UAAy,MAAM,gCAAuB,wDAAvB,C;QAEIB,OAAO,6E;O;KafX,C;IAKBA,oC;MAKQ,kBADE,SACF,Q;QAAW,OAAW,mBAAQ,CAAZ,GAAe,sBAAK,CAAL,CAAf,GAA4B,I;;QAEIC,eAAe,oB;QACf,IAAI,CAAC,QAAS,UAAd,C;UACI,OAAO,I;QACX,aAAa,QAAS,O;QACtB,IAAI,QAAS,UAAb,C;UACI,OAAO,I;QACX,OAAO,M;;K;IAKnB,oC;MAIL,OAAW,mBAAQ,CAAZ,GAAe,sBAAK,CAAL,CAAf,GAA4B,I;K;iGAGvC,gC;MAMoB,Q;MAFhB,aAAiB,I;MACjB,YAAY,K;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAGb,yB;QACZ,IAAI,UAAU,OAAV,CAAJ,C;UACI,IAAI,KAJ,C;YAAW,OAAO,I;UACIB,SAAS,O;UACT,QAAQ,I;;;MAGhB,IAAI,CAAC,KAAL,C;QAAy,OAAO,I;MACnB,OAAO,M;K;IAGX,8B;MAoBsC,UAGT,MAHS,EAarB,M;MN/pBb,IAAI,EMsoBI,KAAK,CNtoBT,CAAJ,C;QACI,cMqoBc,sD;QNpoBd,MAAM,gCAAYB,OAAQ,WAAjC,C;;MMqoBV,IAAI,MAAK,CAAT,C;QAAy,OAAO,mB;MACnB,Q;MACA,IAAI,oCAAJ,C;QACI,iBAAiB,iBAAO,CAAP,I;QACjB,IAAI,cAAc,CAAIb,C;UACI,OAAO,W;QACX,IAAI,eAAc,CAAIb,C;UACI,OAAO,OAAO,kBAAP,C;QACX,OAAO,iBAAa,UAAb,C;QACP,IAAI,8BAAJ,C;UACI,IAAI,sCAAJ,C;YAC0B,qB;YAAtB,iBAAc,CAAd,wB;cACI,IAAK,WAAI,sBAAK,KAAL,CAAJ,C;;YAEI,wCAAA,cAAb,C;YAAb,OAAa,gBAAb,C;cAAa,wB;cACT,IAAK,WAAI,IAAJ,C;;;UAEB,OAAO,I;;QAIx,OAAO,gB;;MAEX,YAAY,C;MACC,6B;MAAb,OAAa,gBAAb,C;QAAa,0B;QACT,IAAI,SAAS,cAAb,C;UAAgB,IAAK,WAAI,MAAJ,C;;UAAe,qB;;MAEXc,OAAy,qBAAL,IAAK,C;K;IAGhB,kC;MNRqBI,IAAI,EM6qBI,KAAK,CN7qBT,CAAJ,C;QACI,cM4qBc,sD;QN3qBd,MAAM,gCAAYB,OAAQ,WAAjC,C;;MM4qBV,OAAO,kBAAgB,gBAAV,iBAAO,CAAP,IAAU,EAAC,CAAd,CAAhB,C;K;kGAGX,yB;MAAA,4C;MAAA,qD;MAAA,uC;QAMI,IAAI,CAAC,mBAAL,C;UACI,eAAe,+BAAa,cAAb,C;UACf,OAAO,QAAS,cAAhB,C;YACI,IAAI,CAAC,UAAU,QAAS,WAAhB,CAAL,C;cACI,OAAO,gBAAK,QAAS,YAAT,GAAuB,CAAvB,IAAL,C;;;QAIInB,OAAO,W;O;KAdX,C;0FAiBA,yB;MAAA,+D;MAAA,uC;QAQiB,Q;QAFb,eAAe,K;QACf,WAAW,gB;QACE,2B;QAAb,OAAa,cAAb,C;UAAa,sB;UACT,IAAI,QAAJ,C;YACI,IAAK,WAAI,IAAJ,C;eACJ,IAAI,CAAC,UAAU,IAAV,CAAL,C;YACD,IAAK,WAAI,IAAJ,C;YAcl,WAAW,I;;;QAEEnB,OAAO,I;O;KafX,C;oFAkBA,yB;MAAA,+D;MAAA,uC;QAMW,kBAAS,gB;QA2FA,Q;QAAA,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAm,IA3FU,SA2FN,CAAU,OAAV,CAAJ,C;YAAwB,WAAy,WAAI,OAAJ,C;;QA3F1D,OA4FO,W;O;KAIGX,C;kGASA,yB;MAAA,+D;MA6jCA,wE;MA7jCA,uC;QAQW,kBAAgB,gB;QA4jCV,gB;QADb,YAAY,C;QACC,2B;QAAb,OAAa,cAAb,C;UAAa,sB;UAhjCT,IAZmC,SAY/B,CAGjCkB,oBAAmB,cAAhB,EAAMB,sBAAnB,UAhjCIB,EAgjC+C,IAhjC/C,CAAJ,C;YAA2C,sBAgjCQ,IAhjCR,C;;QAZ/C,OAcO,W;O;KatBX,C;sGAWA,yB;MAKjCA,wE;MALjCA,oD;QAYjCiB,gB;QADb,YAAY,C;QACC,2B;QAAb,OAAa,cAAb,C;UAAa,sB;UAhjCT,IAAI,UAgjCkB,oBAAmB,cAAhB,EAAMB,sBAAnB,UAhjCIB,EAgjC+C,IAhjC/C,CAAJ,C;YAA2C,sBAgjCQ,IAhjCR,C;;QAE/C,OAAO,W;O;KAXX,C;wGAcA,yB;MAAA,+D;MAAA,sC;QAMW,kBAAmB,gB;QASV,Q;QAAA,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAm,IAAI,YAAJ,C;YAAkB,WAAy,WAAI,OAAJ,C;;QATpD,OAuO,W;O;KAhBX,C;4GASA,4C;MAMoB,Q;MAAA,2B;MAAhB,OAAgB,cAAhB,C;QAAGb,yB;QAAM,IAAI,YAAJ,C;UAAK

B, WAAY, WAAI, OAAJ, C; MACpD, OAAO, W; K; 0FAGX, yB; MAAA, +D; MAAA, uC; QAMW, kBAAy, gB; QA4B  
H, Q; QAAA, 2B; QAAhB, OAAgB, cAAhB, C; UAAgB, yB; UAAM, IAAI, CA5BS, SA4BR, CAAU, OAAV, CAAL, C; Y  
AAyB, WAAY, WAAI, OAAJ, C; QA5B3D, OA6BO, W; O; KAnCX, C; IASA, oC; MAMI, OAAO, 6BAAgB, gBAAhB, C  
; K; IAGX, mD; MAMoB, Q; MAAA, 2B; MAAhB, OAAgB, cAAhB, C; QAAgB, yB; QAAM, IAAI, eAAJ, C; UAAqB, WA  
AY, WAAI, OAAJ, C; MACvD, OAAO, W; K; 8FAGX, 6C; MAMoB, Q; MAAA, 2B; MAAhB, OAAgB, cAAhB, C; QAAg  
B, yB; QAAM, IAAI, CAAC, UAAU, OAAV, CAAL, C; UAAyB, WAAY, WAAI, OAAJ, C; MAC3D, OAAO, W; K; wFA  
GX, 6C; MAMoB, Q; MAAA, 2B; MAAhB, OAAgB, cAAhB, C; QAAgB, yB; QAAM, IAAI, UAAU, OAAV, CAAJ, C; UA  
AwB, WAAY, WAAI, OAAJ, C; MAC1D, OAAO, W; K; IAGX, sC; MAII, IAAI, OAAQ, UAAZ, C; QAAuB, Od7wBe, W;;  
Mc8wBtC, OAA6D, SAAtD, SAAK, iBAAQ, OAAQ, MAAhB, EAAuB, OAAQ, aAAR, GAAuB, CAAvB, IAAvB, CAAi  
D, C; K; IAGjE, sC; MAOkB, Q; MAHd, WAAmB, wBAAR, OAAQ, EAAwB, EAAxB, C; MACnB, IAAI, SAAQ, CAAZ, C  
; QAAe, OAAO, W; MACtB, WAAW, iBAAa, IAAb, C; MACG, yB; MAAd, OAAc, cAAAd, C; QAAc, uB; QACV, IAAK, W  
AAI, sBAAI, KAAJ, CAAJ, C; MAET, OAAO, I; K; IAGX, 8B; MAGBiB, Q; MN91Bb, IAAI, EMs1BI, KAAK, CNt1BT, C  
AAJ, C; QACI, cMq1Bc, sD; QNp1Bd, MAAM, gCAAyB, OAAQ, WAAjC, C; MMq1BV, IAAI, MAAK, CAAT, C; QAA  
Y, OAAO, W; MACnB, IAAI, oCAAJ, C; QACI, IAAI, KAAK, cAAAT, C; UAAe, OAAO, mB; QACT, IAAI, MAAK, CAA  
T, C; UAAy, OAAO, OAAO, mBAAP, C; MAEvB, YAAY, C; MACZ, WAAW, iBAAa, CAAb, C; MACE, 2B; MAAb, OA  
Aa, cAAb, C; QAAa, sB; QACT, IAAK, WAAI, IAAJ, C; QACL, IAAI, mCAAW, CAaf, C; UACI, K; MAER, OAAy, qBA  
AL, IAAK, C; K; IAGhB, kC; MAeqC, IAGhB, I; MNx3BjB, IAAI, EM82BI, KAAK, CN92BT, CAAJ, C; QACI, cM62Bc, s  
D; QN52Bd, MAAM, gCAAyB, OAAQ, WAAjC, C; MM62BV, IAAI, MAAK, CAAT, C; QAAy, OAAO, W; MACnB, W  
AAW, c; MACX, IAAI, KAAK, IAAT, C; QAAe, OAAO, mB; MACtB, IAAI, MAAK, CAAT, C; QAAy, OAAO, OAAO, k  
BAAP, C; MACnB, WAAW, iBAAa, CAAb, C; MACX, IAAI, sCAAJ, C; QACI, iBAAc, OAAO, CAAP, IAAd, UAA6B, IA  
A7B, U; UACI, IAAK, WAAI, sBAAK, KAAL, CAAJ, C; QAEI, sCAAa, OAAO, CAAP, IAAb, C; QAAb, OAAa, cAAb, C;  
UAAa, sB; UACT, IAAK, WAAI, IAAJ, C; MAEb, OAAO, I; K; kGAGX, yB; MAAA, qD; MAAA, gE; MAAA, gD; MAA  
A, uC; QAMI, IAAI, mBAAJ, C; UACI, OAAO, W; QACX, eAAe, +BAAa, cAAb, C; QACf, OAAO, QAAS, cAAhB, C; UA  
CI, IAAI, CAAC, UAAU, QAAS, WAAmB, CAAL, C; YACI, QAAS, O; YACT, mBAAmB, iBAAO, QAAS, YAAhB, I; YA  
CnB, IAAI, iBAAgB, CAAP, C; cAAuB, OAAO, W; YACI, kBAA3B, eAAa, YAAb, C; YACH, OAAgB, kBAAhB, C; cA  
CI, sBAAa, eAAb, C; YAfr, OH51BD, W;; QGk2BP, OAAO, iB; O; KApBX, C; 0FAuBA, yB; MAAA, +D; MAAA, uC; Q  
AOiB, Q; QADb, WAAW, gB; QACE, 2B; QAAb, OAAa, cAAb, C; UAAa, sB; UACT, IAAI, CAAC, UAAU, IAAV, CAAL,  
C; YACI, K; UACJ, IAAK, WAAI, IAAJ, C; QAET, OAAO, I; O; KAZX, C; IAoBA, +B; MAII, IAAI, wCAAsB, kBAAQ, C  
AAIC, C; QAAqC, OAAO, mB; MAC5C, WAAW, 0B; MACN, WAAL, IAAK, C; MACL, OAAO, I; K; IAGX, uC; MAOI, a  
AAU, 2BAAV, OAA2B, CAA3B, M; QACI, QAAQ, MAAO, iBAAQ, IAAI, CAAJ, IAAR, C; QACf, sBAAK, CAAL, EAA  
U, SAAK, aAAI, CAAJ, EAAO, sBAAK, CAAL, CAAP, CAaf, C; K; oFAIR, yB; MAAA, oD; MJr4BA, sC; MAAA, oC; M  
AAA, uBAOe, yB; QArEf, 8D; eAqEe, 4B; UAAA, uB; YAAU, eAAsB, gB; YAAtB, OA5Dd, cAAc, SA4DgB, CA5DhB, C  
AAAd, EAA2B, SA4DM, CA5DN, CAA3B, C; W; S; OA4DI, C; MI83Bf, sC; QAMI, IAAI, iBAAO, CAAX, C; UAAc, oBJp4  
Bd, eAAW, iBIo4BsB, QJp4BtB, CAAX, CIo4Bc, C; O; KANIB, C; wGASA, yB; MAAA, oD; MJ33BA, sC; MAAA, oC; M  
AAA, iCAOe, yB; QAxFf, 8D; eAwFe, 4B; UAAA, uB; YAAU, eAAsB, gB; YAAtB, OA/Ed, cAAc, SA+EgB, CA/EhB, CA  
Ad, EAA2B, SA+EM, CA/EN, CAA3B, C; W; S; OA+EI, C; MIo3Bf, sC; QAMI, IAAI, iBAAO, CAAX, C; UAAc, oBJ13Bd,  
eAAW, 2BI03BgC, QJ13BhC, CAAX, CI03Bc, C; O; KANIB, C; IASA, sC; MAMI, sBAAS, cAAAT, C; K; IAGJ, 6B; MASg  
B, Q; MAHZ, IAAI, oCAAJ, C; QACI, IAAI, kBAAQ, CAAZ, C; UAAe, OAAy, SAAL, SAAK, C; QAEwB, kBAA3C, sBC  
7+Bsd, sBD6+BtD, uB; QAAmD, mB; QAA3D, OAAoE, OHp7BjE, WGo7BiE, C; MAEjD, kBAAhB, 0B; MAAwB, oB;  
MAA/B, OHt7BO, W; K; wFGy7BX, yB; MAAA, wD; MJ96BA, sC; MAAA, oC; MAAA, uBAOe, yB; QArEf, 8D; eAqEe, 4  
B; UAAA, uB; YAAU, eAAsB, gB; YAAtB, OA5Dd, cAAc, SA4DgB, CA5DhB, CAAd, EAA2B, SA4DM, CA5DN, CAA3  
B, C; W; S; OA4DI, C; MIu6Bf, sC; QAQI, OAAO, sBJ/6BP, eAAW, iBI+6BiB, QJ/6BjB, CAAX, CI+6BO, C; O; KARX, C; 4  
GAWA, yB; MAAA, wD; MJt6BA, sC; MAAA, oC; MAAA, iCAOe, yB; QAxFf, 8D; eAwFe, 4B; UAAA, uB; YAAU, eAAs  
B, gB; YAAtB, OA/Ed, cAAc, SA+EgB, CA/EhB, CAAd, EAA2B, SA+EM, CA/EN, CAA3B, C; W; S; OA+EI, C; MI+5Bf, s  
C; QAMI, OAAO, sBJr6BP, eAAW, 2BIq6B2B, QJr6B3B, CAAX, CIq6BO, C; O; KANX, C; IASA, uC; MAMI, OAAO, w  
BAAW, cAAx, C; K; IAGX, 6C; MASE, Q; MAHX, IAAI, oCAAJ, C; QACG, IAAI, kBAAQ, CAAZ, C; UAAe, OAAy, SA  
AL, SAAK, C; QAEe, kBAAIC, sBCxhCuD, sBDwhCvD, uB; QAA0C, iC; QAAID, OAAyE, OH/9BrE, WG+9BqE, C; M  
AErD, kBAAhB, 0B; MAAwB, mC; MAA/B, OHj+BO, W; K; IGo+BX, qC; MAMoB, UACL, M; MAHX, aAAa, oBAAa, c

AAb,C;MACb,YAAY,C;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,OAAO,cAAP,EAAO,sBAAP,  
YAAkB,O;;MACtB,OAAO,M;K;IAGX,kC;MAMoB,UACL,M;MAHX,aAAa,cAAU,cAAV,C;MACb,YAAY,C;M  
ACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,OAAO,cAAP,EAAO,sBAAP,YAAkB,O;;MACtB,OAAO,  
M;K;IAGX,kC;MAMoB,UACL,M;MAHX,aAAa,iBAAU,cAAV,C;MACb,YAAY,C;MACI,2B;MAAhB,OAAgB,c  
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ACL,M;MAHX,aAAa,iBAAU,cAAZ,C;MACb,YAAY,C;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QAC  
Z,OAAO,cAAP,EAAO,sBAAP,YAAkB,O;;MACtB,OAAO,M;K;IAGX,mC;MAMoB,UACL,M;MAHX,aAAa,iBA  
AW,cAAx,C;MACb,YAAY,C;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,OAAO,cAAP,EAAO,sB  
AAP,YAAkB,O;;MACtB,OAAO,M;K;IAGX,iC;MAMoB,UACL,M;MAHX,aAAa,eAAS,cAAT,C;MACb,YAAY,  
C;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,OAAO,cAAP,EAAO,sBAAP,YAAkB,O;;MACtB,OA  
AO,M;K;IAGX,kC;MAMoB,UACL,M;MAHX,aAAa,iBAAU,cAAV,C;MACb,YAAY,C;MACI,2B;MAAhB,OAA  
gB,cAAhB,C;QAAgB,yB;QACZ,OAAO,cAAP,EAAO,sBAAP,YAAkB,O;;MACtB,OAAO,M;K;IAGX,mC;MAM  
oB,UACL,M;MAHX,aAAa,eAAW,cAAx,C;MACb,YAAY,C;MACI,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;  
QACZ,OAAO,cAAP,EAAO,sBAAP,YAAkB,O;;MACtB,OAAO,M;K;0FAGX,yB;MAAA,kF;MAAA,0D;MAAA,  
yD;MAAA,uE;MAAA,uC;QAWI,eAAwD,cAAzC,YAAY,mCAAwB,EAAXB,CAAZ,CAAYC,EAAC,EAAD,C;QA  
CjD,kBAAY,mBAAoB,QAAPB,C;QAYEH,Q;QAAA,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UACZ,WA1E8  
C,SA0E/B,CAAU,OAAV,C;UbtkBnB,wBAAL,IAAK,MAAT,EAAGB,IAAK,OAArB,C;;Qa4fA,OA4EO,W;O;KAx  
FX,C;+FAeA,yB;MAAA,kF;MAAA,0D;MAAA,yD;MAAA,uE;MAAA,yC;QAWI,eAAwD,cAAzC,YAAY,mCAA  
wB,EAAXB,CAAZ,CAAYC,EAAC,EAAD,C;QACjD,kBAAC,mBAAoB,QAAPB,C;QA2BL,Q;QAAA,2B;QAAhB,  
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BhB,OA8BO,W;O;KA1CX,C;+FAeA,yB;MAAA,kF;MAAA,0D;MAAA,yD;MAAA,uE;MAAA,yD;QAUI,eAAw  
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B,EA01HkB,sBA11HIB,WA01H2B,IA11H3B,CAAJ,C;YAA2C,sBA01HZ,IA11HY,C;;QAZD/C,OA2DO,W;O;K  
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;;QA/D/C,OAIeO,W;O;KA5EX,C;mGAcA,yB;MAAA,+D;MAAA,uC;QAWW,kBAAGB,gB;QAg5HV,gB;QADb,  
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A,2B;MAAhB,OAAgB,cAAhB,C;QAAGb,yB;QAAM,IAAI,CAAC,UAAU,OAAV,CAAL,C;UAAyB,WAAy,WA  
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gB,yB;QAAM,IAAI,UAAU,OAAV,CAAJ,C;UAAwB,WAAy,WAAI,OAAJ,C;;MAC1D,OAAO,W;K;yFAGX,6C;  
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Ad,C;QAAC,uB;QACV,IAAK,WAAI,sBAAI,KAJ,CAAJ,C;;MAET,OAAO,I;K;IAGX,sC;MAskB,Q;MAHd,WA  
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,GAAmB,KAAm,WAAzB,GAAYC,I;;QAEzC,c;;MAHJ,wB;MAKA,kBAakB,K;MACIB,iBAAiB,W;MACjB,OA  
AO,S;K;IAIa,sB;MAAC,U;K;iCACrB,iB;MACI,OAAO,mCAAsB,WAAK,KAAm,E;K;mCAG5C,Y;MACI,OAA  
O,M;K;mCAGX,Y;MACI,OAAuC,oBAAnB,UAA5B,IAAe,EAaA,CAAmB,C;K;0CAG3C,iB;MACI,OAAR,IAAI,  
EAAW,GAAN,K;K;kCAGL,Y;MAEI,OAAO,M;K;;+DAIf,gB;MAEI,YAAy,MAAY,IAAK,OAAjB,C;MACZ,sB  
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,MAAK,GAAL,C;;UAE1B,MAAM,CAAN,IAAW,G;;MAGnB,OAAO,EAAS,OAAO,OAAM,EAAN,EAAGB,KA  
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Q,OASiB,K;K;IAPX,uB;MAC6B,WAAS,W;MAAT,YAA7B,EAAE,MAAM,KAA2C,CAArC,SAAqC,C;MAK/C,e  
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H,a;K;iDAIJ,kB;MACI,kBAAC,IAAd,C;MACiC,oB;MCuBrB,Q;MADR,IdtBsB,MCsBtB,W;QADJ,mBACiB,I;;Q  
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J,C;K;mEAGX,Y;MAAoC,sBAAQ,CAAR,I;K;+DAEpC,mB;MACI,wBAAI,YAAJ,EAAY,OAAX,C;MACA,mC;  
MACA,cAAO,E;K;+DAGX,mB;MxElFJ,IAAI,EwEmFU,gBAAQ,ExEnFIB,CAAJ,C;QACI,cwEkFwB,4E;QxEjF  
B,MAAM,6BAAsB,OAAQ,WAA9B,C;;MwEkFF,wBAAI,WAAJ,EAAU,OAAV,C;K;;IAIgb,+D;MAAuF,8B;MA  
AtF,kB;MAA0C,4B;MAC/D,eAAyB,C;MAGrB,oCAAa,2BAAkB,gBAAlB,EAA6B,OAA7B,EAA5C,WAAK,KA  
A3C,C;MACb,eAAa,UAAU,gBAAV,I;K;wDAGjB,0B;MACI,oCAAa,4BAAmB,KAAhB,EAA0B,YAA1B,C;MA  
Eb,WAAK,aAAI,mBAAY,KAAZ,IAAJ,EAAuB,OAAvB,C;MACL,mC;K;wDAGJ,iB;MACI,oCAAa,2BAAkB,KA  
AlB,EAAyB,YAAzB,C;MAEb,OAAO,wBAAK,mBAAY,KAAZ,IAAL,C;K;6DAGX,iB;MACI,oCAAa,2BAAkB,  
KAAIB,EAAyB,YAAzB,C;MAEb,aAAa,WAAK,kBAAS,mBAAY,KAAZ,IAAT,C;MACIB,mC;MACA,OAAO,M  
;K;wDAGX,0B;MACI,oCAAa,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,OAAO,WAAK,aAAI,mBAAY,KAAZ  
,IAAJ,EAAuB,OAAvB,C;K;mGAGO,Y;MAAQ,mB;K;2DAE/B,Y;MAA+C,WAAK,iB;K;;ICxMN,8B;MAAiC,sB  
;MAwCnF,uBAAoC,I;MA+CpC,yBAA6C,I;K;IAIFR,oD;MAAC,wB;MAGIC,gBAAqB,K;K;iFAHa,Y;MAAA,yB;  
K;uGAKZ,Y;MAAQ,oB;K;8DAE9B,oB;MAKI,eAAe,IAAK,S;MACpB,gBAAc,Q;MACd,OAAO,Q;K;wDAGX,Y  
;MAA+B,iEAAc,IAAd,C;K;wDAC/B,Y;MAAKC,iEAAc,IAAd,C;K;sDACIC,iB;MAA4C,+DAAY,IAAZ,EAakB,  
KAAIB,C;K;;IAIB5C,8E;MAAA,wE;MAAsC,2CAAK,KAAM,IAAX,EAAGB,KAAM,MAATB,C;MAATC,Y;K;IA  
sBJ,+C;MACsE,6B;K;mEACIE,mB;MAAMd,kCAAc,OAAd,C;K;iEAEnD,mB;MAAiD,gCAAY,OAAZ,C;K;;yCA  
IrD,Y;MACI,YAAQ,Q;K;IAOQ,+F;MAAA,sD;MAAS,6B;K;uFACb,mB;MAAwC,MAAM,qCAA8B,8BAA9B,C;  
K;mFAC9C,Y;MACI,4BAAwB,Q;K;4FAG5B,mB;MAAsD,sDAAY,OAAZ,C;K;IAI3C,oH;MAAA,kD;K;4GACH,  
Y;MAAKC,OAAA,0BAAc,U;K;yGACHd,Y;MAAyB,OAAA,0BAAc,OAAO,I;K;2GAC9C,Y;MAAwB,0BAAc,S;  
K;;sFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC5B,6G;K;0FAOJ,mB;MACI,qB;MACA,IAAI,+CAAY,OAAZ,CA  
AJ,C;QACI,4BAAwB,cAAO,OAAP,C;QACxB,OAAO,I;;MAEX,OAAO,K;K;oIAGY,Y;MAAQ,OAAA,4BAAwB  
,K;K;4FAEvD,Y;MAAsC,4BAAwB,iB;K;;0FA9B1E,Y;MACI,IAAI,4BAAJ,C;QACI,6F;;MA+BJ,OAAO,mC;K;k  
DAKf,gB;MAEyB,Q;MADrB,qB;MACqB,OAAA,IhF8Q2D,QAAQ,W;MgF9QxF,OAAqB,cAArB,C;QAAqB,wB;  
QAAf,UhFiMsD,U;QgFjMjD,YhF8MiD,Y;QgF7MxD,iBAAI,GAAJ,EAAS,KAAT,C;;K;IAQc,iG;MAAA,sD;MA  
AS,oC;K;yFACf,mB;MAAwC,MAAM,qCAA8B,gCAA9B,C;K;qFAC9C,Y;MAAuB,4BAAwB,Q;K;8FAE/C,mB;

MAAsD,wDAAC,OAAd,C;K;IAI3C,sH;MAAA,kD;K;8GACH,Y;MAAkC,OAAA,0BAAC,U;K;2GACHD,Y;MAA  
yB,OAAA,0BAAC,OAAM;K;6GAC9C,Y;MAAwB,0BAAC,S;K;;wFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC  
5B,+G;K;sIAOmB,Y;MAAQ,OAAA,4BAAwB,K;K;8FAEvD,Y;MAAsC,4BAAwB,iB;K;;4FAnB1E,Y;MACI,IAA  
I,8BAAJ,C;QACI,iG;;MAoBJ,OAAd,qC;K;gDAGf,e;MACI,qB;MACA,WAAW,YAAQ,W;MACnB,OAAd,IAA  
K,UAAZ,C;QACI,YAA,Y,IAAK,O;QACjB,QAAQ,KAAM,I;QACd,IAAI,YAAO,CAAP,CAAJ,C;UACI,YAA,Y,K  
AAM,M;UACIB,IAAK,S;UACL,OAAd,K;;MAGf,OAAO,I;K;kDAIX,Y;K;;IC3I+C,8B;MAAiC,oC;K;0CAEHf,i  
B;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;MAC3B,IAAI,0BAAJ,C;QAAsB,OAAO,K;MAC7B,OAAO,mC  
AA,Y,mBAAU,IAAV,EAAGB,KAHb,C;K;4CAGvB,Y;MAG+B,OAAA,mCAA,Y,2BAAKB,IAAIB,C;K;;ICbT,0B  
;MAAuD,8B;MAAIC,4B;MACvD,4BAAkC,K;K;gCAkBiC,Y;MAEI,qB;MACA,4BAAa,I;MACb,OAAO,I;K;qCA  
GX,Y;K;iDAGA,uB;K;iFAG8B,Y;MAAQ,OAAA,oBAAM,O;K;sCAC5C,iB;MACyC,Q;MAAA,oCAAM,0BAA  
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AM,KAAN,C;MAAqB,qC;MAA5B,OAAO,CAAA,OxE8BjB,SwE9BI,2D;K;oCAGX,mB;MACI,qB;MACM,oBA  
AY,MAAK,OAAL,C;MACIB,qC;MACA,OAAO,I;K;sCAGX,0B;MACI,qB;MACM,oBAAY,QAAO,mCAAoB,K  
AApB,CAAP,EAAMC,CAAnC,EAAsC,OAAtC,C;MACIB,qC;K;yCAGJ,oB;MACI,qB;MACA,IAAI,QAAS,UAA  
b,C;QAAwB,OAAO,K;MAE/B,uBAAA,oB1EioDoB,QMhrD0C,YoE+CrD,QpE/CqD,CNgrD1C,C;M0EhoDpB,qC  
;MACA,OAAO,I;K;yCAGX,2B;MACI,qB;MACA,mCAAoB,KAAPB,C;MAEA,IAAI,UAAAS,SAAb,C;QAAMB,O  
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,oBAAO,QAAP,C;WACf,IAFE,KAEF,O;QAAK,uBpE5DqD,YoE4D7C,QpE5D6C,CNgrD1C,Q0EpnD6B,oB1Eon  
D7B,C;;Q0EnnDR,uBAAoC,cAA5B,oBAA4B,EA AV,CAAU,EAAP,KA AO,CAAY,QpE7DE,YoE6DK,QpE7DL,  
CoE6DF,EAA4C,cAAN,oBAAM,EAAY,KA AZ,EAAMB,SAANB,CAA5C,C;;MAG5D,qC;MACA,OAAO,I;K;2C  
AGX,iB;MACI,qB;MACA,0BAAW,KAAX,C;MACA,qC;MACA,OAAW,UAAAS,sBAAb,GACG,oBAAY,MADf,  
GAGG,oBAAY,QAAO,KAAP,EAAC,CAAd,CAAI,CAAMC,CAAnC,C;K;uCAGR,mB;MAEKb,Q;MAdd,qB;M  
ACc,2B;MAAd,mD;QACI,IAAI,4BAAM,KAAN,GAAGB,OAAb,CAAJ,C;UACU,oBAAY,QAAO,KAAP,EAAC,  
CAAd,C;UACIB,qC;UACA,OAAO,I;;MAGf,OAAO,K;K;8CAGX,8B;MACI,qB;MACA,qC;MACM,oBAAY,QA  
AO,SAAP,EAAb,UAAU,SAAV,IAAIB,C;K;gCAGtB,Y;MACI,qB;MACA,uBhChHuC,E;MgCiHvC,qC;K;wCAI  
J,mB;MAA+C,OAAM,QAAN,oBAAM,EA AQ,OAAR,C;K;4CAErD,mB;MAAMD,OAAM,YAAN,oBAAM,EA  
Y,OAAZ,C;K;mCAEzD,Y;MAA0B,uBAAC,oBAAd,C;K;0CAE1B,iB;MAGe,UAGL,MAHK,EAMO,M;MAPIB,IA  
AI,KAAM,OAAN,GAAa,SAAJB,C;QACI,OAAO,2D;;MAGc,gBAAXB,eAAK,SAAL,IAAK,gBAAL,yB;M1EuwB  
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S,MAAM,MAAK,oBAAL,C;K;yCAI1B,Y;MACI,IAAI,yBAAJ,C;QAAgB,MAAM,oC;K;+CAG1B,iB;MACI,oCA  
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MAAA,mD;MAG8B,sBhCRa,EgCQb,C;MAH9B,Y;K;IAKA,kD;MAAA,mD;MAIkD,sBhCdP,EgCcO,C;MAJID,Y  
;K;IAMA,2C;MAAA,mD;MAGqD,sBpELa,YoEKR,QpELQ,CoEKb,C;MAHrD,Y;K;ICrBJ,0C;MACI,IAAI,6BAA  
J,C;QACU,KAAY,MAAK,UAAL,C;;QAEIB,UAAU,KA AV,EA AwC,CAAxC,EA AiD,cAAN,KAAM,CAAjD,EA  
A4D,eAAW,UAA X,CAA5D,C;;K;IAMiB,kD;MAAA,uB;QAAgB,OAAA,kBAAW,SAAQ,CAAR,EA AW,CAAX,  
C;O;K;IAFpD,4C;MACI,IAAI,6BAAJ,C;QACI,iBAAiB,gC;QACX,KAAY,MAAK,UAAL,C;;QAEIB,UAAU,KA  
AV,EA AwC,CAAxC,EA AiD,cAAN,KAAM,CAAjD,EA A4D,UAA5D,C;;K;IAIR,gE;MACI,IAAI,aAA,Y,UAAU,C  
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A4D,cAA5D,C;;K;IAaa,kD;MAAoB,QAAC,IAAM,CAAP,KA Aa,IAAM,CAAnB,K;K;IARzC,uC;MACI,sC;QAA  
iC,OAAjC,yB;;MACA,4BAA4B,K;MAE5B,YAA,Y,E;MAGZ,iBAAC,CAAd,UAAAsB,GAAtB,U;QAAiC,KAAY,M  
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AO,I;K;IAIX,2D;MACI,aAAa,gBAAMB,KAAM,OA AzB,O;MACb,aAAa,YAAU,KA AV,EA AiB,MAAJB,EAAYB  
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,M;UAA+B,MAAM,CAAN,IAAW,OAAO,CAAP,C;;K;IAIID,4D;MAEI,IAAI,UAAS,GAAb,C;QACI,OAAO,K;;  
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b,IAAuB,cAAc,GAAR,C;UACI,gBAAgB,KAAK,SAAL,C;UACHB,iBAAiB,MAAM,UAAN,C;UAEjB,IAAI,UA  
AW,SAAQ,SAAR,EAAMb,UAAnB,CAAX,IAA6C,CAAjD,C;YACI,OAAO,CAAP,IAAY,S;YACZ,6B;;YAEA,O  
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;UAGA,OAAO,CAAP,IAAY,MAAM,UAAN,C;UACZ,+B;;;MAMZ,OAAO,M;K;ICrGX,4C;MAMoB,UACM,M;  
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Q,C;eACnC,uC;YAAmC,2BAAR,OAAQ,C;;YAEA,kBAAR,OAAQ,C;;QATvC,wB;QAYa,SAAS,MAAK,MAAL  
,QAAc,WAAAd,I;;MAEb,OAAO,M;K;;;ICTP,uC;MAAA,2C;K;2DACI,0B;MAA2D,sBAAU,MAAV,C;K;gEAE3D,  
iB;MAA6C,Q;MAAA,wEAAqB,C;K;;;IAHtE,mD;MAAA,kD;QAAA,iC;;MAAA,2C;K;;;MC0BA,iC;MAKA,8B;  
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K;uCAC/D,Y;MACI,WAAa,Q;K;uDAGjB,mB;MAAgE,OAAA,WAAa,uBAAc,OAAAd,C;K;0CAE7E,Y;MAAwE,  
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b,OAAO,I;;MAEX,OAAO,K;K;wFAGY,Y;MAAQ,OAAA,WAAa,K;K;;8BA6ChD,Y;MACI,0BAAy,Q;K;0CAIh  
B,e;MAAMd,OAAA,0BAAy,gBAAS,GAAT,C;K;4CAE/D,iB;MAAMe,gBAAZ,0B;MAAY,c;;QzEinDnD,Q;QA  
DhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;  
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AAO,K;;MyElnDgD,iB;K;kFAInD,Y;MACI,IAAI,+BAAJ,C;QACI,0BAAW,qB;;MAEf,OAAO,sC;K;uCAGf,Y;  
MAAgF,iC;K;kCAEHf,e;MAA+C,OAAA,0BAAy,WAAI,GAAJ,C;K;oCAE3D,sB;MAAGD,OAAA,0BAAy,aAAI  
,GAAJ,EAAS,KAAT,C;K;qCAE5D,e;MAAYC,OAAA,0BAAy,cAAO,GAAP,C;K;+EAEvB,Y;MAAQ,OAAA,0B  
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;MAFhC,Y;K;IAKA,+B;MAAA,iD;MAGuB,aAAK,kEAAL,Q;MAHvB,Y;K;IAKA,4D;MAAA,iD;MAQ8D,qB;M/  
EpC9D,IAAI,E+EsCQ,mBAAMb,C/EtC3B,CAAJ,C;QACI,c+EqCgC,+C;Q/EpChC,MAAM,gCAAYB,OAAQ,WA  
AjC,C;;MAFV,IAAI,E+EuCQ,cAAc,C/EvCtB,CAAJ,C;QACI,gB+EsC2B,yC;Q/ErC3B,MAAM,gCAAYB,SAAQ,  
WAAjC,C;;M+E0BV,Y;K;IAcA,gD;MAAA,iD;MAA2C,eAAK,eAAL,EAASB,GAATB,Q;MAA3C,Y;K;IAGA,yC;  
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AnB,C;MAA2E,wB;MAAIF,O5EvCO,S;K;;M6EjEP,uB;;kCAyCA,mB;MACI,UAAU,gBAAI,aAAI,OAAJ,EAaA,I  
AAb,C;MACd,OAAO,W;K;8BAGX,Y;MACI,gBAAI,Q;K;uCAOR,mB;MAA6D,OAAA,gBAAI,mBAAY,OAAZ,  
C;K;gCAEjE,Y;MAAYC,OAAA,gBAAI,U;K;iCAE7C,Y;MAAQD,OAAA,gBAAI,KAAK,W;K;qCAE9D,mB;MA  
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AGoB,8B;MAZxB,mB;MAAQ,oBAAM,gB;MAJV,Y;K;IAOA,yC;MAAA,iD;MAG2C,8B;MANB/C,mB;MAoBQ,o  
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D,mB;MAiCQ,oBAAM,eAAgB,eAAhB,EAAiC,UAAjC,C;MATV,Y;K;IAYA,gD;MAAA,iD;MAA2C,eAAK,eAA  
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K;IAmCJ,+B;MAKuC,gBAA5B,eAAQ,eAAR,C;MAAoC,6B;MAA3C,O7ENO,S;K;I8EzD6B,uC;MAAC,kC;MAE  
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Y;UAC/B,IAAI,aAAS,gBAAO,KAAM,IAAb,EAAB,GAAIB,CAAb,C;YACI,OAAO,KAAM,gBAAS,KAAT,C;;  
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A,OAAO,I;;UAIX,YAAuC,Y;UACvC,cAAkB,wBAAN,KAAM,EAAiB,GAAjB,C;UACIB,IAAI,eAAJ,C;YACI,O  
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,8B;K;+CAE/B,e;MACuB,Q;MAAA,oCAAsB,aAAS,qBAAY,GAAZ,CAA/B,C;MAAA,iB;QAAoD,OAAO,I;;MA  
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O+FtoCa,IAAb,M/FsoCd,C;YAAwB,qBAAO,O;YAAP,uB;;QAC9C,qBAAO,I;;M+FvoCH,yB;K;IAIO,8E;MAA  
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O,C;;K;mEAI,f;Y;MACI,IAAI,eAAS,EAAb,C;QACI,aAAQ,oB;MACZ,OAAO,eAAS,C;K;gEAGpB,Y;MAEOB,Q;  
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,C;;QAEN,sBAnBgB,K;;MmFde,oBAAO,sFAAP,C;K;;2CAjBnC,Y;MACI,yD;K;IAqBkD,0F;MAAA,8B;MAAA,o  
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O,C;MACP,gCAAI,cAAO,0BAAO,IAAd,C;MAEJ,cAAO,I;K;;iDAIf,mB;MAAyD,MAAM,qCAA8B,iCAA9B,C;  
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I,UAAU,SpD/HyC,a;QoDgInD,WAAW,SpD/HyC,c;QoDgIpD,aAAa,GAAL,IAAI,QAAR,GAAqB,IAAK,MAAK,C  
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HJ,W;K;IAOJ,8B;MAC4E,QAAM,QAAS,OAAf,C;aACxE,C;UADwE,OACnE,WAAW,SAAS,CAAT,CAAX,C;a  
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B,K;aACA,U;UAA+B,OAAjB,8BAAiB,eAAGB,CAAY,OAA5B,C;UAA/B,K;;UAGQ,6B;YAAcC,OAAjB,8BAAi  
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;qEAchB,4B;MAIkE,iBAA Y,KAAZ,C;K;2EAEIE,qB;MAI8D,gB;K;ICIDb,2C;MAC7C,qBAAwC,Q;K;iDAExC,Y  
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GAAb,C;QALnB,sBjI4DG,WyHoUqC,W;QQzXc,OAAO,I;;MAGX,OAAO,K;K;IAGX,8C;MAOmB,c;;QIJw3Y  
C,Q;QAAhB,wBkJx3YI,UlJw3YJ,gB;UAAgB,ckJx3YZ,UlJw3YJ,M;UAAAsB,Ikx3YD,sBlJw3Ye,OkJx3Yf,CIJw3  
YC,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,K;;MkJz3YP,e;QACI,kBAA6B,MAAX,UAAW,C;QjHyIM,U;Q  
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I,sBAAY,mCAAZ,C;;K;IAIR,uC;MAOI,sBAAY,sCAAGB,gBAae,IAAf,CAA5B,C;MACA,OAAO,S;K;ICbP,4B;  
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,U;MACIB,EAAE,UAAF,IAAgB,Q;MACHb,OAAO,C;K;6EA6CX,4B;MAE6D,iBAAY,KAAZ,C;K;6EAE7D,mC;  
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CAA7B,C;K;+CAE1C,iB;MAAuD,+BAAS,KAAM,IAAf,IAAsB,GAAtB,GAA4B,wBAAS,KAAM,MAAf,C;K;+C  
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sE;;M8K5PoC,+B;K;;IAGN,mD;MAAC,wB;MAA2C,0B;K;4EAA3C,Y;MAAA,yB;K;iDAC1C,iB;MAA4C,OAAI  
,OAAJ,QAAI,EAAO,KAAP,C;K;mDACHD,Y;MAA+B,OAAI,SAAJ,QAAI,C;K;mDACn C,Y;MAAkC,OAAA,QA  
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C,OAAA,QAAI,cAAO,GAAP,C;K;yDACtC,gB;MAA2C,QAAI,gBAAO,IAAP,C;K;gDAC/C,Y;MAAuB,QAAI,Q;  
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BA AiB,CAAC,4B8KnO+C,G9KmO/C,CAAtB,C;QACI,2B8KpOwE,mB;;Q9KuOxE,2BAAO,sE;;M8KvOoC,+B;  
K;;I9KvFnD,oB;MAAA,wB;MACI,8C;K;gCAEA,iB;MAA4C,oCAAsB,KAAM,U;K;kCACxE,Y;MAA+B,Q;K;kC  
AC/B,Y;MAAkC,W;K;gFAEX,Y;MAAQ,Q;K;iCAC/B,Y;MAAkC,W;K;2CAEIC,e;MAA+C,Y;K;6CAC/C,iB;MA  
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B,uE;K;IAEvE,wB;MAaI,OAAI,KAAM,OAA N,GA Aa,CAAjB,GA A0B,QAAN,KAAM,EAAM,qBAAC,YAAY,K  
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D,C;IASA,4B;MAM8G,gBAAvC,eAAc,YAAY,KAAM,OAAIB,CAAd,C;MAA+C,wB;MAA/C,OUrB5D,S;K;4FV  
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DxB,W;QV6DA,OU5DO,SI+B2C,Q;O;KdWtD,C;uFA0BA,yB;MclCA,uE;MdkCA,0C;Qc9ByC,gBAA9B,mBdoDi  
B,QcpDjB,C;QdoD2B,aU3FIC,W;QV2FA,OU1FO,SIScmD,Q;O;Kd8B9D,C;4FAoCA,qB;MAK+D,QAAC,mB;K;  
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AAA,8B;MAAA,iC;QAKiC,Q;QAA7B,OAAGD,CAAnB,wDAAmB,YA AI,GA AJ,C;O;KALpD,C;+EAOA,iC;MA  
KI,sBAAI,GA AJ,EAAS,KAAT,C;K;4FAGJ,yB;MAAA,kC;MAAA,8B;MAAA,iC;QAOiC,Q;QAA7B,OAAGD,CA  
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yB;MAAA,gD;MAAA,8B;MAAA,iC;QASiC,Q;QAA7B,OA AuD,CAA1B,+DAA0B,eAAO,GAAP,C;O;KAT3D,C  
;6FAWA,qB;MAWoE,oB;K;6FAEpE,qB;MAWoE,sB;K;kFAEpE,yB;MAAA,6B;MAAA,4B;QAIgE,qBAAK,aAA  
L,EAAU,eAAV,C;O;KAJhE,C;2FAMA,wC;MAMiF,Q;MAAA,mCAAI,GA AJ,oBAAY,c;K;uGAG7F,yB;MAAA,  
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CAAtB,C;UACI,OAAO,c;;UAGP,OAAO,sE;;O;KANf,C;IAUA,oC;MAUkD,uCAAqB,GA ArB,C;K;sFAEID,wC;  
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AT,C;QACA,a;;QAEA,Y;;MALJ,W;K;wFASJ,qB;MAMwF,OAAA,iBAAQ,W;K;wFAEHg,qB;MAMgH,OAAA,i  
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GjC,6C;Ma+0BoB,Q;MAAA,Obv0BT,iBau0BS,W;MAAhB,OAAGB,cAAhB,C;QAAGB,yB;Qbv0Ba,Waw0Bb,abx  
0B0B,Saw0BtB,CAAY,OAAZ,CAAJ,EAAYC,Obx0BC,Maw0B1C,C;;Mbx0BhB,OAA6B,W;K;IAGjC,kC;MAIyB,  
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AJ,EAAS,KAAT,C;;K;IAIR,oC;MAIyB,Q;MAAA,uB;MAArB,OA AqB,cAArB,C;QAAqB,wB;QA AhB,IAAC,yB  
AAD,EAAM,2B;QACP,sBA AI,GA AJ,EAAS,KAAT,C;;K;IAIR,oC;MAIyB,Q;MAAA,uB;MAArB,OA AqB,cAAr  
B,C;QAAqB,wB;QA AhB,IAAC,yBAAD,EAAM,2B;QACP,sBA AI,GA AJ,EAAS,KAAT,C;;K;wFAIR,yB;MAAA,  
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,SAAK,EAAO,QAAP,C;O;KALT,C;4FAQA,yB;MAAA,gD;MAAA,sC;QAKS,OAAL,SAAK,EAAO,QAAP,C;O;  
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E9E,2C;MAK8E,kCAAc,SAAd,EAAyB,KAazB,C;K;IAE9E,wE;MAEgB,UAGS,MAHT,EAcY,MAZ,EAac6B,M;  
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ACD,oC;MAArB,qBAakB,CAAIb,mC;QACI,cAAc,sBAAK,SAAL,C;QACd,IAAI,UAAU,OAAV,MAAsB,uBAA  
1B,C;UACI,Q;QAEJ,IAAI,eAAc,SAAIb,C;UACI,sBAAK,UAAL,EAAMB,OAAAnB,C;QAEJ,+B;;MAEJ,IAAI,aA  
Aa,cAAjB,C;QACwB,oC;QAAiB,mB;QAArC,oE;UACI,2BAAS,WAAT,C;QAEJ,OAAO,I;;QAEp,OAAO,K;;K;I  
ChS+B,wC;MAAkC,uB;MAAjC,0B;K;4FACpB,Y;MAAQ,OAAA,eAAS,K;K;iDACxC,iB;MAAkC,mCAAS,0BA  
AoB,KAApB,CAAT,C;K;;IAGT,gC;MAAYC,8B;MAAxC,0B;K;oFACH,Y;MAAQ,OAAA,eAAS,K;K;yCACxC,i  
B;MAAkC,mCAAS,0BAAoB,KAApB,CAAT,C;K;mCAEIC,Y;MAAuB,eAAS,Q;K;8CACHC,iB;MAAuC,OAAA,  
eAAS,kBAAS,0BAAoB,KAApB,CAAT,C;K;yCAEHd,0B;MAA8C,OAAA,eAAS,aAAI,0BAAoB,KAApB,CAAJ,  
EAAgC,OAAhC,C;K;yCACvD,0B;MACI,eAAS,aAAI,2BAAqB,KAArB,CAAJ,EAAiC,OAAjC,C;K;;IAIjB,+C;M  
ACoB,Q;MAAA,kC;MAAhB,IAAa,CAAT,0BAAJ,C;QAAA,OAA2B,8BAAY,KAAZ,I;;QAAuB,MAAM,8BAA0  
B,mBAAGB,KAAhB,2BAA0C,gBAAG,2BAAH,CAA1C,OAA1B,C;K;IAE5D,gD;MACoB,Q;MAAA,qB;MAAhB  
,IAAa,CAAT,0BAAJ,C;QAAA,OAA5B,iBAAO,KAAp,I;;QAAkB,MAAM,8BAA0B,oBAAiB,KAAjB,2BAA2C,g  
BAAG,cAAH,CAA3C,OAA1B,C;K;IAGID,+B;MAK+C,gCAAqB,SAArB,C;K;IAE/C,iC;MAM6D,wBAAa,SAAb  
,C;K;;;I1KpC7D,oD;MAQuF,wC;K;IARvF,8CASI,Y;MAAuC,8B;K;IAT3C,gF;I2KY8G,wC;MAAA,mB;QAAE,k  
BAAS,aAAT,C;O;K;IAThH,yB;MASqG,oCAAS,sBAAT,C;K;IAErG,2B;MAQI,eAAe,6B;MACf,oBAA0B,+BAA  
N,KAAAM,EAAwC,QAAxC,EAA+D,QAA/D,C;MAC1B,OAAO,Q;K;IAc+B,yB;K;+CAoBtC,kC;MAOI,IAAI,uCA  
A0B,QAAS,UAAvC,C;QAAkD,M;MACID,OAAO,sBAAS,QAAS,WAAIB,e;K;+CAGX,kC;MAQqD,6BAAS,QA  
AS,WAAIB,e;K;;;IAYzD,mC;MAA2C,wB;MACvC,eAAoB,C;MACpB,mBAA4B,I;MAC5B,sBAAyC,I;MACz  
C,gBAAoC,I;K;gDAEpC,Y;MACI,OAAO,IAAP,C;QACI,QAAM,YAAN,C;eACI,C;YAAA,K;eACA,C;YACI,IA  
AI,kCAAE,UAAAnB,C;cACI,eAAQ,C;cACR,OAAO,I;;cAEP,sBAAE,I;;YALvB,K;eAOA,C;YAAc,OAAO,K;eACr  
B,C;eAAA,C;YAAgC,OAAO,I;;YAC/B,MAAM,yB;;QAGIB,eAAQ,C;QACR,WAAW,4B;QACX,gBAAW,I;QAC  
X,I3HIFR,oBDgDQ,W4HkCY,kB5HICZ,CChDR,C;K;6C2HsFA,Y;MACU,IASe,I;MATrB,QAAM,YAAN,C;aAC  
I,C;aAAA,C;UAA5C,OAAO,qB;aAC7C,C;UACI,eAAQ,C;UACR,OAAO,kCAAE,o;AAE1B,C;UACI,eAAQ,C;UA  
CR,aACa,mF;UACb,mBAAy,I;UACZ,OAAO,M;;UAEH,MAAM,yB;;K;uDAItB,Y;MACI,IAAI,CAAC,cAAL,C;



QAAgB,MAAM,6B;;QAA8B,OAAO,W;K;2DAG/D,Y;MAA4C,QAAM,YAAN,C;aACxC,C;UADwC,OAC1B,6B;  
aACd,C;UAFwC,OAExB,6BAAsB,sBAAtB,C;;UAFwB,OAGhC,6BAAsB,uCAAoC,YAA1D,C;;K;IAOqC,4E;MA  
AA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;oDALR,+B;MACI,mBAAY,K;MACZ,eAAQ,C;MACR,OAA6  
C,0CAAtC,c;K;IAUsC,+E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;yDANR,kC;MACI,IAAI,CAA  
C,QAAS,UAAAd,C;QAAyB,M;MACzB,sBAAE,Q;MACf,eAAQ,C;MACR,OAA6C,6CAAtC,c;K;2DAMX,kB;M5H  
JO,Q;MADP,e4HOI,M5HPJ,C;MACO,Q4HMH,M5HNG,+D;M4HOH,eAAQ,C;K;kGAIR,Y;MAAQ,0C;K;;I3K7K  
hB,oD;MAQuF,wC;K;IARvF,8CASI,Y;MAAuC,8B;K;IAT3C,gF;sFAAA,yB;MAAA,kC;MAAA,0C;MAAA,kD;Q  
AQuF,wC;O;MARvF,4CASI,Y;QAAuC,8B;O;MAT3C,8E;MAAA,2B;QAQuF,2C;O;KARvF,C;IAiBgE,+C;MAA  
A,mB;QAAE,sB;O;K;IALIE,kC;MAKuD,OAAkB,2CAAT,+BAAS,E;K;IAEzE,8B;MAK6D,OAAI,QbksPtD,YAA  
Q,CalsP0C,GAAWB,eAAxB,GAAsD,WAAT,QAAS,C;K;IAEnH,yB;MAG8C,kC;K;IAE9C,yB;MAAA,6B;K;uCA  
CI,Y;MAA6C,kC;K;2CAC7C,a;MAA4B,kC;K;2CAC5B,a;MAA4B,kC;K;;IAHhC,qC;MAAA,oC;QAAA,mB;;M  
AAA,6B;K;oFAMA,yB;MAAA,2D;MAAA,4B;QAM4D,uCAAQ,e;O;KANpE,C;IAGb4F,mH;MAAA,wC;MAAA,  
6B;MAAA,yB;MAAA,wC;MAAA,wD;MAAA,kC;K;;kDAAA,Y;;cACxF,eAAe,uBAAa,W;cAC5B,IAAI,QAA  
S,UAAb,C;gBACI,gB;gCAAA,sCAAS,QAAT,O;oBAAA,2C;yBAAA,yB;gBAAA,Q;;gBAEA,gB;gCAAA,sCAAS  
,iCAAT,O;oBAAA,2C;yBAAA,yB;gBAAA,Q;;cAJJ,W;;cAAA,W;;K;IADwF,gE;MAAA,yD;uBAAA  
,uG;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAP5F,4C;MAOmF,gBAAS,uCAAT,C;K;IAGbB,4B;MAAE,OAAA,EA  
AG,W;K;IAP3E,8B;MAO8D,4BAAQ,cAAR,C;K;IAUQ,8B;MAAE,OAAA,EAAG,W;K;IAR3E,8B;MAQ8D,4BA  
AQ,gBAAR,C;K;IAM1B,8B;MAAE,S;K;IAJtC,wC;MAEgB,Q;MADZ,IAAI,8CAAJ,C;QACI,OAA4C,CAApC,2E  
AAoC,kBAAQ,QAAR,C;;MAEhD,OAAO,uBAAmB,SAAnB,EAAYB,gBAAZB,EAaIC,QAAjC,C;K;IAGX,4B;M  
AYiB,Q;MAFb,YAAY,gB;MACZ,YAAY,gB;MACC,2B;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,KAAM,WAAL,  
IAAK,MAAT,C;QACN,KAAM,WAAL,IAAK,OAAT,C;;MAEV,OAAO,UAAS,KAAT,C;K;IAGX,+B;MAQqD,6B  
AAS,4BAAT,C;K;IAW0B,+G;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,0C;MAAA,4C;MAAA,0B;MAAA,kC;  
K;;mDAAA,Y;;kCAC9D,0C;cACb,gB;;cAAA,IAAO,iBPYfKd,UOzFzD,C;gBAAA,gB;;cACI,QAAQ,yBA  
AO,iBAAQ,iBAAO,KAAf,C;cACf,WAAbB,WAAP,iBAAO,C;cACIB,YAAgB,IAAI,iBAAO,KAAf,GAAqB,iBA  
AO,aAAI,CAAJ,EAAO,IAAP,CAA5B,GAA8C,I;cAC1D,gB;8BAAA,iCAAM,KAAN,O;kBAAA,2C;uBAAA,yB;c  
AAA,Q;;cAJJ,gB;;cAMJ,W;;K;IAR+E,4D;MAAA,yD;uBAAA,mG;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K  
;IAT/E,uC;MASmE,gBAAY,kCAAZ,C;K;IAkBhC,0D;MAE/B,wB;QAAA,WAAgC,I;MADhC,0B;MACA,0B;MA  
CA,4B;K;IAGuC,0E;MAAA,oD;MACnC,gBAAE,iCAAS,W;MACxB,iBAAqB,E;MACrB,gBAAmB,I;K;oEAEnB,  
Y;MACI,OAAO,aAAS,UAAhB,C;QACI,WAAW,aAAS,O;QACpB,IAAI,wCAAU,IAAV,MAAmB,sCAAvB,C;U  
ACI,gBAAW,I;UACX,iBAAY,C;UACZ,M;;MAGR,iBAAY,C;K;8DAGhB,Y;MASW,Q;MARP,IAAI,mBAAa,E  
AAjB,C;QACI,iB;MACJ,IAAI,mBAAa,CAAjB,C;QACI,MAAM,6B;MACV,aAAa,a;MACb,gBAAW,I;MACX,iB  
AAyE;MAEZ,OAAO,yE;K;IEAGX,Y;MACI,IAAI,mBAAa,EAajB,C;QACI,iB;MACJ,OAAO,mBAAa,C;K;;2C  
AhC5B,Y;MAAuC,yD;K;;IA2C3C,qD;MAAY,0B;MAAmC,gC;K;IACJ,gF;MAAA,0D;MACnC,gBAAE,oCAAS,  
W;K;iEACxB,Y;MACI,OAAO,6CAAY,aAAS,OAArB,C;K;oEAGX,Y;MACI,OAAO,aAAS,U;K;;8CAPxB,Y;MA  
AuC,4D;K;qDAWvC,oB;MACI,OAAO,uBAA4B,eAA5B,EAAsC,kBAAtC,EAAMd,QAAAnD,C;K;;IAUf,4D;MAA  
Y,0B;MAAmC,gC;K;IACJ,8F;MAAA,wE;MACnC,gBAAE,2CAAS,W;MACxB,aAAY,C;K;wEACZ,Y;MAC0C,Q  
;MAAtC,OAAO,oDAAY,oBAAmB,iBAAnB,EAAMb,yBAAnB,QAAs,EAAYC,aAAS,OAAID,C;K;2EAGX,Y;M  
ACI,OAAO,aAAS,U;K;;qDARxB,Y;MAAuC,mE;K;;IAkB3C,oC;MAAY,0B;K;IAC6C,wE;MACjD,gBAAE,gCA  
AS,W;MACxB,aAAY,C;K;6DACZ,Y;MAC2C,Q;MAAvC,OAAO,iBAAa,oBAAmB,iBAAnB,EAAMb,yBAAnB,  
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D;MACI,4B;MACA,4B;MACA,4B;K;IAEuC,sE;MAAA,gD;MACnC,iBAAgB,gCAAU,W;MAC1B,iBAAgB,gCA  
AU,W;K;4DAC1B,Y;MACI,OAAO,sCAAU,cAAU,OAApB,EAA4B,cAAU,OAAAtC,C;K;+DAGX,Y;MACI,OAA  
O,cAAU,UAAV,IAAuB,cAAU,U;K;;yCARhD,Y;MAAuC,uD;K;;IAC3C,6D;MACI,0B;MACA,gC;MACA,0B;K;I  
AEuC,4E;MAAA,sD;MACnC,gBAAE,kCAAS,W;MACxB,oBAAiC,I;K;+DAEjC,Y;MACI,IAAI,CAAC,2BAAL,C  
;QACI,MAAM,6B;MACV,OAAO,gCAAE,O;K;kEAG1B,Y;MACI,OAAO,2B;K;+EAGX,Y;MACQ,Q;MAAJ,IAA  
I,EAA2B,KAA/B,C;QACI,oBAAE,I;MAEnB,OAAO,yBAAP,C;QACI,IAAI,CAAC,aAAS,UAAAd,C;UACI,OAAO  
,K;;UAEP,cAAc,aAAS,O;UACvB,uBAAuB,wCAAS,2CAAY,OAAZ,CAAT,C;UACvB,IAAI,gBAAiB,UAArB,C;  
YACI,oBAAE,gB;YACf,OAAO,I;;MAInB,OAAO,I;K;;4CA9Bf,Y;MAAuC,0D;K;;IAoC9B,6I;MAAA,wC;MAA

A,6B;MAAA,yB;MAAA,4C;MAAA,kD;MAAA,gD;MAAA,wB;MAAA,yB;MAAA,kC;K;;;yDAAA,Y;;;;;kBAGy  
C,I;iCAFIC,C;cACI,sD;cAAhB,gB;;;;;cAAA,KAAgB,yBAAhB,C;gBAAA,gB;;;;;cAAGB,oC;cACZ,aAAa,6BAAU,  
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AT,O;kBAAA,2C;uBAAA,yB;cAAA,Q;;cAFJ,gB;;cAIJ,W;;;;;K;IANS,0F;MAAA,yD;uBAAA,iI;YAAA,S;  
iBAAA,Q;;iBAAA,uB;O;K;IADb,wD;MACI,gBAAS,kDAAT,C;K;;;IAoByB,qD;MACzB,0B;MACA,8B;MACA,  
0B;MC3TA,IAAI,ED+TQ,qBAAc,CC/TtB,CAAJ,C;QACI,cD8T2B,+CAA4C,iB;QC7TvE,MAAM,gCAAYB,OAA  
Q,WAAjC,C;;MAFV,IAAI,EDgUQ,mBAAY,CChUpB,CAAJ,C;QACI,gBD+TyB,6CAA0C,e;QC9TnE,MAAM,gC  
AAyB,SAAQ,WAAjC,C;;MAFV,IAAI,EDiUQ,mBAAY,iBcjUpB,CAAJ,C;QACI,gBDgUkC,0DAAuD,eAAvD,W  
AAmE,iB;QC/TrG,MAAM,gCAAYB,SAAQ,WAAjC,C;;K;sFDkUa,Y;MAAQ,yBAAW,iBAAX,I;K;yCAE/B,a;M  
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C,C;K;yCAC9E,a;MAAyC,OAAI,KAAK,YAAT,GAAGb,IAAhB,GAA0B,gBAAY,eAAZ,EAAsB,iBAAtB,EAAk  
C,oBAAa,CAAb,IAAI,C;K;IAEzC,8D;MAAA,wC;MAEtB,gBA Ae,2BAAS,W;MACxB,gBA Ae,C;K;0DAEf,Y;  
MAEI,OAAO,gBAAW,kCAAX,IAAyB,aAAS,UAAzC,C;QACI,aAAS,O;QACT,qC;;K;2DAIR,Y;MACI,a;MACA  
,OAAQ,gBAAW,gCAAZ,IAAyB,aAAS,U;K;wDAG7C,Y;MACI,a;MACA,IAAI,iBAAY,gCAAhB,C;QACI,MAA  
M,6B;MACV,qC;MACA,OAAO,aAAS,O;K;;qCAvBxB,Y;MAA0B,mD;K;;IAgCA,uC;MAC1B,0B;MACA,oB;M  
C3WA,IAAI,ED+WQ,gBAAS,CC/WjB,CAAJ,C;QACI,cD8WsB,yCAAsC,YAAtC,M;QC7WtB,MAAM,gCAAYB,  
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CAAZ,C;QACI,MAAM,6B;MACV,6B;MACA,OAAO,aAAS,O;K;4DAGpB,Y;MACI,OAAO,YAAO,CAAP,IAA  
Y,aAAS,U;K;;sCAZpC,Y;MAAuC,oD;K;;IASB3C,gD;MACI,0B;MACA,4B;K;IAEuC,0E;MAAA,oD;MACnC,gB  
AAe,iCAAS,W;MACxB,iBAAqB,E;MACrB,gBAAMb,I;K;oEAEnB,Y;MACI,IAAI,aAAS,UAAb,C;QACI,WAA  
W,aAAS,O;QACpB,IAAI,wCAAU,IAAV,CAAJ,C;UACI,iBAAY,C;UACZ,gBAAW,I;UACX,M;;MAGR,iBAAY  
,C;K;8DAGhB,Y;MAMiB,Q;MALb,IAAI,mBAAa,EAAjB,C;QACI,iB;MACJ,IAAI,mBAAa,CAAjB,C;QACI,MA  
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,EAAjB,C;QACI,iB;MACJ,OAAO,mBAAa,C;K;;2CAIC5B,Y;MAAuC,yD;K;;IA2Cb,uC;MAC1B,0B;MACA,oB;  
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BAAS,W;MACxB,YAAW,yB;K;2DAEX,Y;MAEI,OAAO,YAAO,CAAP,IAAY,aAAS,UAA5B,C;QACI,aAAS,O;  
QACT,6B;;K;yDAIR,Y;MACI,a;MACA,OAAO,aAAS,O;K;4DAGpB,Y;MACI,a;MACA,OAAO,aAAS,U;K;;sCA  
nBxB,Y;MAAuC,oD;K;;IA6B3C,gD;MACI,0B;MACA,4B;K;IAGuC,0E;MAAA,oD;MACnC,gBA Ae,iCAAS,W;  
MACxB,iBAAqB,E;MACrB,gBAAMb,I;K;gEAEnB,Y;MACI,OAAO,aAAS,UAAhB,C;QACI,WAAW,aAAS,O;Q  
ACpB,IAAI,CAAC,wCAAU,IAAV,CAAL,C;UACI,gBAAW,I;UACX,iBAAY,C;UACZ,M;;MAGR,iBAAY,C;K;  
8DAGhB,Y;MAMqB,Q;MALjB,IAAI,mBAAa,EAAjB,C;QACI,a;MAEJ,IAAI,mBAAa,CAAjB,C;QACI,aACa,gF;  
QACb,gBAAW,I;QACX,iBAAY,C;QACZ,OAAO,M;;MAEX,OAAO,aAAS,O;K;iEAGpB,Y;MACI,IAAI,mBAAa  
,EAAjB,C;QACI,a;MACJ,OAAO,mBAAa,CAAb,IAAkB,aAAS,U;K;;2CAIC1C,Y;MAAuC,yD;K;;IAuCN,+C;MA  
AC,sB;MAAiC,gC;K;0CACnE,Y;MAAuC,4BAAiB,aAAO,WAAxB,EAAoC,kBAAPC,C;K;;IAGP,+C;MAAuE,2B  
;MAAE,sB;MAAiC,gC;MACIE,kBAAuB,c;K;6CAEvB,Y;MACI,OAAO,aAAO,UAAAd,C;QACI,WAAW,aAAO,O  
;QACIB,UAAU,mBAAY,IAAZ,C;QAEV,IAAI,eAAS,WAAI,GA AJ,CAAb,C;UACI,mBAAQ,IAAR,C;UACA,M;;  
;MAIR,W;K;;IAKgC,0D;MAAC,wC;MAAuC,kC;K;IACrC,0E;MAAA,oD;MACnC,gBAAMb,I;MACnB,iBAAqB,  
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BAAJ,GAAsB,CAAtB,GAA6B,C;K;8DAG7C,Y;MAMiB,Q;MALb,IAAI,iBAAY,CAAhB,C;QACI,iB;MAEJ,IAA  
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;IAIB5B,gD;MAeI,OAAI,YAAJ,GACI,2BADJ,GAGI,sBAaKB,+BAAIB,EAA4B,YAA5B,C;K;IAER,wD;MAcI,6  
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,U;K;kCACrE,Y;MAA+B,Q;K;kCAC/B,Y;MAAkC,W;K;gFAEX,Y;MAAQ,Q;K;iCAC/B,Y;MAAkC,W;K;wCACI  
C,mB;MAAmD,Y;K;6CACnD,oB;MAAmE,OAAA,QAAS,U;K;kCAE5E,Y;MAA6C,kC;K;uCAE7C,Y;MAAiC,6  
B;K;;;IADrC,gC;MAAA,+B;QAAA,c;;MAAA,wB;K;IAkBA,oB;MAIoC,6B;K;IAEpC,2B;MAMmD,OAAI,QAAS,  
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CA,0C;QarCsC,gBAA3B,mBb2DiB,Qa3DjB,C;Qb2D2B,aS7EIC,W;QT6EA,OS5EO,SliBgD,Q;O;KbqC3D,C;sFA  
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B,yL;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,wC;MAAA,wC;MAAA,gD;MAAA,sD;MAAA,4D;MAAA,wB;  
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V,C;gBAAA,iB;;;;;6BAAU,sB;cACN,IAAI,kBAAO,CAAX,C;gBAAgB,oCAAQ,CAAR,I;gBAAW,iB;;gBAA3B,i  
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,C;MAC7B,eAAyB,C;K;2CAEzB,8B;MACI,+DAaKB,SAaIB,EAA6B,OAA7B,EAAsC,WAAK,KAA3C,C;MAC  
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AtB,OA/Ed,cAAc,SA+EGb,CA/EhB,CAAd,EAA2B,SA+EM,CA/EN,CAA3B,C;W;S;OA+EI,C;MAPf,2B;QAOL,s  
BAAW,oCAAX,C;O;KAPJ,C;8GASA,yB;MAAA,oC;MAUe,0E;QAAA,uB;UAAU,iBAAsB,kB;UAAtB,eAAkC,g  
B;UAAIC,OA/Ed,UAAW,SAaQ,SA+EW,CA/EX,CAAR,EAaQB,SA+EC,CA/ED,CAArB,C;S;O;MAqEtB,uC;QA  
UI,sBAAW,gDAAX,C;O;KAVJ,C;kFAYA,yB;MAAA,sC;MAAA,oC;MAAA,oBAQe,yB;QA9Gf,8D;eA8Ge,yC;U  
AAA,uB;YACP,sBAAsB,WAAy,SAaQ,CAAR,EAAW,CAAX,C;YACIC,Q;YAAA,IAAI,oBAAmB,CAaVB,C;c  
AAA,OAA0B,e;;cAAqB,eAAsB,gB;cAArE,OAvgG,cAAc,SAuG8C,CAvG9C,CAAd,EAA2B,SAuGoC,CAvGpC,  
CAA3B,C;;YAsGH,W;W;S;OADO,C;MARf,sC;QAQI,sBAAW,kCAAX,C;O;KARJ,C;oFAaA,yB;MAAA,oC;MA  
Qe,0E;QAAA,uB;UACP,sBAAsB,WAAy,SAaQ,CAAR,EAAW,CAAX,C;UACIC,Q;UAAA,IAAI,oBAAmB,CA  
AvB,C;YAAA,OAA0B,e;;YAAqB,iBAAsB,kB;YAAtB,eAAkC,gB;YAAjF,OAxGG,UAAW,SAaQ,SAwGyC,CA  
xGzC,CAAR,EAaQB,SAwG+B,CaxG/B,CAArB,C;;UAuGd,W;S;O;MATR,kD;QAQI,sBAAW,8CAAX,C;O;KA  
RJ,C;sGAaA,yB;MAAA,sC;MAAA,oC;MAAA,8BAQe,yB;QAxIf,8D;eAwIe,mD;UAAA,uB;YACP,sBAAsB,qBA  
AsB,SAaQ,CAAR,EAAW,CAAX,C;YAC5C,Q;YAAA,IAAI,oBAAmB,CAaVB,C;cAAA,OAA0B,e;;cAAqB,eAA  
sB,gB;cAArE,OAjIG,cAAc,SAiI8C,CAjI9C,CAAd,EAA2B,SAiIoC,CAjIpC,CAA3B,C;;YAgIH,W;W;S;OADO,C;  
MARf,sC;QAQI,sBAAW,4CAAX,C;O;KARJ,C;wGAaA,yB;MAAA,oC;MAQe,8F;QAAA,uB;UACP,sBAAsB,qB  
AAsB,SAaQ,CAAR,EAAW,CAAX,C;UAC5C,Q;UAAA,IAAI,oBAAmB,CAaVB,C;YAAA,OAA0B,e;;YAAqB,i  
BAAsB,kB;YAAtB,eAAkC,gB;YAAjF,OAIIg,UAAW,SAaQ,SAkIyC,CAIIzC,CAAR,EAaQB,SAkI+B,CAII/B,C  
AArB,C;;UAiId,W;S;O;MATR,kD;QAQI,sBAAW,wDAAX,C;O;KARJ,C;kGAcA,yB;MAAA,oC;MAOe,wE;QAA  
A,uB;UACP,sBAAsB,mBAAoB,SAaQ,CAAR,EAAW,CAAX,C;UAA1C,OACI,oBAAmB,CAaVB,GAA0B,eAA  
1B,GAA+C,mBAAW,CAAX,EAAC,CAAd,C;S;O;MATvD,wC;QAOL,sBAAW,4CAAX,C;O;KAPJ,C;IAmBe,oD;  
MAAA,uB;QACP,sBAAsB,SAAU,SAaQ,CAAR,EAAW,CAAX,C;QAAhC,OACI,oBAAmB,CAaVB,GAA0B,eA  
A1B,GAA+C,kBAAW,SAaQ,CAAR,EAAW,CAAX,C;O;K;IATIE,uC;MAOI,sBAAW,kCAAX,C;K;IAyC,wE;M  
AAA,uB;QACV,sBAAsB,mBAAoB,SAaQ,CAAR,EAAW,CAAX,C;QAA1C,OACI,oBAAmB,CAaVB,GAA0B,e  
AA1B,GAA+C,kBAAW,SAaQ,CAAR,EAAW,CAAX,C;O;K;IATIE,+C;MAOI,sBAAc,4CAAd,C;K;IAaW,+C;M  
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IY,kBAAW,SAaQ,CAAR,EAAW,CAAX,C;O;K;IAZ/B,gC;MAOI,sBAAW,6BAAX,C;K;4FASJ,yB;MAAA,4D;

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ADJ,OAcE,c;aACX,c;UAFJ,OAEiB,C;aACb,c;UAHJ,OAGiB,E;;UAHjB,OAIY,kBAAW,SAAQ,CAAR,EAAW,C  
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U,cAAV,C;O;KAPpE,C;IASA,wB;MAK4F,Q;MAA7B,OAA6B,4F;K;IAE5F,wB;MAK4F,Q;MAA7B,OAA6B,4F;  
K;IAE5F,gC;MAM+D,IAEJ,IAFI,EAGJ,M;MAFvD,kBAD2D,SAC3D,sB;QADqD,OAC5B,SAAK,W;WAC9B,W  
AF2D,SAE3D,wC;QAFqD,OAE,4F;WACvD,WAH2D,SAG3D,wC;QAHqD,OAGE,gG;;QAHF,OAI7C,uBAAm  
B,SAAnB,C;K;IAIuB,wC;MAAC,4B;K;2CACHC,gB;MAAwC,OAAA,eAAW,SAAQ,CAAR,EAAW,CAAX,C;K;  
4CACnD,Y;MACgC,sB;K;;IAGpC,kC;MAAA,sC;K;+CACI,gB;MAAoE,OAAE,iBAAF,CAAE,EAAU,CAAV,C;  
K;gDActE,Y;MAC8C,2C;K;;;IAHID,8C;MAAA,6C;QAAA,4B;;MAAA,sC;K;IAMA,kC;MAAA,sC;K;+CACI,gB  
;MAAoE,OAAE,iBAAF,CAAE,EAAU,CAAV,C;K;gDActE,Y;MAC8C,2C;K;;;IAHID,8C;MAAA,6C;QAAA,4B;;  
MAAA,sC;K;8E2KjTA,4B;MAUI,OAAK,iBAAL,SAAK,EAAU,KAAV,C;K;ICTT,iC;K;;;oDAyDI,0C;MAiB+D,  
oB;QAAA,2C;aAjB/D,kG;K;;IAoBJ,uC;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,qC;MAAA,wC;O;MASI,4E;MA  
MA,8E;MAOA,4E;MAOA,kE;K;;IApBA,mD;MAAA,2B;MAAA,2C;K;;IAMA,oD;MAAA,2B;MAAA,4C;K;;IAO  
A,mD;MAAA,2B;MAAA,2C;K;;IAOA,8C;MAAA,2B;MAAA,sC;K;;IA7BJ,iC;MAAA,+K;K;;IAAA,sC;MAAA,a;  
aAAA,c;UAAA,gD;aAAA,e;UAAA,iD;aAAA,c;UAAA,gD;aAAA,S;UAAA,2C;;UAAA,oE;;K;;oFAqCA,mB;K;;;  
;;;;;;I/HmBiD,gD;MAAA,oB;QACzC,WAAW,sBAAMB,YAAF,CAAE,CAAnB,C;QACX,cAAM,IAAN,C;Q  
ADA,OAEA,IAAK,a;O;K;;;IAtHb,+B;K;;iFAUA,yB;MAAA,4B;MAAA,mC;QAMI,6BDgDQ,WChDkB,KDgDIB  
,CChDR,C;O;KANJ,C;2GAQA,yB;MAAA,4B;MDgDQ,kD;MChDR,uC;QAOI,6BDgDQ,WAAO,cChDW,SDgDX  
,CAAP,CChDR,C;O;KAPJ,C;+FAUA,yB;MAAA,kC;MAAA,mD;MAAA,yE;QASI,sC;QAAA,4C;O;MATJ,iGAW  
Y,Y;QAAQ,2B;OAXpB,E;MAAA,0DAaQ,kB;QACI,wBAAW,MAAX,C;O;MADz,sF;MAAA,sC;QASI,0D;O;KA  
TJ,C;IAiBA,gD;MAaI,4BAA0D,YAAzC,wCAA6B,UAA7B,CAAyC,CAA1D,EAAyE,yBAAzE,C;K;IAEJ,4D;MA  
cI,4BAAoE,YAAAnD,0CAA6B,QAA7B,EAAuC,UAAvC,CAAmD,CAApE,EAAMf,yBAAnF,C;K;IAEJ,+C;MAU6  
C,YAAzC,wCAA6B,UAA7B,CAAyC,CAtEzC,oBDgDQ,WCSBsD,kBDtBtD,CChDR,C;K;IAyEJ,2D;MAWuD,Y  
AAAnD,0CAA6B,QAA7B,EAAuC,UAAvC,CAAmD,CAPFnD,oBDgDQ,WCoCgE,kBDpChE,CChDR,C;K;IAUFJ,+  
C;MAYI,OAA6C,8BAATc,c;K;8EAZX,yB;MAAA,oE;MAAA,6E;MAYiD,gD;QAAA,oB;UACzC,WAAW,sBAA  
mB,YAAF,CAAE,CAAnB,C;UACX,cAAM,IAAN,C;UADA,OAEA,IAAK,a;S;O;MAfb,sC;QAYW,mBAAsC,8B  
AAAtC,6B;QAAP,OAAO,kD;O;KAZX,C;qGA0BI,yB;MAAA,2D;MAAA,mB;QACI,MAAM,6BAAoB,0BAApB,C  
;O;KADV,C;;MgIzIA,yC;;IAAA,uC;MAAA,2C;K;;;IAAA,mD;MAAA,kD;QAAA,iC;;MAAA,2C;K;+EakBA,wB;  
K;oDAaA,e;MAK2C,IAAI,IAAJ,EAGK,M;MAL5C,IAAI,+CAAJ,C;QAEI,OAAW,GAAl,kBAAS,IAAK,IAAd,C  
AAR,GAA4B,cAAI,OAAJ,GAAl,iBAAQ,IAAR,CAAJ,yCAA5B,GAAyD,I;;MAGpE,OAAW,8CAA4B,GAAhC,G  
AAqC,8EAARc,GAAoD,I;K;yDAI/D,e;MAGI,IAAI,+CAAJ,C;QACI,OAAW,GAAl,kBAAS,IAAK,IAAd,CAAJ,I  
AA0B,GAAl,iBAAQ,IAAR,CAAJ,QAA9B,GAAyD,mCAAzD,GAAoF,I;;MAE/F,OAAW,8CAA4B,GAAhC,GAA  
qC,mCAArC,GAAgE,I;K;;;ICtChD,oD;MACf,cAAc,GAAl,kBAAS,OAAQ,IAAjB,C;MACIB,IAAI,YAAy,mCA  
AhB,C;QADA,OACuC,O;;QAEnc,kBAAkB,oBAAQ,yCAAR,C;QACIB,IAAI,mBAAJ,C;UAJJ,OAI6B,oBAAgB,  
OAAhB,EAAyB,OAAzB,C;;UACrB,WAAW,OAAQ,kBAAS,yCAAT,C;UAL3B,OAMY,SAAS,mCAAb,GAAoC,  
oBAAgB,OAAhB,EAAyB,WAAzB,CAApC,GACI,oBAAgB,oBAAgB,IAAhB,EAAzB,OAAtB,CAAhB,EAAgD,  
WAAhD,C;;;K;8CAdxB,mB;MAKI,OAAI,YAAy,mCAAhB,GAAuC,IAAvC,GACI,OAAQ,cAAK,IAAL,EAAW,  
4BAAX,C;K;;;qDAiCZ,e;MAEyB,Q;MADrB,OACI,OAAA,IAAK,IAAL,EAAy,GAAs,CAAJ,GAAqB,0EAARb  
,GAAoC,I;K;sDAExC,8B;MACI,iBAAU,OAAV,EAAmB,IAAnB,C;K;0DAEJ,e;MACI,OAAI,OAAA,IAAK,IAAL  
,EAAy,GAAs,CAAJ,GAAqB,mCAArB,GAAgD,I;K;;;IC1DP,8C;MAAC,wB;K;kFAAA,Y;MAAA,yB;K;;IAiCe,  
wD;MAEjE,kC;MAEA,4BAAqC,mDAAJ,GAakD,OAAQ,qBAA1D,GAA0E,O;K;4DAE3G,mB;MAA6C,+BAAS,  
OAAAT,C;K;6DAC7C,e;MAA8C,eAAQ,IAAR,IAAgB,8BAAE,G;K;;IAGjF,+C;MAW2C,IAAI,IAAJ,EAGV,M;MA  
L7B,IAAI,+CAAJ,C;QAEI,OAAW,GAAl,kBAAS,SAAK,IAAd,CAAR,GAA4B,cAAI,OAAJ,GAAl,iBAAQ,SAA  
R,CAAJ,yCAA5B,GAAyD,I;;MAGpE,OAAW,SAAK,IAAL,KAAa,GAAjB,GAAsB,mFAAtB,GAAqC,I;K;IAGhD  
,6C;MAUI,IAAI,+CAAJ,C;QACI,OAAW,GAAl,kBAAS,SAAK,IAAd,CAAJ,IAA0B,GAAl,iBAAQ,SAAR,CAAJ,  
QAA9B,GAAyD,mCAAzD,GAAoF,S;;MAE/F,OAAW,SAAK,IAAL,KAAa,GAAjB,GAAsB,mCAAtB,GAAiD,S;  
K;IAG5D,iC;MAAA,qC;MAKI,4B;K;oDACA,Y;MAAiC,0C;K;kDAEjC,e;MAAyD,W;K;mDACzD,8B;MAA4E,c  
;K;mDAC5E,mB;MAAwE,c;K;uDACxE,e;MAA8D,W;K;+CAC9D,Y;MAAsC,Q;K;+CACtC,Y;MAAyC,8B;K;;I

Ab7C,6C;MAAA,4C;QAAA,2B;;MAAA,qC;K;IAqB8B,wC;MAC1B,kB;MACA,wB;K;4CAGA,e;MAGQ,Q;MAF  
J,UAAU,I;MACV,OAAO,IAAP,C;QACI,YAAA,GAAL,UAAJ,aAAY,GAZZ,W;UAAwB,W;;QACxB,WAAW,GA  
AI,O;QACf,IAAI,oCAAJ,C;UACI,MAAM,I;;UAEN,OAAO,iBAAK,GAAL,C;;;K;6CAKnB,8B;MACI,iBAAU,W  
AAK,cAAK,OAAAL,EAAC,SAAd,CAAF,EAAYC,cAAZC,C;K;iDAEJ,e;UAGW,I;MAFP,+BAAQ,GAAR,U;QAAo  
B,OAAO,W;;MAC3B,cAAc,WAAK,kBAAS,GAAT,C;MAEf,gBAAY,WAAZ,C;QAAoB,W;WACpB,gBAAY,mC  
AAZ,C;QAAqC,qB;;QAC7B,2BAAgB,OAAhB,EAAYB,cAAZB,C;MAHZ,W;K;uCAOJ,Y;MAIc,IAAI,IAAJ,Q;M  
AHV,UAAU,I;MACV,WAAW,C;MACX,OAAO,IAAP,C;QACU,uBAAI,OAAJ,GAAL,OAAJ,gC;QAAA,mB;UA  
AgC,OAAO,I;;QAA7C,MAAM,M;QACN,mB;;K;2CAIR,mB;MACI,+BAAI,OAAQ,IAAZ,GAAoB,OAApB,C;K;  
8CAEJ,mB;MAQ4B,Q;MAPxB,UAAU,O;MACV,OAAO,IAAP,C;QACI,IAAI,CAAC,gBAAS,GAAL,UAAb,CAA  
L,C;UAA4B,OAAO,K;QACnC,WAAW,GAAL,O;QACf,IAAI,oCAAJ,C;UACI,MAAM,I;;UAEN,OAAO,gBAAS,0  
EAAT,C;;;K;uCAKnB,iB;MACI,gBAAS,KAAT,KAaKb,yCAA4B,KAAM,SAAN,KAAGb,aaA5C,IAAsD,KAA  
M,eAAY,IAAZ,CAA9E,C;K;yCAEJ,Y;MAA+B,OAAK,SAAL,WAAK,CAAL,GAA0B,SAAR,cAAQ,CAA1B,I;K  
;IAGZ,uD;MACX,OAAI,G9JyHoC,YAAU,C8JzHID,GAAmB,OAAQ,WAA3B,GAA6C,GAAF,UAAQ,O;K;yCAF  
3D,Y;MACI,aAAM,kBAAK,EAAL,EAAS,+BAAT,CAAN,GAEL,G;K;IAMO,8E;MAAA,6B;QAAyB,Q;QAAT,iB  
AAS,sBAAT,EAAS,8BAAT,UAAoB,O;QAAQ,W;O;K;+CAJ3D,Y;MAOsB,Q;MANIB,QAAQ,a;MACR,eAAe,gB  
AA+B,CAA/B,O;MACf,gBAAY,CAAZ,C;MACA,kBAAK,kBAAL,EAAW,oDAAX,C;MjLtFJ,IAAI,EiLuFM,YA  
AS,CjLvFf,CAAJ,C;QACI,cAdW,e;QAeX,MAAM,6BAAsB,OAAQ,WAA9B,C;;MiLuFN,OAAO,+BAAW,qDAA  
X,C;K;IAGa,8C;MACpB,kD;MADqB,wB;K;IACrB,gD;MAAA,oD;MACI,4B;K;;;IADJ,4D;MAAA,2D;QAAA,0C  
;;MAAA,oD;K;yDAIA,Y;MAA0C,gBAAT,a;M/L09YrB,Q;MADhB,kB+Lz9YmD,mC;M/L09YnD,wBAAgB,SA  
hB,gB;QAAgB,cAAA,SAAhB,M;QAAsB,cAAwB,yBAAa,OAAb,C;;M+L19YT,O/L29Y9B,W;K;;;IgM7oZX,oE;  
MA4BI,MAAM,wBAAoB,sEAApB,C;K;8GA5BV,yB;MAAA,2D;MAAA,sC;QA4BI,MAAM,6BAAoB,sEAApB,  
C;O;KA5BV,C;IA0CoC,mC;MAAQ,4D;K;IAE5C,4C;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,0C;MAAA,6C;O;  
MAK0C,oG;MAAQb,gF;MAAW,4E;K;;IAAhC,+D;MAAA,gC;MAAA,uD;K;;IAAQb,qD;MAAA,gC;MAAA,6C;  
K;;IAAW,mD;MAAA,gC;MAAA,2C;K;;IAL1E,sC;MAAA,sJ;K;;IAAA,2C;MAAA,a;aaaa,qB;UAAA,4D;aAAA  
,W;UAAA,kD;aAAA,S;UAAA,gD;;UAAA,qF;;K;;6ECnDA,yB;MAAA,0B;MAAA,mC;QAGsD,OAAiC,OAA3B,  
SAAL,GAAuB,KAAS,C;O;KAHvF,C;2EAKA,yB;MAAA,0B;MAAA,mC;QAGqD,OAAgC,OAA1B,SAAL,GAAs  
B,KAAS,C;O;KAHrF,C;6EAKA,yB;MAAA,0B;MAAA,mC;QAGsD,OAAiC,OAA3B,SAAL,GAAuB,KAAS,C;O;  
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AAA,mC;QAGwD,OAAgC,QAA1B,SAAL,GAAsB,KAAS,C;O;KAHxF,C;+EAKA,yB;MAAA,4B;MAAA,mC;Q  
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B,QAAP,CAAR,SAAE,C;O;KAH5D,C;ICpCA,qC;K;;ICAA,mB;K;;IAOA,iB;K;;IAOA,2C;K;;IAOA,wB;K;;IAQA  
,0B;K;;IAOA,sB;K;;IAOA,4B;K;;IAOA,6C;K;;IA+BuC,wE;MAEnC,uB;QAAA,UAAsB,E;MACtB,qB;QAAA,8B;  
MACA,2B;QAAA,qE;MACA,yB;QAAA,YAAqB,E;MAJrB,sB;MACA,sB;MACA,kB;MACA,8B;MACA,0B;K;;I  
AGJ,iD;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,+C;MAAA,kD;O;MAKI,wG;MACA,wG;MACA,8F;K;;IAFA,iE  
;MAAA,qC;MAAA,yD;K;;IACA,iE;MAAA,qC;MAAA,yD;K;;IACA,4D;MAAA,qC;MAAA,oD;K;;IAPJ,2C;MA  
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UA,wB;K;;ICjGA,qB;MAAA,yB;K;0CAII,Y;MAO6D,uB;K;2HAE7D,yB;MAAA,+D;MAAA,kC;MAAA,0F;MA  
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,QAA7B,C;O;MAXrF,oG;MAAA,yC;QAUI,wDAA+B,YAA/B,C;O;KAVJ,C;uHAcA,yB;MAAA,+D;MAAA,kC;  
MAAA,wF;MAAA,yF;MAAA,0E;QAcI,wC;QAAS,2C;O;MAdB,kEAeQ,wC;QAAuF,6BAAS,QAAT,EAAMb,QA  
AnB,EAA6B,QAA7B,C;O;MAf/F,kG;MAAA,yC;QAcI,sDAA+B,YAA/B,C;O;KADJ,C;;;IA3BJ,iC;MAAA,gC;QA  
AA,e;;MAAA,yB;K;IAGDiC,sB;MAC7B,eAAwB,I;K;4CAExB,6B;MACW,Q;MAAA,mB;MAAA,iB;QAAS,MAA  
M,6BAAsB,cAAY,QAAS,aAArB,uCAAtB,C;;MAAtB,OAAO,I;K;4CAGX,oC;MACI,eAAa,K;K;;;kDC9CjB,6B;  
;K;;;;IEA+CA,6B;;K;;ICrDuC,0C;MACvC,uBAAoB,Y;K;wDAEpB,wC;MAM6F,W;K;uDAE7F,wC;K;oDAMA  
,6B;MACI,OAAO,oB;K;oDAGX,oC;MACI,eAAe,IAAK,gB;MACpB,IAAI,CAAC,0BAAa,QAAb,EAAuB,QAAv  
B,EAAiC,KAAjC,CAAL,C;QACI,M;;MAEJ,uBAAa,K;MACb,yBAAY,QAAZ,EAAsB,QAAtB,EAAgC,KAAhC,  
C;K;;4EC9BR,wC;MAqBI,OAAO,e;K;4EAGX,+C;MAuBI,cAAI,KAAJ,C;K;4EAIJ,wC;MAmBI,OAAO,cAAI,OA

AJ,C;K;4EAGX,+C;MAqBI,cAAI,OAAJ,EAAa,KAAb,C;K;IC/FJ,kB;MA6PI,4B;K;+BAtoA,Y;MAOIc,6BAAS,E  
AAT,C;K;uCAEjC,iB;MAW2C,4BAAQ,CAAR,EAAW,KAAx,C;K;uCAE3C,uB;MAakB,Q;MAHd,iBAaiB,IAAj  
B,EAAuB,KAAvB,C;MACA,QAAQ,QAAQ,IAAR,I;MACR,IAAI,IAAI,CAAJ,IAAS,MAAK,WAAIB,C;QACc,IA  
AI,MAAM,CAAC,CAAD,IAAN,OAAy,CAAhB,C;UACN,eAAe,SAAS,CAAT,C;UACf,6BAAS,QAAT,C;;UAEA  
,K;;YAEI,WAAW,cAAU,KAAK,C;YAC1B,IAAI,OAAO,CAAP,I;;UACC,gBAAO,CAAP,IAAY,CAAZ,GAAgB,  
CAAhB,SAAqB,CAArB,C;UACT,Q;;QATJ,c;QAWA,OAAO,OAAO,GAAP,I;;QAEP,OAAO,IAAP,C;UACI,YA  
AU,c;UACV,IAAW,IAAP,qBAakB,KAAtB,C;YAA6B,OAAO,K;;K;gCAKhD,Y;MAOmC,OAAU,oBAAV,cAA  
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,CAAmB,CAAnB,iB;iBAEJ,cAAS,CAAT,C;YAEI,OAAU,oBAAV,cAAU,CAAV,iB;;YAEA,iBA Ae,SAAS,KAA  
T,C;YACf,OAAmB,oBAAnB,sBAAS,UAAT,CAAmB,CAAS,WAAI,EAAJ,CAA5B,KAAiD,oBAAV,cAAU,CAA  
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C,sBAAO,CAAP,MAAY,+BAAI,CAAJ,EAAZ,eAAqB,CAArB,C;UACT,MAAM,C;;QAEV,OAAO,SAAO,GAAP  
,C;;QAEP,OAAO,IAAP,C;UACI,YAAU,e;UACV,IAAW,IAAP,0CAakB,KAAIB,CAAJ,C;YAA6B,OAAO,K;;K;  
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,SAAN,KAAM,CAAtB,GAAsC,C;K;iCAGjD,Y;MAKqC,6BAAS,EAAT,IAA0B,Q;K;IAWK,oF;MAAA,mB;QAA  
E,uBAAa,iBAAb,sBAAqC,eAArC,+BAAqE,aAAM,OAA3E,M;O;K;iDATtE,qC;M1LjLA,IAAI,E0L0LqB,CAAb,  
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C,yB;QAAA,YAAiB,C;MAAG,uB;QAAA,UAAe,KAAM,O;aARrF,0H;K;yCAiCA,iB;MAOyD,8BAAU,KAAV,E  
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R,C;K;+CACtD,uB;MAAmD,OAAA,oBAAc,iBAAQ,IAAR,EAAC,KAAc,C;K;wCAEjE,Y;MAAgC,OAAA,oBAA  
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,iB;MAAiD,OAAA,oBAAc,oBAAW,KAAx,C;K;kDAC/D,uB;MAA+D,OAAA,oBAAc,oBAAW,IAAX,EAaiB,K  
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B;MAIA,gB;M/LQA,IAAI,E+LDS,iBAAy,IAAb,MAAuB,iBAAvB,C/LCR,CAAJ,C;QACI,c+LDQ,iBAAy,IAAh  
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,Q;MAAA,oB;MACpC,iB;QAD8B,OACtB,G;WACR,oD;QAF8B,OAef,SAAL,SAAK,C;WAC5B,6C;QAH8B,O  
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AEJ,gB;MAMI,uDAA8B,IAA9B,C;K;4DAEJ,gB;MAMI,wDAA+B,IAA/B,C;K;;;IArCR,iD;MAAA,gD;QAAA,+B  
;;MAAA,yC;K;;2CArCJ,Y;MAWI,oB;K;2CAXJ,Y;MAeI,gB;K;6CAfJ,0B;MAAA,2BAWI,8CAXJ,EAeI,kCAfJ,C;  
K;yCAAA,Y;MAAA,c;MAWI,yD;MAIA,qD;MAfJ,a;K;uCAAA,iB;MAAA,4IAWI,4CAXJ,IAeI,oCAfJ,I;K;ICLA,  
kC;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,gC;MAAA,mC;O;MAYI,4D;MAKA,8C;MAKA,gD;K;;IAVA,2C;M  
AAA,sB;MAAA,mC;K;;IAKA,oC;MAAA,sB;MAAA,4B;K;;IAKA,qC;MAAA,sB;MAAA,6B;K;;IAtBJ,4B;MAA  
A,mG;K;;IAAA,iC;MAAA,a;aAAA,W;UAAA,wC;aAAA,I;UAAA,iC;aAAA,K;UAAA,kC;;UAAA,6D;;K;;6ECA  
A,yB;MAAA,4F;MAAA,2B;QASI,MAAM,mCAA8B,0EAA9B,C;O;KATV,C;ICkCA,+D;MAaW,Q;MAAP,OAA  
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X,gBAAO,EAAP,C;K;IAxD,wD;MAEQ,sB;QAAqB,yBAAO,UAAU,OAAV,CAAP,C;WACrB,sD;QAA4B,yBA  
AO,OAAP,C;WAC5B,2B;QAAMB,yBAAO,kBAAP,C;;QACX,yBAAe,SAAR,OAAQ,CAAF,C;K;Ipl7EhB,+B;M  
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B,oEAAzB,C;MADtB,OX4EO,W;K;IWvEX,wC;MAGBW,Q;MAAA,qCAAiB,KAAjB,C;MAAA,iB;QAA2B,MA  
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Q,KAAxB,C;QACI,MAAM,gCAAYB,WAAQ,SAAR,mDAAwD,KAAjF,C;;MAEH,IAAI,YAAO,EAAX,C;QACH  
,mBAAM,SAAN,C;;QAEA,0BAAM,SAAN,IAAa,EAAb,C;;MAHJ,W;K;IAuFJ,8B;MAWsC,+B;K;0EAEtC,4B;M  
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L+xDmD,IO1kDsB,WsLjNI,0BAAuC,mBAAvC,IiLiNJ,C;;YsLrNzE,2BAKY,I;;UAyER,iEhMJD,yBgMIC,4B7Lit  
D+C,I;;QA1RpB,8B;UAA6C,6B;;;M6LtgDhF,OAIFK,S7Ls7CE,W6L7CF,EAAO,mBAAC,kBAAd,CAAP,EAA0C  
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QAAe,Y;WACf,8C;;WACA,+C;;QACQ,qBAAc,KAA d,C;MAJZ,W;K;2CAUR,Y;MASuC,8B;K;4CAEvC,Y;MA  
SwC,+B;K;kCAExC,Y;MAuBwC,Q;MAAA,sB;MACpC,qB;QAD8B,OACxB,I;WACN,iBAAA,yCAAS,WAAT,E;  
QAF8B,OAET,U;WACrB,iBAAA,qDAAa,WAAb,E;QAH8B,OAGL,W;;QAErB,iBAAiB,iB;QgIzhBF,gBAAhB,s  
B;QhI2hBK,e;UAAgB,yBAAO,EAAP,C;QACF,YAA d,kB;QA9RD,WAAO,iB;QAAP,YAAoB,oB;QAAPB,cAAo  
C,sB;QAAPc,cAAsD,sB;QAAtD,kBAAwE,0B;QAS/D,0B;QAPJ,cAAc,iB;QACd,eAAe,UAA S,C;QACxB,iBAAi  
B,YAAW,C;QAC5B,iBAAiB,YAAW,CAAX,IAAgB,gBAAe,C;QACHD,iBAAiB,C;QACjB,IAAI,OAAJ,C;UACI,  
yBAAO,IAAP,CAAa,gBAAO,GAAP,C;UACb,+B;;QAEJ,IAAI,aAAa,YAA Y,cAAc,UAA1B,CAAb,CAAJ,C;UAC  
I,IAAI,6DAAe,CAAnB,C;YAA sB,yBAAO,EAAP,C;UACtB,yBAAO,KAAP,CAAc,gBAAO,GAAP,C;;QAEIB,IA  
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AgF,KAAhF,C;;YAEA,yBAAO,WAAP,CAAoB,gBAAO,IAAP,C;;QAGhC,IAAI,cAAc,aAAa,CAA/B,C;UAAkC,  
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I,yBAAO,KAAP,C;MACA,IAAI,eAAc,CAAIB,C;QACI,yBAAO,EAAP,C;QACA,iBAAuC,WAATB,UAAW,WA  
AW,EAAS,cAAT,EAAYB,EAazB,C;QACR,sB;;UsB3zBzB,Q;UAAA,OAAQ,WAAR,etB2zBc,UsB3zBd,CAAQ,  
CAAR,W;UAA d,OAAc,cAA d,C;YAAc,uB;YACV,ItB0zBiD,UsB1zBnC,YtB0zBU,UsB1zBV,YAAK,KAAL,EtB0  
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C,I;QAEhB,KAAC,SAAD,IAAc,gBAAgB,CAA9B,C;UAAmC,8BAAY,UAAZ,EAAwB,CAAxB,EAA2B,aAA3B,  
C;;UAC3B,8BAAY,UAAZ,EAAwB,CAAxB,EAA2B,CAAC,CAAC,gBAAgB,CAAhB,IAAD,IAAsB,CAAtB,IAA  
D,IAA4B,CAA5B,IAA3B,C;;MAGhB,yBAAO,IAAP,C;K;0CAGJ,0B;MAGBwC,wB;QAAA,WAAGB,C;MIIn9BxD  
,IAAI,EJo9BQ,YAA Y,CIp9BpB,CAAJ,C;QACI,cJm9ByB,oD;QII9BzB,MAAM,gCAAyB,OAAQ,WAAjC,C;;MJ  
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CH,uBAAgB,KAAhB,C;;QAEA,aAAwE,YAA3D,oBAAoB,SAAPB,EAA0B,IAA1B,0CAA2D,C;QACxE,kCAA2

B,MAA3B,C;;MAJJ,W;K;IAgBuB,oC;MAAQ,oE;K;IAOP,sC;MAAQ,sE;K;IAWN,sC;MAAQ,sE;K;IAQV,qC;MAAQ,qE;K;IAOP,uC;MAAQ,uE;K;IAWN,uC;MAAQ,uE;K;IAQX,qC;MAAQ,qE;K;IAOP,uC;MAAQ,uE;K;IAWN,uC;MAAQ,uE;K;IAQhB,gC;MAAQ,gE;K;IAOP,kC;MAAQ,kE;K;IAWN,kC;MAAQ,kE;K;IAQX,gC;MAAQ,gE;K;IAOP,kC;MAAQ,kE;K;IAWN,kC;MAAQ,kE;K;IAQb,8B;MAAQ,8D;K;IAOP,gC;MAAQ,gE;K;IAWN,gC;MAAQ,gE;K;IAQZ,6B;MAAQ,6D;K;IAOP,+B;MAAQ,+D;K;IAWN,+B;MAAQ,+D;K;yEAG/B,+B;MAIqE,8BAAW,SAAX,C;K;2EAeE,+B;MAUwE,8BAAW,SAAX,C;K;IAIxE,yC;MACI,aAAa,KAAM,O;MACnB,IAAI,WAAU,C AAd,C;QAAiB,MAAM,gCAAYB,qBAAZB,C;MACvB,YAAY,C;MACZ,aAAa,gCAAS,K;MACTB,qBAAqB,U;M ACrB,QAAM,iBAAM,KAAN,CAAN,C;aACI,E;aAAA,E;UAAy,qB;UAAZ,K;;MAEJ,cAAc,QAAQ,C;MACTB,iB AAIb,WAAiB,aAAN,KAAM,EAAW,EAAX,C;MAE9B,cAAU,KAAY,C;QACI,MAAM,gCAAYB,eAAzB,C;WA CV,qBAAM,KAAN,MAAgB,EAAbB,C;QACI,IAAI,mCAAW,MAAf,C;UAAuB,MAAM,+B;QAC7B,sBAAsB,K; QACTb,sBAAsB,K;QACTb,eAA8B,I;QAC9B,OAAO,QAAQ,MAAf,C;UACI,IAAI,iBAAM,KAAN,MAAgB,EAA pB,C;YACI,IAAI,mBAAM,mCAAW,MAAIC,C;cAA0C,MAAM,+B;YACHD,kBAAKB,I;YACIB,Q;;UAekB,iBA Ae,K;UA+EjD,QAHgC,U;UAIhC,Y;YAAO,eAhFqB,KAgFjB,O;YAAJ,S;cAAc,SAAU,YAhFH,KAgFG,YAAK,C AAL,E;cAAV,OAhFqC,CAAM,kBAAK,EAAL,CAAN,qCAAKB,2C;;;YAgFnC,a;;UAhF7B,gBAAGB,KiB9jCgE, WjB0oCf,UiB1oCkF,EjB+oCrF,CiB/oCqF,C;UjB+jChF,IAAI,SuBrhCgC,YAAU,CvBqhC9C,C;YAAyB,MAAM, +B;UAC/B,gBAAS,SAAU,OAAAnB,I;UACqB,cAAU,K;UsBxrCpC,U;UAAA,IAAI,WAAS,CAAT,IAAc,WAAS,iB tBwrCP,KsBxrCO,CAA3B,C;YAAA,StBwrCoB,KsBxrCkB,YAAI,OAAJ,C;;YtBwrCO,MAAM,gCAAYB,qCAAz B,C;;UAA9C,qB;UACA,qB;UACA,WAAW,sBAAsB,QAAtB,EAAgC,eAAhC,C;UACX,IAAI,YAAY,IAAZ,IAAo B,yBAAY,IAAZ,MAAxB,C;YAA0C,MAAM,gCAAYB,yCAAzB,C;UACHD,WAAW,I;UACX,eAAyB,WAAV,SA AU,EAAQ,EAAR,C;UACzB,IAAI,+CAAGC,WAAW,CAA/C,C;YACI,YAAY,SiBxkCgE,WjBwkC5C,CiBxkC4C, EjBwkCzC,QiBxkCyC,C;YjBykC5E,4BAA2C,aAAjC,0BAA0B,KAA1B,CAAiC,EAAW,IAAX,CAA3C,C;YACA, 4BAAMd,aAAX,SAA9B,SiB7kCmD,WjB6kC/B,QiB7kC+B,CjB6kCrB,CAAW,EAAW,IAAX,CAANd,C;;YAEA, 4BAA+C,aAArC,0BAA0B,SAA1B,CAAqC,EAAW,IAAX,CAA/C,C;;aAIZ,c;QACI,MAAM,+B;;QACV,IAAM,c AAN,KAAM,EAAc,KAAd,EAAqB,cAArB,EAAqC,CAArC,EQ/xCH,MAAO,KR+xCmD,SAAS,KAAT,IQ/xCnD, ER+xCmE,cAAe,OQ/xCIF,CR+xCJ,EAA4G,IAA5G,CAAN,C;UACI,SAAS,gCAAS,S;;UAIIB,iBAA8B,I;UAC9B, iBAAiB,K;UACjB,kBAAKB,CAAC,O;UACnB,IAAI,WAAW,iBAAM,KAAN,MAAgB,EAA3B,IAAwC,QAAN,K AAM,CAAN,KAAGB,EAAtD,C;YACI,cAAc,I;YACd,IAAI,oCAAW,uBAAX,EAAW,MAAX,CAAJ,C;cAAyB,M AAM,gCAAYB,eAAzB,C;;UAEnC,OAAO,QAAQ,MAAf,C;YACI,IAAI,cAAc,WAAIB,C;cA8CZ,UA7CwC,K;cA 8Cx,C,Y;gBAAO,mBA9CiB,KA8Cb,O;gBAAJ,W;kBAAc,SA9C4B,UA8CIB,YA9CP,KA8CO,YAAK,GAAL,EA9 CkB,MAAM,E;;;gBA8Cd,iB;;cA9CzB,QA+CT,G;;YA7CK,aAAa,I;YACs,mBA Ae,K;YA0CjD,UAHgC,Y;YAIhC ,Y;cAAO,mBA3CqB,KA2CjB,O;cAAJ,W;gBAAc,WAAU,YA3CH,KA2CG,YAAK,GAAL,E;gBAAV,SA3CqC,C AAM,kBAAK,EAAL,CAAN,uCAAKB,oBAAM,E;;;cA2CzC,iB;;YA3C7B,kBAAGB,KiBnmCgE,WjB0oCf,YiB1 oCkF,EjB+oCrF,GiB/oCqF,C;YjBomChF,IAAI,WuB1jCgC,YAAU,CvB0jC9C,C;cAAyB,MAAM,+B;YAC/B,gBA AS,WAAU,OAAAnB,I;YACqB,mBA Ae,K;YAuChD,UAHgC,Y;YAIhC,Y;cAAO,mBAxCoB,KAwChB,O;cAAJ,W; gBAAc,WAAU,YAxCJ,KAwCI,YAAK,GAAL,E;gBAAV,SAXCoC,CAAM,kBAAK,GAAL,CAAN,mC;;;cAwCh B,iB;;YAxC7B,eAAe,KiBtmCiE,WjB0oCf,YiB1oCkF,EjB+oCrF,GiB/oCqF,C;YjBumChF,gBAAS,QAAS,OAAI B,I;YACA,aAAW,wBAAwB,QAAXB,C;YACX,IAAI,cAAY,IAAZ,IAAoB,2BAAY,MAAZ,MAAxB,C;cAA0C,M AAM,gCAAYB,yCAAzB,C;YACHD,aAAW,M;YACX,iBAAYB,WAAV,WAAU,EAAQ,EAAR,C;YACzB,IAAI,a AAW,CAAf,C;cACI,cAAY,WiB7mCgE,WjB6mC5C,CiB7mC4C,EjB6mCzC,UiB7mCyC,C;cjB8mC5E,4BAAYB, aAAT,OAAO,OAAM,CAAS,EAAW,MAAX,CAAzB,C;cACA,4BAAMd,aAAX,SAA9B,WiBlnCmD,WjBknC/B, UiBlnC+B,CjBknCrB,CAAW,EAAW,MAAX,CAANd,C;cACA,IAAI,QAAQ,MAAZ,C;gBAAoB,MAAM,gCAAY B,mCAAzB,C;;cAE1B,4BAA6B,aAAT,OAAV,WAAU,CAAS,EAAW,MAAX,CAA7B,C;;;MAKhB,OAAW,UA AJ,GAAiB,MAAD,aAAhB,GAA6B,M;K;IAIxC,0C;MACI,aAAa,KAAM,O;MACnB,iBAAiB,C;MACjB,IAAI,SA AS,CAAT,IAAc,YAAY,IAAZ,mBAAM,CAAN,EAAIB,C;QAAoC,+B;;MACHc,YAAC,SAAS,UAAT,IAAD,IAA wB,E;MAAxB,S;QAA4D,gBAA7B,yBAAKB,iBAAN,KAAM,CAAIB,C;QAA6B,c;;UU8ThD,U;UADhB,IAAI,wC AAsB,mBAA1B,C;YAAqC,aAAO,I;YAAP,e;;UACrB,6B;UAAhB,OAAgB,gBAAhB,C;YAAgB,2B;YAAM,IAAI, CV9T4C,CAAa,kBAAK,EAAL,CAAb,oCU8TjC,OV9TiC,EU8ThD,C;cAAyB,aAAO,K;cAAP,e;;UAC/C,aAAO,I ;;QV/TyD,iB;;MAAhE,S;QAEI,OAAW,iBAAM,CAAN,MAAY,EAAhB,sD;;MAGX,OAAiB,WAAN,KAAM,EA

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,+CAAa,gBAAb,EAAwB,iBAAxB,EAAoC,0BAAS,QAAT,CAAPC,C;K;+CAGtD,Y;MAAmC,+CAAa,WAAb,E  
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B;K;mEAC1G,Y;MAAsC,OAAgC,aAA/B,iBAAW,OAAx,GAAoB,gBAAW,EAAW,iBAAW,KAAtB,CAAhC,cA  
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1B,mB;K;oCAEA,Y;MAA4B,qB;K;iDAE5B,oB;MAWc,Q;MADV,gBAAGB,QAAS,gBAAO,SAAP,C;MACf,IAA  
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;MAAA,iC;MAAA,yC;K;;IAhBJ,uC;MAAA,iJ;K;;IAAA,4C;MAAA,a;aAAA,c;UAAA,sD;aAAA,a;UAAA,qD;aA  
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,gBAAS,mC;QACT,qBAAc,I;;MAGIB,OAAO,gF;K;6CAGf,Y;MAAwC,yBAAW,iC;K;wCAEnD,Y;MAAkC,OA  
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;QAEp,IAfsB,KAelB,QAaj,C;UACI,cAhB2B,0B;UAIb3B,MAAM,8BAAyB,OAAQ,WAAjC,C;;UAEN,wBAnBk

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WW,Q;QACH,wB;UA/GG,U;;YA+GkC,U;YA9G9B,SAhEH,gBA8KuB,UAAU,sFAAV,CA9KvB,C;;YAIEN,gC;c  
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FxD,C;0FAIA,yB;MAmMA,6B;MC7LA,4C;MDNA,wB;QAEqD,OCMD,WDoMjB,cAAU,SAAL,GAAiB,GAAtB,  
CCpMiB,EDoMjB,cA1MoC,KA0M1B,KAAL,GAAiB,GAAtB,CCpMiB,C;O;KDRpD,C;0FAGA,yB;MAgMA,6B;  
MC7LA,4C;MDHA,wB;QAEsD,OCGF,WDoMjB,cAAU,SAAL,GAAiB,GAAtB,CCpMiB,ECqMjB,cFxMqC,KEw  
M3B,KAAL,GAAiB,KAAtB,CDrMiB,C;O;KDLpD,C;0FAGA,yB;MA6LA,6B;MC7LA,4C;MDAA,wB;QAEoD,O  
CAA,WDoMjB,cAAU,SAAL,GAAiB,GAAtB,CCpMiB,EDakB,KCAIB,C;O;KDFpD,C;0FAGA,yB;MAoMA,WA  
S6D,wB;MAT7D,+B;MiBpMA,8C;MjBAA,wB;QAEsD,OiBAA,YjB2MjB,eAAW,oBAAL,SAAK,CAAL,UAAN,  
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KjB,cAAU,SAAL,GAAiB,GAAtB,CC3KiB,ED2KjB,cAzLoC,KAyL1B,KAAL,GAAiB,GAAtB,CC3KiB,C;O;KD  
pBpD,C;0FAOA,yB;MA+KA,6B;MCxKA,kD;MDPA,wB;QAMsD,OCOF,cD2KjB,cAAU,SAAL,GAAiB,GAAtB,  
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CxKA,kD;MDAA,wB;QAMoD,OCAA,cD2KjB,cAAU,SAAL,GAAiB,GAAtB,CC3KiB,EDakB,KCAIB,C;O;KD  
NpD,C;0FAOA,yB;MA2KA,WAS6D,wB;MAT7D,+B;MiB3KA,oD;MjBAA,wB;QAMsD,OiBAA,ejB8KjB,eAA  
W,oBAAL,SAAK,CAAL,UAAN,CiB9KiB,EjBAmB,KiBAnB,C;O;KjBNtD,C;oGAQA,yB;MAyJA,6B;MC7LA,4  
C;MDoCA,wB;QAMiD,OCxCG,WDoMjB,cAAU,SAAL,GAAiB,GAAtB,CCpMiB,EDoMjB,cA5JqC,KA4J3B,KA  
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WDoMjB,cAAU,SAAL,GAAiB,GAAtB,CCpMiB,ECqMjB,cFtJsC,KEsJ5B,KAAL,GAAiB,KAAtB,CDrMiB,C;O;  
KDYCpD,C;oGAOA,yB;MA2IA,6B;MC7LA,4C;MDkDA,wB;QAMgD,OCtDI,WDoMjB,cAAU,SAAL,GAAiB,G

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DvD,EpOmDwE,KAAjB,EoOnDjD,EpOmD8E,KAA7B,CoOnDvD,KAAX,GpOkFsD,SoOIFjC,EpOkF2C,KAAK,  
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C,EpN+E6C,KAAs,CAAhB,CABU,MAAK,KoNIE3B,CpNkEsC,KAAX,CAAhB,C;K;IoN/D3D,uD;MAmBI,WAA  
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DhD,EQgD2D,KAAK,URhD3D,EQgDuE,KAAZ,CAAhB,C;;QRnDpD,W;;MAQJ,IAAI,uBAAY,CAAhB,C;QACI  
,OAAO,UAAM,gBAAW,OAAX,CAAN,C;;MAIX,eAAiB,4BAAC,CAAd,CAAD,KAAoB,OAAPB,CAAD,WAAk  
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AAM,GAAN,CQU8D,MAAIB,EA8B,CRV5D,UAAM,OAAN,CQU4D,MAA9B,CRV5C,KAAJ,GAAkC,OAaic  
,KAAN,CAAN,C;K;IAGX,yB;MAEI,IAAE,QAAF,CAAE,CAAF,C;QADyC,OAC5B,W;;QACb,SRwSuC,aQxSiC,  
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b,CQvSvC,C;YAHyC,OAGP,4BAAK,U;eACvC,SAAK,UAAL,C;YAJyC,ORkVN,SQ9UX,YAAF,CAAE,CR8UW  
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,6BAAM,UQiS0C,KAAAd,CRjSvC,C;YAH2C,OAGR,6BAAM,U;eACzC,4C;YAJ2C,OQwVL,URpVd,uBAAF,CA  
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AT,C;QAAY,OAAS,WAAF,CAAE,EAAS,IAAT,C;MAErB,eAAiB,qBAAO,CAAP,CAAD,yBAAa,IAAb,EAAD,  
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AS,IAAT,C;K;I8N1FzC,qC;K;.....  
.....  
.....  
.....  
.....



Bundle-SymbolicName: com.google.protobuf  
Bundle-Version: 3.19.6  
Created-By: Apache Maven Bundle Plugin  
Export-Package: com.google.protobuf;version="3.19.6"  
Import-Package: sun.misc;resolution:=optional,com.google.protobuf;version="[3.19,4)"  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"  
Tool: Bnd-3.0.0.201509101326

Found in path(s):

\* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/META-INF/MANIFEST.MF

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```
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/timestamp.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/struct.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/wrappers.proto
*
/opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/type.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/empty.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/any.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/descriptor.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/duration.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/field_mask.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/compiler/plugin.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/source_context.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/api.proto
```

# 1.126 apache-commons-text 1.10.0

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## 1.127 jctools-core 4.0.1

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Manifest-Version: 1.0

Bnd-LastModified: 1662622707903

Build-Jdk-Spec: 11

Bundle-Description: Java Concurrency Tools Core Library

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: Java Concurrency Tools Core Library

Bundle-SymbolicName: org.jctools.core

Bundle-Version: 4.0.1

Created-By: Apache Maven Bundle Plugin 5.1.6

Export-Package: org.jctools.maps;version="4.0.1",org.jctools.util;uses

:"sun.misc";version="4.0.1",org.jctools.queues;version="4.0.1",org.j

ctools.queues.atomic;uses:"org.jctools.queues";version="4.0.1",org.j

ctools.queues.unpadded;uses:"org.jctools.queues";version="4.0.1",org

.jctools.counters;version="4.0.1"

Import-Package: sun.misc;resolution:=optional

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.6))"

Tool: Bnd-6.2.0.202202251641

Found in path(s):

\* /opt/cola/permits/1500645298\_1670406227.9308958/0/jctools-core-4-0-1-jar/META-INF/MANIFEST.MF

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<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
```

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```
* /opt/cola/permits/1500645298_1670406227.9308958/0/jctools-core-4-0-1-jar/META-
INF/maven/org.jctools/jctools-core/pom.xml
```

## 1.128 cloudevents-kafka 2.1.1

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```
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-jar/META-
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```

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- \*/

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```
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/impl/KafkaHeaders.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/impl/KafkaSerializerMessageWriterImpl.java
*
/opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/CloudEventDeserializer.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/KafkaMessageFactory.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/CloudEventMessageSerializer.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/CloudEventMessageDeserializer.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/impl/KafkaBinaryMessageReaderImpl.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/CloudEventSerializer.java
* /opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/impl/KafkaProducerMessageWriterImpl.java
*
/opt/cola/permits/1508291111_1670975016.7551763/0/cloudevents-kafka-2-1-1-sources-1-
jar/io/cloudevents/kafka/impl/BaseKafkaMessageWriterImpl.java
```

## 1.129 metrics-annotation 4.1.17

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## 1.130 dropwizard-configuration 2.0.18

### 1.130.1 Available under license :

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## 1.131 metrics-servlets 4.1.17

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Found in path(s):

\* /opt/cola/permits/1508291049\_1670974969.4034815/0/dropwizard-jetty-2-0-18-sources-1-jar/io/dropwizard/jetty/LocalIpFilter.java

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\*/

Found in path(s):

\* /opt/cola/permits/1508291049\_1670974969.4034815/0/dropwizard-jetty-2-0-18-sources-1-

## 1.133 dropwizard-servlets 2.0.18

### 1.133.1 Available under license :

Apache-2.0

## 1.134 dropwizard-jersey 2.0.18

### 1.134.1 Available under license :

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## 1.135 dropwizard-logging 2.0.18

### 1.135.1 Available under license :

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Found in path(s):

\* /opt/cola/permits/1508291183\_1670974960.632932/0/dropwizard-logging-2-0-18-sources-jar/io/dropwizard/logging/ResilientOutputStreamBase.java

## 1.136 dropwizard-lifecycle 2.0.18

### 1.136.1 Available under license :

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## 1.137 drop-wizard-metrics 2.0.18



## 1.137.1 Available under license :

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# 1.138 cloudevents-api 2.1.1

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```
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~
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```

Found in path(s):

```
* /opt/cola/permits/1508291066_1670974985.798763/0/cloudevents-api-2-1-1-2-jar/META-INF/maven/io.cloudevents/cloudevents-api/pom.xml
```

# 1.139 metrics-jetty 4.1.17

## 1.139.1 Available under license :

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# 1.140 metrics-jersey2 4.1.17

## 1.140.1 Available under license :

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# 1.141 metrics-jmx 4.1.17

## 1.141.1 Available under license :

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# 1.142 metrics-json 4.1.17

## 1.142.1 Available under license :

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# 1.143 cloudevents-core 2.1.1

## 1.143.1 Available under license :

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 *
 */
```

Found in path(s):

```
* /opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/CloudEventUtils.java
* /opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/extensions/DistributedTracingExtension.java
* /opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/format/EventFormat.java
*
/opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/message/impl/BaseBinaryMessageReader.java
* /opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/message/impl/MessageUtils.java
* /opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/v03/V1ToV03AttributesConverter.java
* /opt/cola/permits/1508291239_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-
jar/io/cloudevents/core/impl/CloudEventReaderAdapter.java
```

\* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/impl/BaseStructuredMessageReader.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/v03/CloudEventV03.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/Encoding.java  
 \*  
 /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/format/EventSerializationException.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/v1/CloudEventBuilder.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/v1/V03ToV1AttributesConverter.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/extensions/DatarefExtension.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/impl/BaseCloudEventBuilder.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/extensions/impl/ExtensionUtils.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/builder/CloudEventBuilder.java  
 \*  
 /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/provider/ExtensionProvider.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/MessageReader.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/impl/GenericStructuredMessageReader.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/StructuredMessageWriter.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/v1/CloudEventV1.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/MessageWriter.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/impl/BaseCloudEvent.java  
 \*  
 /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/message/StructuredMessageReader.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/provider/EventFormatProvider.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/v03/CloudEventBuilder.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/format/EventDeserializationException.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/io/cloudevents/core/impl/CloudEventContextReaderAdapter.java  
 \* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-

jar/io/cloudevents/core/message/impl/BaseGenericBinaryMessageReaderImpl.java

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```
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```

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\* /opt/cola/permits/1508291239\_1670975013.352485/0/cloudevents-core-2-1-1-sources-1-jar/META-INF/maven/io.cloudevents/cloudevents-core/pom.xml

## 1.144 dropwizard-util 2.0.18

### 1.144.1 Available under license :

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## 1.145 metrics-jvm 4.1.17

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## 1.146 dropwizard-validation 2.0.18

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*
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*/
```

Found in path(s):

\* /opt/cola/permits/1508291129\_1670974993.4238553/0/dropwizard-validation-2-0-18-sources-1-jar/io/dropwizard/validation/InterpolationHelper.java

## 1.147 dropwizard-request-logging 2.0.18

### 1.147.1 Available under license :

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## 1.148 dropwizard-jackson 2.0.18

### 1.148.1 Available under license :

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## 1.149 metrics-logback 4.1.17

### 1.149.1 Available under license :

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## 1.150 dropwizard-core 2.0.18

### 1.150.1 Available under license :

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## 1.151 protobuf-java 3.21.12

### 1.151.1 Available under license :

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\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-

jar/com/google/protobuf/Message.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/FieldType.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/ExtensionSchemas.java  
\*  
/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/ProtocolMessageEnum.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/UnmodifiableLazyStringList.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/LazyStringArrayList.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/Extension.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/CodedOutputStream.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/RopeByteString.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/SingleFieldBuilder.java  
\*  
/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/google/protobuf/duration.proto  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/CodedOutputStreamWriter.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/BufferAllocator.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/ProtocolStringList.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/BlockingService.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/StructuralMessageInfo.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/MessageInfoFactory.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/ArrayDecoders.java  
\*  
/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/MapFieldLite.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/ManifestSchemaFactory.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/IterableByteBufferInputStream.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/RawMessageInfo.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/GeneratedMessageInfoFactory.java

\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ByteBufferWriter.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ExtensionRegistryFactory.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/RpcChannel.java  
\*  
/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/BinaryWriter.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/SmallSortedMap.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/UnsafeByteOperations.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ExperimentalApi.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/SchemaUtil.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MessageOrBuilder.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MapFieldSchemas.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/FloatArrayList.java  
\*  
/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/SchemaFactory.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MapField.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/CanIgnoreReturnValue.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/TextFormatParseLocation.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MessageLiteToString.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/google/protobuf/struct.proto  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ByteString.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ExtensionRegistryLite.java  
\*  
/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ExtensionRegistry.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/CheckReturnValue.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/Protobuf.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-

jar/com/google/protobuf/UnknownFieldSetSchema.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/ExtensionSchema.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/Schema.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/DiscardUnknownFieldsParser.java  
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 /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/MessageLiteOrBuilder.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/LongArrayList.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/google/protobuf/any.proto  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/TextFormat.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/Internal.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/FieldInfo.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/CodedInputStreamReader.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/MapFieldSchemaFull.java  
 \*  
 /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/TypeRegistry.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/AbstractMessageLite.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/OneofInfo.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/LazyFieldLite.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/google/protobuf/api.proto  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/google/protobuf/empty.proto  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/MapEntryLite.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/NewInstanceSchemas.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/CompileTimeConstant.java  
 \*  
 /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/JavaType.java  
 \* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
 jar/com/google/protobuf/Writer.java



\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/DynamicMessage.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/NioByteString.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ProtobufLists.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/UnknownFieldSchema.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/BinaryReader.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MessageSchema.java  
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/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ExtensionSchemaLite.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/google/protobuf/wrappers.proto  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/RpcCallback.java  
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\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/NewInstanceSchemaFull.java  
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jar/com/google/protobuf/ProtobufArrayList.java  
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jar/com/google/protobuf/UnknownFieldSetLite.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
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jar/com/google/protobuf/NewInstanceSchema.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
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\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-  
jar/com/google/protobuf/ServiceException.java  
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/opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/RpcUtil.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/UninitializedMessageException.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/BlockingRpcChannel.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MessageSetSchema.java  
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\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/InlineMe.java  
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\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ByteOutput.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/google/protobuf/type.proto  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/RepeatedFieldBuilderV3.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/MutabilityOracle.java  
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\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/Service.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/google/protobuf/timestamp.proto  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/ListFieldSchema.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/PrimitiveNonBoxingCollection.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/WireFormat.java  
\* /opt/cola/permits/1521222018\_1672206959.0969713/0/protobuf-java-3-21-12-sources-jar/com/google/protobuf/InvalidProtocolBufferException.java

```
* /opt/cola/permits/1521222018_1672206959.0969713/0/protobuf-java-3-21-12-sources-
jar/google/protobuf/source_context.proto
*
/opt/cola/permits/1521222018_1672206959.0969713/0/protobuf-java-3-21-12-sources-
jar/com/google/protobuf/LazyStringList.java
* /opt/cola/permits/1521222018_1672206959.0969713/0/protobuf-java-3-21-12-sources-
jar/google/protobuf/field_mask.proto
```

# 1.152 Iz4 1.2.13

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## 1.157 gson 2.10.1

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Manifest-Version: 1.0

Created-By: 11.0.16.1 (Azul Systems, Inc.)

Build-Jdk-Spec: 11

Bnd-LastModified: 1673019830620

Bundle-ContactAddress: <https://github.com/google/gson>

Bundle-Description: Gson JSON library

Bundle-Developers: google;organization=Google;organizationUrl="https://www.google.com"

Bundle-DocURL: <https://github.com/google/gson/gson>

Bundle-License: "Apache-2.0";link="https://www.apache.org/licenses/LICENSE-2.0.txt"

Bundle-ManifestVersion: 2

Bundle-Name: Gson

Bundle-RequiredExecutionEnvironment: JavaSE-1.7, JavaSE-1.8

Bundle-SCM: url="https://github.com/google/gson/gson/",connection="scm:git:https://github.com/google/gson.git/gson",developer-connection="scm:git:git@github.com:google/gson.git/gson",tag="gson-parent-2.10.1"

Bundle-SymbolicName: com.google.gson

Bundle-Vendor: Google Gson Project

Bundle-Version: 2.10.1

Export-Package: com.google.gson;uses:="com.google.gson.reflect,com.google"

e.gson.stream";version="2.10.1",com.google.gson.annotations;version="2.10.1",com.google.gson.reflect;version="2.10.1",com.google.gson.stream;version="2.10.1"  
Import-Package: sun.misc;resolution:=optional,com.google.gson.annotations  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.7))"  
Tool: Bnd-6.4.0.202211291949  
Multi-Release: true

Found in path(s):

\* /opt/cola/permits/1570533427\_1676891842.8285189/0/gson-2-10-1-jar/META-INF/MANIFEST.MF

# 1.158 jersey-container-servlet 2.37

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```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
program `Gnomovision' (which makes passes at compilers) written by
James Hacker.
```

```
signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice
```

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---

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# 1.164 commons-fileupload 1.5

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# 1.165 snake-yaml 2.0

## 1.165.1 Available under license :

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```
/**
 * Copyright (c) 2008, SnakeYAML
 *
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 *
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 * express
 * or implied. See the License for the specific language governing permissions and limitations under
 * the License.
 */
```

Found in path(s):

```
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/representer/SafeRepresenter.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/parser/Parser.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java
*
/opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/nodes/ScalarNode.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/ValueToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/StreamEndEvent.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/CollectionEndEvent.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/emitter/ScalarAnalysis.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/AliasEvent.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/ScalarEvent.java
*
```

/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/EmitterState.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DirectiveToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/StreamStartEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/CommentEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/AliasToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/Construct.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/ImplicitTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/CustomClassLoaderConstructor.java  
\*  
/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/Property.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/Production.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/resolver/ResolverTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/Scanner.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/composer/ComposerException.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/MappingNode.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/Emitable.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowMappingEndToken.java  
\*  
/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/DumperOptions.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowSequenceEndToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/AnchorNode.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/representer/Represent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/Node.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowMappingStartToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/reader/ReaderException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/SafeConstructor.java  
\*  
/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/Constant.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/NodeId.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/serializer/AnchorGenerator.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DocumentEndToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/ParserImpl.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/ScalarToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/MethodProperty.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/CollectionStartEvent.java  
\*  
/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/util/UriEncoder.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/reader/UnicodeReader.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockMappingStartToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/CollectionNode.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/StreamStartToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/DocumentStartToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockSequenceStartToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/ConstructorException.java  
\*  
/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/SequenceStartEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/representer/BaseRepresenter.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/SequenceEndEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/util/PlatformFeatureDetector.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/VersionTagsTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/Yaml.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/inspector/UnTrustedTagInspector.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/parser/ParserException.java

\*

/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/error/MarkedYAMLException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/representer/Representer.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/NodeTuple.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/inspector/TrustedTagInspector.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/serializer/Serializer.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/EmitterException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/FieldProperty.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/BeanAccess.java

\*

/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/comments/CommentLine.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/LoaderOptions.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/CommentToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/extensions/compactnotation/PackageCompactConstructor.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/inspector/TrustedPrefixesTagInspector.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockEndToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/serializer/SerializerException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/error/Mark.java

\*

/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/util/ArrayUtils.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/error/YAMLException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/DocumentEndEvent.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/emitter/Emitter.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-

```

jar/org/yaml/snakeyaml/events/MappingEndEvent.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/util/ArrayStack.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/util/EnumUtils.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/TypeDescription.java
*
/opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/scanner/ScannerException.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/FlowSequenceStartToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/nodes/SequenceNode.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/resolver/Resolver.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/inspector/TagInspector.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/constructor/Constructor.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/scanner/SimpleKey.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/events/DocumentStartEvent.java
*
/opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/FlowEntryToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/TagToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/Token.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/serializer/NumberAnchorGenerator.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/AnchorToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/error/MissingEnvironmentVariableException.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/constructor/BaseConstructor.java
*
/opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/tokens/StreamEndToken.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/composer/Composer.java
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/extensions/compactnotation/CompactData.java

```



\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/PropertyUtils.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/Tag.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/NodeEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/reader/StreamReader.java  
\*

/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/internal/Logger.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/MappingStartEvent.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/ScannerImpl.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/KeyToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/TagTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockEntryToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/MissingProperty.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/Event.java  
\*

/opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactConstructor.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/comments/CommentType.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/GenericProperty.java

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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-

jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/Escaper.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-

jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-

jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java

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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/META-

INF/maven/org.yaml/snakeyaml/pom.xml

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/**
 * A Base64 encoder/decoder.
```

\*  
\* <p>  
\* This class is used to encode and decode data in Base64 format as described in RFC 1521.  
\*  
\* <p>  
\* Project home page: <a href="http://www.source-code.biz/base64coder/java/">www.  
\* source-code.biz/base64coder/java</a><br>  
\* Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland<br>  
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\*/

Found in path(s):

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java

## 1.166 error\_prone\_annotations 2.18.0

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\* /opt/cola/permits/1606613656\_1679417956.422988/0/error-prone-annotations-2-18-0-1-jar/META-INF/maven/com.google.errorprone/error\_prone\_annotations/pom.xml

## 1.167 opentelemetry-proto 0.11.0

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 */
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```
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/Parameter.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/info/Contact.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
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*
/opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
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* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
```

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\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
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\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/Operation.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/media/Schema.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
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\*  
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jar/io/swagger/v3/oas/annotations/security/SecuritySchemes.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/OpenAPIDefinition.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/security/SecurityRequirements.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/servers/Servers.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/ExternalDocumentation.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/media/DiscriminatorMapping.java  
\*  
/opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/info/Info.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/security/OAuthFlow.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/tags/Tag.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/security/SecurityRequirement.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/servers/ServerVariable.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/callbacks/Callback.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/media/Content.java  
\*  
/opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/parameters/RequestBody.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/Hidden.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/security/OAuthFlows.java  
\* /opt/cola/permits/1610412103\_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-  
jar/io/swagger/v3/oas/annotations/media/Encoding.java

```
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/media/ExampleObject.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/info/License.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/links/LinkParameter.java
*
/opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/security/OAuthScope.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/tags/Tags.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/Parameters.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/callbacks/Callbacks.java
* /opt/cola/permits/1610412103_1680069080.5533648/0/swagger-annotations-2-1-7-sources-1-
jar/io/swagger/v3/oas/annotations/links/Link.java
```

## 1.169 bouncycastle-fips 2.0.0

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```
* /opt/cola/permits/1638896222_1681459394.2492418/0/micronaut-inject-3-8-7-jar/META-
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```
* /opt/cola/permits/1638896222_1681459394.2492418/0/micronaut-inject-3-8-7-jar/META-INF/native-image/io.micronaut/micronaut-inject/native-image.properties
```

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```
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/JsonStreamConfig.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/bind/JsonBeanPropertyBinderExceptionHandler.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/tree/JsonArray.java
*
/opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/JsonConfiguration.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/tree/JsonString.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/tree/JsonNode.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
```

```
jar/io/micronaut/json/convert/JsonConverterRegistrar.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/JsonMapper.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/tree/JsonNumber.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/tree/JsonNull.java
*
/opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/JsonFeatures.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/tree/JsonContainer.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/tree/JsonBoolean.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/tree/JsonObject.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/tree/JsonScalar.java
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```
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/codec/JsonMediaTypeCodec.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/convert/JsonNodeConvertibleValues.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/bind/JsonBeanPropertyBinder.java
*
/opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/JsonObjectSerializer.java
* /opt/cola/permits/1638896089_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-
jar/io/micronaut/json/codec/MapperMediaTypeCodec.java
```



\* /opt/cola/permits/1638896089\_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/bind/package-info.java  
\* /opt/cola/permits/1638896089\_1681459408.2938023/0/micronaut-json-core-3-8-7-sources-jar/io/micronaut/json/codecs/JsonStreamMediaTypeCodec.java

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\* /opt/cola/permits/1638896134\_1681459425.8110023/0/micronaut-runtime-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-runtime/pom.xml

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\* /opt/cola/permits/1638896134\_1681459425.8110023/0/micronaut-runtime-3-8-7-jar/META-INF/native-image/io.micronaut/micronaut-runtime/native-image.properties

## 1.174 micronaut-http-client 3.8.7

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## 1.175 kafka-streams-avro-serde 6.2.1

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# 1.176 micronaut-http-server-netty 3.8.7

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\* /opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-jar/io/micronaut/http/server/netty/handler/accesslog/element/RequestMethodElement.java

\* /opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-jar/io/micronaut/http/server/netty/binders/InputStreamBodyBinder.java

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/opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-jar/io/micronaut/http/server/netty/AbstractBufferingHttpContentProcessor.java

\* /opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-jar/io/micronaut/http/server/netty/handler/accesslog/element/ConstantElement.java

\* /opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-jar/io/micronaut/http/server/netty/handler/accesslog/element/HeaderElement.java

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\* /opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-jar/io/micronaut/http/server/netty/binders/NettyBinderRegistrar.java

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\* /opt/cola/permits/1638896119\_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-

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* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/BytesSentElement.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/binders/CompletableFutureBodyBinder.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/binders/package-info.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/jackson/JsonHttpContentSubscriberFactory.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/CookiesElement.java
*
/opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/RemoteIpElement.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/converters/package-info.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/FormDataHttpContentSubscriberFactory.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/ElapseTimeElementBuilder.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/package-info.java
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* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
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jar/io/micronaut/http/server/netty/types/stream/NettyStreamedCustomizableResponseType.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/HttpToHttpsRedirectHandler.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
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* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/NettyEmbeddedServices.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/DefaultNettyEmbeddedServerFactory.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/NotImplementedElementBuilder.java
*
/opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/StreamTypeHandler.java
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* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/NettyServerCustomizer.java
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jar/io/micronaut/http/server/netty/handler/accesslog/HttpAccessLogHandler.java
*
/opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/ssl/CertificateProvidedSslBuilder.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/NettyHttpServer.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/configuration/NettyHttpServerConfiguration.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/ssl/BuildSelfSignedCondition.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/ssl/SslEnabledCondition.java
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* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/AccessLog.java
*
/opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/HttpPipelineBuilder.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/ssl/SelfSignedSslBuilder.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/converters/NettyConvertersSpi.java
* /opt/cola/permits/1638896119_1681459387.841254/0/micronaut-http-server-netty-3-8-7-sources-
jar/io/micronaut/http/server/netty/CompositeNettyServerCustomizer.java
```

## 1.177 micronaut-aop 3.8.7

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* /opt/cola/permits/1638896142_1681459439.352847/0/micronaut-aop-3-8-7-jar/META-
INF/maven/io.micronaut/micronaut-aop/pom.xml
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## 1.178 micronaut-jackson-core 3.8.7

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* /opt/cola/permits/1638896051_1681819737.443773/0/micronaut-jackson-core-3-8-7-jar/META-
INF/maven/io.micronaut/micronaut-jackson-core/pom.xml
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* /opt/cola/permits/1638896051_1681819737.443773/0/micronaut-jackson-core-3-8-7-jar/META-INF/native-
image/io.micronaut/micronaut-jackson-core/native-image.properties
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# 1.179 micronaut-buffer-netty 3.8.7

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# 1.180 micronaut-http-server 3.8.7

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\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/CoroutineHelper.java

\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/RouteExecutor.java

\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/response/HateoasErrorResponseProcessor.java

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/opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/response/ExecutionContext.java

\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/response/Error.java

\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/response/ErrorResponseProcessor.java

\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/response/DefaultErrorContext.java

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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/exceptions/UnsatisfiedRouteHandler.java
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/types/files/FileCustomizableResponseType.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/util/locale/HttpFixedLocaleResolver.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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/opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/HttpServerConfiguration.java
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/opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/exceptions/HttpServerException.java

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\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/types/files/package-info.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/HttpStatusHandler.java  
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\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/multipart/MultipartBody.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/util/locale/CookieLocaleResolver.java  
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\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/util/locale/HttpLocaleResolutionConfiguration.java  
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\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/util/locale/CompositeHttpLocaleResolver.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/util/locale/package-info.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/binding/LocaleArgumentBinder.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/util/HttpClientAddressResolver.java  
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/opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/context/ServerRequestContextInstrumentation.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/binding/package-info.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-jar/io/micronaut/http/server/exceptions/ConversionErrorHandler.java  
\* /opt/cola/permits/1638896264\_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-

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jar/io/micronaut/http/server/types/package-info.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/websocket/ServerWebSocketProcessor.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/exceptions/JsonExceptionHandler.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
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/opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/cors/CorsOriginConfiguration.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/types/CustomizableResponseType.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/util/locale/RequestLocaleResolver.java
* /opt/cola/permits/1638896264_1681459392.7072437/0/micronaut-http-server-3-8-7-sources-
jar/io/micronaut/http/server/context/package-info.java

```

# 1.181 kafka-schema-registry-client 6.2.1

## 1.181.1 Available under license :

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

```

<project xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="http://maven.apache.org/POM/4.0.0"
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">

```

```

<modelVersion>4.0.0</modelVersion>

```

```

<parent>
 <groupId>io.confluent</groupId>
 <artifactId>kafka-schema-registry-parent</artifactId>
 <version>6.2.1</version>
</parent>

```

```

<licenses>
 <license>
 <name>Apache License 2.0</name>
 <url>http://www.apache.org/licenses/LICENSE-2.0.html</url>
 <distribution>repo</distribution>
 </license>
</licenses>

```

```

<artifactId>kafka-schema-registry-client</artifactId>
<packaging>jar</packaging>
<name>kafka-schema-registry-client</name>

```

```

<dependencies>

```

```
<dependency>
 <groupId>org.apache.kafka</groupId>
 <artifactId>kafka-clients</artifactId>
</dependency>
<dependency>
 <groupId>org.apache.avro</groupId>
 <artifactId>avro</artifactId>
</dependency>
<dependency>
 <groupId>org.apache.commons</groupId>
 <artifactId>commons-compress</artifactId>
</dependency>
<dependency>
 <groupId>com.fasterxml.jackson.core</groupId>
 <artifactId>jackson-databind</artifactId>
</dependency>
<dependency>
 <groupId>jakarta.ws.rs</groupId>
 <artifactId>jakarta.ws.rs-api</artifactId>
</dependency>
<dependency>
 <groupId>org.glassfish.jersey.core</groupId>
 <artifactId>jersey-common</artifactId>
 <version>${jersey.version}</version>
</dependency>
<dependency>
 <groupId>org.easymock</groupId>
 <artifactId>easymock</artifactId>
 <scope>test</scope>
</dependency>
<dependency>
 <groupId>org.powermock</groupId>
 <artifactId>powermock-module-junit4</artifactId>
 <scope>test</scope>
</dependency>
<dependency>
 <groupId>org.powermock</groupId>
 <artifactId>powermock-api-easymock</artifactId>
 <scope>test</scope>
</dependency>
<dependency>
 <groupId>junit</groupId>
 <artifactId>junit</artifactId>
 <scope>test</scope>
</dependency>
<dependency>
 <groupId>io.swagger</groupId>
 <artifactId>swagger-annotations</artifactId>
```

```

</dependency>
<dependency>
 <groupId>io.swagger</groupId>
 <artifactId>swagger-core</artifactId>
 <version>1.6.2</version>
 <exclusions>
 <exclusion>
 <groupId>javax.validation</groupId>
 <artifactId>validation-api</artifactId>
 </exclusion>
 </exclusions>
 <groupId>com.google.guava</groupId>
 <artifactId>guava</artifactId>
 </exclusion>
</exclusions>
</dependency>
<dependency>
 <groupId>com.google.guava</groupId>
 <artifactId>guava</artifactId>
 <version>${guava.version}</version>
</dependency>
</dependencies>
</project>

```

Found in path(s):

\* /opt/cola/permits/1638896121\_1681819594.9636126/0/kafka-schema-registry-client-6-2-1-jar/META-INF/maven/io.confluent/kafka-schema-registry-client/pom.xml

## 1.182 micronaut-websocket 3.8.7

### 1.182.1 Available under license :

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Found in path(s):

\* /opt/cola/permits/1638896190\_1681459406.7503161/0/micronaut-websocket-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-websocket/pom.xml

## 1.183 kafka-schema-serializer 6.2.1

### 1.183.1 Available under license :

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

<project xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"



```
xmlns="http://maven.apache.org/POM/4.0.0"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">

<modelVersion>4.0.0</modelVersion>

<parent>
 <groupId>io.confluent</groupId>
 <artifactId>kafka-schema-registry-parent</artifactId>
 <version>6.2.1</version>
</parent>

<licenses>
 <license>
 <name>Apache License 2.0</name>
 <url>http://www.apache.org/licenses/LICENSE-2.0.html</url>
 <distribution>repo</distribution>
 </license>
</licenses>

<artifactId>kafka-schema-serializer</artifactId>
<packaging>jar</packaging>
<name>kafka-schema-serializer</name>

<dependencies>
 <dependency>
 <groupId>org.apache.kafka</groupId>
 <artifactId>kafka_${kafka.scala.version}</artifactId>
 <scope>provided</scope>
 </dependency>
 <dependency>
 <groupId>io.confluent</groupId>
 <artifactId>kafka-schema-registry-client</artifactId>
 <version>${io.confluent.schema-registry.version}</version>
 </dependency>
 <dependency>
 <groupId>junit</groupId>
 <artifactId>junit</artifactId>
 <scope>test</scope>
 </dependency>
</dependencies>
</project>
```

Found in path(s):

\* /opt/cola/permits/1638896081\_1681459386.3648345/0/kafka-schema-serializer-6-2-1-jar/META-INF/maven/io.confluent/kafka-schema-serializer/pom.xml

# 1.184 micronaut-jackson-databind 3.8.7

## 1.184.1 Available under license :

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Found in path(s):

\* /opt/cola/permits/1638896308\_1681459430.734724/0/micronaut-jackson-databind-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-jackson-databind/pom.xml

# 1.185 micronaut-management 3.8.7

## 1.185.1 Available under license :

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Found in path(s):

\* /opt/cola/permits/1638896230\_1681819595.051338/0/micronaut-management-3-8-7-jar/META-INF/native-image/io.micronaut.management/micronaut-management/native-image.properties

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Found in path(s):

\* /opt/cola/permits/1638896230\_1681819595.051338/0/micronaut-management-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-management/pom.xml

# 1.186 micronaut-http-client-core 3.8.7

## 1.186.1 Available under license :

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- \* limitations under the License.
- \*/

Found in path(s):

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/AnnotatedClientArgumentRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/AbstractRoundRobinLoadBalancer.java

\*  
/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/interceptor/configuration/package-info.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/ReactiveClientResultTransformer.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/HttpClientResponseException.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/package-info.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/annotation/package-info.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/TypedClientArgumentRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/HttpClientErrorDecoder.java

\*  
/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/interceptor/HttpClientIntroductionAdvice.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/EmptyResponseException.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/BytePart.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/HttpClient.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/MultipartBody.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/DiscoveryClientRoundRobinLoadBalancer.java

\*  
/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/ContentLengthExceededException.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/InputStreamPart.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/Part.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/package-info.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/interceptor/configuration/DefaultClientVersioningConfiguration.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/LoadBalancerResolver.java

\*

/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/HttpClientBinderRegistry.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/ServiceHttpClientCondition.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/ServiceInstanceListLoadBalancerFactory.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/package-info.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/AnnotatedClientRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/DiscoveryClientLoadBalancerFactory.java

\*

/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/AbstractFilePart.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/StreamingHttpClientRegistry.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/DefaultHttpClientBinderRegistry.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/ClientArgumentRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/MultipartDataFactory.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/annotation/Client.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/ServiceHttpClientConfiguration.java

\*

/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/bind/ClientRequestUriContext.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/StreamingHttpClient.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/FixedLoadBalancer.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/BlockingHttpClient.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/filter/ClientFilterResolutionContext.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/NoHostException.java

\*

/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/ServiceHttpClientFactory.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/ProxyHttpClient.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/ServiceInstanceListRoundRobinLoadBalancer.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/sse/SseClient.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/HttpClientException.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/DefaultLoadBalancerResolver.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/filters/ClientServerRequestTracingPublisher.java  
\*  
/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/interceptor/configuration/ClientVersioningConfiguration.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/StringPart.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/HttpClientRegistry.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/exceptions/ReadTimeoutException.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/filter/DefaultHttpClientFilterResolver.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/multipart/FilePart.java  
\*  
/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/interceptor/configuration/NamedClientVersioningConfiguration.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/ProxyHttpClientRegistry.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/loadbalance/LoadBalancerConverters.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/HttpClientConfiguration.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/LoadBalancer.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/filters/package-info.java  
\*  
/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/DefaultHttpClientConfiguration.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/filters/ClientServerContextFilter.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-jar/io/micronaut/http/client/interceptor/package-info.java  
\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/sse/SseClientRegistry.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/multipart/package-info.java

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Found in path(s):

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/bind/ClientRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/StreamingHttpClientFactory.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/bind/binders/HeaderClientRequestBinder.java

\*

/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/StreamingHttpClientFactoryResolver.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/bind/binders/AttributeClientRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/bind/binders/QueryValueClientArgumentRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/bind/binders/VersionClientRequestBinder.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/sse/SseClientFactoryResolver.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/HttpClientFactory.java

\*

/opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/ProxyHttpClientFactoryResolver.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/sse/package-info.java

\* /opt/cola/permits/1638896198\_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-

jar/io/micronaut/http/client/ProxyHttpClientFactory.java

```
* /opt/cola/permits/1638896198_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-
jar/io/micronaut/http/client/HttpClientFactoryResolver.java
* /opt/cola/permits/1638896198_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-
jar/io/micronaut/http/client/sse/SseClientFactory.java
No license file was found, but licenses were detected in source scan.
```

```
/*
* Copyright 2017-2022 original authors
*
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* distributed under the License is distributed on an "AS IS" BASIS,
* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):

```
* /opt/cola/permits/1638896198_1681819737.5057142/0/micronaut-http-client-core-3-8-7-sources-
jar/io/micronaut/http/client/ProxyRequestOptions.java
```

## 1.187 micronaut-core-reactive 3.8.7

### 1.187.1 Available under license :

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

```
<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
```

Found in path(s):

```
* /opt/cola/permits/1638896097_1681459433.696153/0/micronaut-core-reactive-3-8-7-jar/META-
INF/maven/io.micronaut/micronaut-core-reactive/pom.xml
No license file was found, but licenses were detected in source scan.
```

```
Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at
distributed under the License is distributed on an "AS IS" BASIS,
```

Found in path(s):

```
* /opt/cola/permits/1638896097_1681459433.696153/0/micronaut-core-reactive-3-8-7-jar/META-INF/native-
image/io.micronaut/micronaut-core-reactive/native-image.properties
```

# 1.188 micronaut-router 3.8.7

## 1.188.1 Available under license :

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

```
/*
 * Copyright 2017-2020 original authors
 *
 * Licensed under the Apache License, Version 2.0 (the "License");
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 * You may obtain a copy of the License at
 *
 * https://www.apache.org/licenses/LICENSE-2.0
 *
 * Unless required by applicable law or agreed to in writing, software
 * distributed under the License is distributed on an "AS IS" BASIS,
 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
 * See the License for the specific language governing permissions and
 * limitations under the License.
 */
```

Found in path(s):

```
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/AnnotatedMethodRouteBuilder.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/RouteVersionFilter.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/ResourceRoute.java
*
/opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/resolution/RequestVersionResolver.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/AbstractRouteMatch.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/qualifier/package-info.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/RouteBuilder.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/AnnotatedFilterRouteBuilder.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/UriRoute.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedCookieValueRouteException.java
*
/opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/package-info.java
```



\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedRouteException.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/version/resolution/HeaderVersionResolver.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/RouteMatch.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/version/RoutesVersioningConfiguration.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/MethodBasedRouteMatch.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/version/resolution/package-info.java  
\*  
/opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/FilterRoute.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/DefaultUriRouteMatch.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/version/ConfigurationDefaultVersionProvider.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/RouteMatchUtils.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/DefaultRouteBuilder.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/UriRouteMatch.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/ErrorMessageMatch.java  
\*  
/opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/RouteInfo.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/filter/RouteMatchFilter.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/filter/FilteredRouter.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/naming/ConfigurableUriNamingStrategy.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/resource/StaticResourceConfiguration.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/BeanDefinitionFilterRoute.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/Route.java  
\*  
/opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/resource/StaticResourceResolver.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-jar/io/micronaut/web/router/DefaultRouter.java  
\* /opt/cola/permits/1638896206\_1681459432.1518633/0/micronaut-router-3-8-7-sources-

```

jar/io/micronaut/web/router/exceptions/package-info.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/StatusRoute.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/GroovyRouteBuilder.groovy
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedHeaderRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/StatusRouteMatch.java
*
/opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedBodyRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/DuplicateRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/resource/package-info.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/DefaultVersionProvider.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/resolution/HeaderVersionResolverConfiguration.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/resolution/ParameterVersionResolver.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/DefaultFilterRoute.java
*
/opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/package-info.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedRequestAttributeRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/naming/package-info.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/resolution/VersionResolver.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/UnresolvedArgument.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/VersionRouteMatchFilter.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/BasicObjectRouteMatch.java
*
/opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/resolution/ParameterVersionResolverConfiguration.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedPartRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedPathVariableRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/Router.java

```

```
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/naming/HyphenatedUriNamingStrategy.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/MethodBasedRoute.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/version/VersionAwareRouterListener.java
*
/opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/qualifier/ConsumesMediaTypeQualifier.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/NullArgument.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/RoutingException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/exceptions/UnsatisfiedQueryValueRouteException.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/Route.java
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/qualifier/ProducesMediaTypeQualifier.java
No license file was found, but licenses were detected in source scan.
```

```
/*
* Copyright 2017-2021 original authors
*
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* See the License for the specific language governing permissions and
* limitations under the License.
*/
```

Found in path(s):

```
* /opt/cola/permits/1638896206_1681459432.1518633/0/micronaut-router-3-8-7-sources-
jar/io/micronaut/web/router/resource/StaticResourceResolverFactory.java
```

## 1.189 micronaut-validation 3.8.7

### 1.189.1 Available under license :

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

```
Licensed under the Apache License, Version 2.0 (the "License");
```

```
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distributed under the License is distributed on an "AS IS" BASIS,
```

Found in path(s):

```
* /opt/cola/permits/1638896059_1681459417.20264/0/micronaut-validation-3-8-7-jar/META-INF/native-image/io.micronaut.validation/micronaut-validation/native-image.properties
```

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

```
<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
```

Found in path(s):

```
* /opt/cola/permits/1638896059_1681459417.20264/0/micronaut-validation-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-validation/pom.xml
```

## 1.190 micronaut-http-netty 3.8.7

### 1.190.1 Available under license :

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

```
<url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
```

Found in path(s):

```
* /opt/cola/permits/1638896176_1681459401.642087/0/micronaut-http-netty-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-http-netty/pom.xml
```

## 1.191 micronaut-http 3.8.7

### 1.191.1 Available under license :

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

```
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You may obtain a copy of the License at
distributed under the License is distributed on an "AS IS" BASIS,
```

Found in path(s):

```
* /opt/cola/permits/1638896238_1681459436.296813/0/micronaut-http-3-8-7-jar/META-INF/native-image/io.micronaut.http/micronaut-http/native-image.properties
```

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

```
This file maps Internet media types to unique file extension(s).
Although created for httpd, this file is used by many software systems
and has been placed in the public domain for unlimited redistribution.

The table below contains both registered and (common) unregistered types.
```

```

A type that has no unique extension can be ignored -- they are listed
here to guide configurations toward known types and to make it easier to
identify "new" types. File extensions are also commonly used to indicate
content languages and encodings, so choose them carefully.
#
Internet media types should be registered as described in RFC 4288.
The registry is at <https://www.iana.org/assignments/media-types/>.
#
https://svn.apache.org/viewvc/httpd/httpd/trunk/docs/conf/mime.types?revision=1810121&view=co
#
MIME type (lowercased) Extensions
=====
application/1d-interleaved-parityfec
#
application/3gpdash-qoe-report+xml
application/3gpp-ims+xml
application/a2l
application/activemessage
application/alto-costmap+json
application/alto-costmapfilter+json
application/alto-directory+json
application/alto-endpointcost+json
application/alto-endpointcostparams+json
application/alto-endpointprop+json
application/alto-endpointpropparams+json
application/alto-error+json
application/alto-networkmap+json
application/alto-networkmapfilter+json
application/aml
application/andrew-inset ez
application/applefile
application/applixware aw
application/atf
application/atfx
application/atom+xml atom
application/atomcat+xml atomcat
application/atomdeleted+xml
application/atomicmail
application/atomsvc+xml atomsvc
application/atxml
application/auth-policy+xml
application/bacnet-xdd+zip
application/batch-smtp
application/beep+xml
application/calendar+json
application/calendar+xml
application/call-completion
#

```

application/cals-1840  
# application/cbor  
# application/ccmp+xml  
application/ccxml+xml ccxml  
# application/cdfx+xml  
application/cdmi-capability cdmia  
application/cdmi-container cdmic  
application/cdmi-domain cdmid  
application/cdmi-object cdmio  
application/cdmi-queue cdmiq  
# application/cdni  
# application/cea  
# application/cea-2018+xml  
# application/cellml+xml  
# application/cfw  
# application/cms  
# application/cnrx+xml  
# application/coap-group+json  
# application/commonground  
# application/conference-info+xml  
# application/cpl+xml  
# application/csrattrs  
# application/csta+xml  
# application/cstadata+xml  
# application/csvm+json  
application/cu-seeme cu  
# application/cybercash  
# application/dash+xml  
# application/dashdelta  
application/davmount+xml davmount  
# application/dca-rft  
# application/dcd  
# application/dec-dx  
# application/dialog-info+xml  
# application/dicom  
# application/dii  
# application/dit  
# application/dns  
application/docbook+xml dbk  
# application/dskpp+xml  
application/dssc+der dssc  
application/dssc+xml xdssc  
#  
application/dvcs  
application/ecmascript ecma  
# application/edi-consent  
# application/edi-x12  
# application/edifact

# application/efi  
# application/emergencycalldata.comment+xml  
# application/emergencycalldata.deviceinfo+xml  
# application/emergencycalldata.providerinfo+xml  
# application/emergencycalldata.serviceinfo+xml  
# application/emergencycalldata.subscriberinfo+xml  
application/emma+xml emma  
# application/emotionml+xml  
# application/encaprtp  
# application/epp+xml  
application/epub+zip epub  
# application/eshop  
# application/example  
application/exi exi  
# application/fastinfoset  
# application/fastsoap  
# application/fdt+xml  
# application/fits  
application/font-tdpfr pfr  
# application/framework-attributes+xml  
# application/geo+json  
application/gml+xml gml  
application/gpx+xml gpx  
application/gxf gxf  
# application/gzip  
# application/h224  
# application/held+xml  
# application/http  
application/hyperstudio stk  
#  
application/ibe-key-request+xml  
# application/ibe-pkg-reply+xml  
# application/ibe-pp-data  
# application/iges  
# application/im-iscomposing+xml  
# application/index  
# application/index.cmd  
# application/index.obj  
# application/index.response  
# application/index.vnd  
application/inkml+xml ink inkml  
# application/iotp  
application/ipfix ipfix  
# application/ipp  
# application/isup  
# application/its+xml  
application/java-archive jar  
application/java-serialized-object ser

application/java-vm class  
application/javascript js  
application/javascript mjs  
# application/jose  
# application/jose+json  
# application/jrd+json  
application/json json  
# application/json-patch+json  
# application/json-seq  
application/jsonml+json jsonml  
# application/jwk+json  
# application/jwk-set+json  
# application/jwt  
# application/kpml-request+xml  
# application/kpml-response+xml  
# application/ld+json  
# application/lgr+xml  
# application/link-format  
# application/load-control+xml  
application/lost+xml lostxml  
#  
application/lostsync+xml  
# application/lxf  
application/mac-binhex40 hqx  
application/mac-compactpro cpt  
# application/macwriteii  
application/mads+xml mads  
application/marc mrc  
application/marcxml+xml mrcx  
application/mathematica ma nb mb  
application/mathml+xml mathml  
# application/mathml-content+xml  
# application/mathml-presentation+xml  
# application/mbms-associated-procedure-description+xml  
# application/mbms-deregister+xml  
# application/mbms-envelope+xml  
# application/mbms-msk+xml  
# application/mbms-msk-response+xml  
# application/mbms-protection-description+xml  
# application/mbms-reception-report+xml  
# application/mbms-register+xml  
# application/mbms-register-response+xml  
# application/mbms-schedule+xml  
# application/mbms-user-service-description+xml  
application/mbox mbox  
# application/media-policy-dataset+xml  
# application/media\_control+xml  
application/mediaservercontrol+xml mscml



```
application/merge-patch+json
application/metalink+xml metalink
application/metalink4+xml meta4
application/mets+xml mets
#
application/mf4
application/mikey
application/mods+xml mods
application/moss-keys
application/moss-signature
application/mosskey-data
application/mosskey-request
application/mp21 m21 mp21
application/mp4 mp4s
application/mpeg4-generic
application/mpeg4-iod
application/mpeg4-iod-xmt
application/mrb-consumer+xml
application/mrb-publish+xml
application/msc-ivr+xml
application/msc-mixer+xml
application/msword doc dot
application/mxf mxf
application/nasdata
application/news-checkgroups
application/news-groupinfo
application/news-transmission
application/nlsm1+xml
application/nss
application/ocsp-request
application/ocsp-response
application/octet-stream bin dms lrf mar so dist distz pkg bpk dump elc deploy
application/oda oda
application/odx
application/oebps-package+xml opf
application/ogg ogx
application/omdoc+xml omdoc
application/onenote onetoc
onetoc2 onetmp onepkg
application/oxps oxps
application/p2p-overlay+xml
application/parityfec
application/patch-ops-error+xml xer
application/pdf pdf
application/pdx
application/pgp-encrypted pgp
application/pgp-keys
application/pgp-signature asc sig
```

application/pics-rules prf  
# application/pidf+xml  
# application/pidf-diff+xml  
application/pkcs10 p10  
# application/pkcs12  
application/pkcs7-mime p7m p7c  
application/pkcs7-signature p7s  
application/pkcs8 p8  
application/pkix-attr-cert ac  
application/pkix-cert cer  
application/pkix-crl crl  
application/pkix-pkipath pkipath  
application/pkixcmp pki  
application/pls+xml pls  
# application/poc-settings+xml  
application/postscript ai eps ps  
# application/ppsp-tracker+json  
# application/problem+json  
# application/problem+xml  
# application/provenance+xml  
# application/prs.alvestrand.titrax-sheet  
application/prs.cww cww  
# application/prs.hpub+zip  
# application/prs.nprend  
# application/prs.plucker  
#  
application/prs.rdf+xml crypt  
# application/prs.xsf+xml  
application/pskc+xml pskcxml  
# application/qsig  
# application/raptorfec  
# application/rdap+json  
application/rdf+xml rdf  
application/reginfo+xml rif  
application/relax-ng-compact-syntax rnc  
# application/remote-printing  
# application/reputon+json  
application/resource-lists+xml rl  
application/resource-lists-diff+xml rld  
# application/rfc+xml  
# application/riscos  
# application/rlmi+xml  
application/rls-services+xml rs  
application/rpki-ghostbusters gbr  
application/rpki-manifest mft  
application/rpki-roa roa  
# application/rpki-updown  
application/rsd+xml rsd

application/rss+xml rss  
application/rtf rtf  
# application/rtploopback  
# application/rtx  
# application/samlassertion+xml  
# application/samlmetadata+xml  
application/sbml+xml sbml  
# application/scaip+xml  
# application/scim+json  
application/scvp-cv-request scq  
application/scvp-cv-response scs  
application/scvp-vp-request spq  
application/scvp-vp-response spp  
application/sdp sdp  
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application/sep+xml  
# application/sep-exi  
# application/session-info  
# application/set-payment  
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# application/set-registration  
application/set-registration-initiation setreg  
# application/sgml  
# application/sgml-open-catalog  
application/shf+xml shf  
# application/sieve  
# application/simple-filter+xml  
# application/simple-message-summary  
# application/simplesymbolcontainer  
# application/slate  
# application/smil  
application/smil+xml smi smil  
# application/smpite336m  
# application/soap+fastinfoset  
# application/soap+xml  
application/sparql-query rq  
application/sparql-results+xml srx  
# application/spirits-event+xml  
# application/sql  
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application/srgs+xml grxml  
application/sru+xml sru  
application/ssdl+xml ssdl  
application/ssml+xml ssml  
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# application/tamp-community-update  
# application/tamp-community-update-confirm

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# application/tamp-sequence-adjust-confirm  
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# application/tamp-status-response  
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# application/tamp-update-confirm  
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# application/timestamp-reply  
application/timestamped-data tsd  
# application/ttml+xml  
# application/tve-trigger  
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# application/urc-targetdesc+xml  
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application/vnd.anser-web-funds-transfer-initiation fti  
application/vnd.antix.game-component atx  
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# application/vnd.autopackage  
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# application/vnd.biopax.rdf+xml  
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# application/vnd.bluetooth.le.oob  
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application/vnd.businessobjects rep  
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# application/vnd.canon-cpdl

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application/vnd.curl.pcurl pcurl
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application/vnd.dart dart
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application/vnd.dece.ttml+xml uvt uvvt
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application/vnd.dece.unspecified uvx  
uvvx  
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# application/vnd.dir-bi.plate-dl-nosuffix  
# application/vnd.dm.delegation+xml  
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# application/vnd.document+json  
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# application/vnd.dolby.mobile.2  
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application/vnd.dreamfactory dfac  
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# application/vnd.dvb.ipdcesgaccess2  
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# application/vnd.dvb.iptv.alfec-enhancement  
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# application/vnd.dvb.notif-ia-registration-response+xml  
# application/vnd.dvb.notif-init+xml  
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# application/vnd.dzr  
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# application/vnd.ecdis-update  
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# application/vnd.ecowin.filerequest  
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application/vnd.etsi.overload-control-policy-dataset+xml
application/vnd.etsi.pstn+xml
application/vnd.etsi.sci+xml
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application/vnd.eudora.data
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application/vnd.ezpix-package ez3
#
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application/vnd.fdsn.mseed mseed
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application/vnd.ffmpeg
application/vnd.filmit.zfc
```



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application/vnd.fints
application/vnd.firemonkeys.cloudcell
application/vnd.flographit gph
application/vnd.fluxtime.clip ftc
application/vnd.font-fontforge-sfd
application/vnd.frameMaker fm frame maker book
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application/vnd.fujitsu.oasys2 oa2
application/vnd.fujitsu.oasys3 oa3
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application/vnd.groove-injector grv
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application/vnd.groove-tool-message gtm  
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application/vnd.intergeo i2g  
# application/vnd.intertrust.digibox  
# application/vnd.intertrust.nncp  
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# application/vnd.japannet-payment-wakeup  
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application/vnd.micrografx.igx igx
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application/vnd.motorola.flexsuite.kmr
```

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application/vnd.ms-wmdrm.lic-chlg-req
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```

application/vnd.ms-works wps wks wcm wdb  
application/vnd.ms-wpl wpl  
application/vnd.ms-xpsdocument xps  
# application/vnd.msa-disk-image  
application/vnd.mseq mseq  
# application/vnd.msign  
# application/vnd.multiad.creator  
# application/vnd.multiad.creator.cif  
# application/vnd.music-niff  
application/vnd.musician mus  
application/vnd.muvee.style msty  
application/vnd.mynfc taglet  
# application/vnd.ncd.control  
# application/vnd.ncd.reference  
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application/x-x509-ca-cert der crt  
application/x-xfig fig  
application/x-xliff+xml xlf  
application/x-xpinstall xpi  
application/x-xz xz  
application/x-zmachine z1 z2 z3 z4 z5 z6 z7 z8  
# application/x400-bp  
# application/xacml+xml  
application/xaml+xml xaml  
# application/xcap-att+xml  
# application/xcap-caps+xml  
application/xcap-diff+xml xdf  
# application/xcap-el+xml  
# application/xcap-error+xml  
# application/xcap-ns+xml  
# application/xcon-conference-info+xml

```
application/xcon-conference-info-diff+xml
application/xenc+xml xenc
application/xhtml+xml xhtml xht
application/xhtml-voice+xml
application/xml xml xsl
application/xml-dtd dtd
#
 application/xml-external-parsed-entity
application/xml-patch+xml
application/xmpp+xml
application/xop+xml xop
application/xproc+xml xpl
application/xslt+xml xslt
application/xspf+xml xspf
application/xv+xml mxml xhvm xvml xvm
application/yang yang
application/yin+xml yin
application/zip zip
application/zlib
audio/1d-interleaved-parityfec
audio/32kadpcm
audio/3gpp
audio/3gpp2
audio/ac3
audio/adpcm adp
audio/amr
audio/amr-wb
audio/amr-wb+
audio/aptx
audio/asc
audio/atrac-advanced-lossless
audio/atrac-x
audio/atrac3
audio/basic au snd
audio/bv16
audio/bv32
audio/clearmode
audio/cn
audio/dat12
audio/dls
audio/dsr-es201108
audio/dsr-es202050
audio/dsr-es202211
audio/dsr-es202212
audio/dv
audio/dvi4
audio/eac3
audio/encaprtmp
```

# audio/evrc  
# audio/evrc-qcp  
# audio/evrc0  
# audio/evrc1  
# audio/evrcb  
# audio/evrcb0  
# audio/evrcb1  
# audio/evrcnw  
# audio/evrcnw0  
# audio/evrcnw1  
# audio/evrcwb  
# audio/evrcwb0  
#  
  audio/evrcwb1  
# audio/evs  
# audio/example  
# audio/fwdred  
# audio/g711-0  
# audio/g719  
# audio/g722  
# audio/g7221  
# audio/g723  
# audio/g726-16  
# audio/g726-24  
# audio/g726-32  
# audio/g726-40  
# audio/g728  
# audio/g729  
# audio/g7291  
# audio/g729d  
# audio/g729e  
# audio/gsm  
# audio/gsm-efr  
# audio/gsm-hr-08  
# audio/ilbc  
# audio/ip-mr\_v2.5  
# audio/isac  
# audio/l16  
# audio/l20  
# audio/l24  
# audio/l8  
# audio/lpc  
audio/midi  mid midi kar rmi  
# audio/mobile-xmf  
audio/mp4  m4a mp4a  
# audio/mp4a-latm  
# audio/mpa  
# audio/mpa-robust

audio/mpeg mpga mp2 mp2a mp3 m2a m3a  
# audio/mpeg4-generic  
# audio/musepack  
audio/ogg oga ogg spx  
# audio/opus  
# audio/parityfec  
# audio/pcma  
# audio/pcma-wb  
# audio/pcmu  
# audio/pcmu-wb  
# audio/prs.sid  
# audio/qcelp  
# audio/raptorfec  
# audio/red  
# audio/rtp-enc-aescm128  
# audio/rtp-midi  
# audio/rtploopback  
# audio/rtx  
audio/s3m s3m  
audio/silk sil  
# audio/smv  
# audio/smv-qcp  
# audio/smv0  
# audio/sp-midi  
# audio/speex  
# audio/t140c  
# audio/t38  
#  
audio/telephone-event  
# audio/tone  
# audio/uemclip  
# audio/ulpfec  
# audio/vdvi  
# audio/vmr-wb  
# audio/vnd.3gpp.iufp  
# audio/vnd.4sb  
# audio/vnd.audiokoz  
# audio/vnd.celp  
# audio/vnd.cisco.nse  
# audio/vnd.cmles.radio-events  
# audio/vnd.cns.anp1  
# audio/vnd.cns.infl  
audio/vnd.dece.audio uva uvva  
audio/vnd.digital-winds eol  
# audio/vnd.dlna.adts  
# audio/vnd.dolby.heaac.1  
# audio/vnd.dolby.heaac.2  
# audio/vnd.dolby.mlp

# audio/vnd.dolby.mps  
# audio/vnd.dolby.pl2  
# audio/vnd.dolby.pl2x  
# audio/vnd.dolby.pl2z  
# audio/vnd.dolby.pulse.1  
audio/vnd.dra dra  
audio/vnd.dts dts  
audio/vnd.dts.hd dtshd  
# audio/vnd.dvb.file  
# audio/vnd.everad.plj  
# audio/vnd.hns.audio  
audio/vnd.lucent.voice lvp  
audio/vnd.ms-playready.media.pya pya  
# audio/vnd.nokia.mobile-xmf  
# audio/vnd.nortel.vbk  
audio/vnd.nuera.ecelp4800 ecelp4800  
audio/vnd.nuera.ecelp7470 ecelp7470  
audio/vnd.nuera.ecelp9600 ecelp9600  
# audio/vnd.octel.sbc  
# audio/vnd.qcelp  
# audio/vnd.rhetorex.32kadpcm  
audio/vnd.rip rip  
#  
audio/vnd.sealedmedia.softseal.mpeg  
# audio/vnd.vmx.cvsd  
# audio/vorbis  
# audio/vorbis-config  
audio/webm weba  
audio/x-aac aac  
audio/x-aiff aif aiff aifc  
audio/x-caf caf  
audio/x-flac flac  
audio/x-matroska mka  
audio/x-mpegurl m3u  
audio/x-ms-wax wax  
audio/x-ms-wma wma  
audio/x-pn-realaudio ram ra  
audio/x-pn-realaudio-plugin rmp  
# audio/x-tta  
audio/x-wav wav  
audio/xm xm  
chemical/x-cdx cdx  
chemical/x-cif cif  
chemical/x-cmdf cmdf  
chemical/x-cml cml  
chemical/x-csml csml  
# chemical/x-pdb  
chemical/x-xyz xyz

font/collection ttc  
font/otf otf  
# font/sfnt  
font/ttf ttf  
font/woff woff  
font/woff2 woff2  
image/bmp bmp  
image/cgm cgm  
# image/dicom-rle  
# image/emf  
# image/example  
# image/fits  
image/g3fax g3  
image/gif gif  
image/ief ief  
# image/jls  
# image/jp2  
image/jpeg jpeg jpg jpe  
# image/jpm  
# image/jpx  
image/ktx ktx  
# image/naplps  
image/png png  
image/prs.btif btif  
# image/prs.pti  
#  
image/pwg-raster  
image/sgi sgi  
image/svg+xml svg svgz  
# image/t38  
image/tiff tiff tif  
# image/tiff-fx  
image/vnd.adobe.photoshop psd  
# image/vnd.airzip.accelerator.azv  
# image/vnd.cns.inf2  
image/vnd.dece.graphic uvi uvvi uvg uvvg  
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image/vnd.dvb.subtitle sub  
image/vnd.dwg dwg  
image/vnd.dxf dxf  
image/vnd.fastbidsheet fbs  
image/vnd.fpx fpx  
image/vnd.fst fst  
image/vnd.fujixerox.edmics-mmr mmr  
image/vnd.fujixerox.edmics-rlc rlc  
# image/vnd.globalgraphics.pgb  
# image/vnd.microsoft.icon  
# image/vnd.mix

# image/vnd.mozilla.apng  
image/vnd.ms-modi mdi  
image/vnd.ms-photo wdp  
image/vnd.net-fpx npx  
# image/vnd.radiance  
# image/vnd.sealed.png  
# image/vnd.sealedmedia.softseal.gif  
# image/vnd.sealedmedia.softseal.jpg  
# image/vnd.svf  
# image/vnd.tencent.tap  
# image/vnd.valve.source.texture  
image/vnd.wap.wbmp wbmp  
image/vnd.xiff xif  
# image/vnd.zbrush.pcx  
image/webp webp  
# image/wmf  
image/x-3ds 3ds  
image/x-cmu-raster ras  
image/x-cmx cmx  
image/x-freehand fh  
fhc fh4 fh5 fh7  
image/x-icon ico  
image/x-mrsid-image sid  
image/x-pcx pcx  
image/x-pict pic pct  
image/x-portable-anymap pnm  
image/x-portable-bitmap pbm  
image/x-portable-graymap pgm  
image/x-portable-pixmap ppm  
image/x-rgb rgb  
image/x-tga tga  
image/x-xbitmap xbm  
image/x-xpixmap xpm  
image/x-xwindowdump xwd  
# message/cpim  
# message/delivery-status  
# message/disposition-notification  
# message/example  
# message/external-body  
# message/feedback-report  
# message/global  
# message/global-delivery-status  
# message/global-disposition-notification  
# message/global-headers  
# message/http  
# message/imdn+xml  
# message/news  
# message/partial

message/rfc822 eml mime  
# message/s-http  
# message/sip  
# message/sipfrag  
# message/tracking-status  
# message/vnd.si.simp  
# message/vnd.wfa.wsc  
# model/example  
# model/gltf+json  
model/iges igs iges  
model/mesh msh mesh silo  
model/vnd.collada+xml dae  
model/vnd.dwf dwf  
#  
model/vnd.flatland.3dml  
model/vnd.gdl gdl  
# model/vnd.gs-gdl  
# model/vnd.gs.gdl  
model/vnd.gtw gtw  
# model/vnd.moml+xml  
model/vnd.mts mts  
# model/vnd.opengex  
# model/vnd.parasolid.transmit.binary  
# model/vnd.parasolid.transmit.text  
# model/vnd.rosette.annotated-data-model  
# model/vnd.valve.source.compiled-map  
model/vnd.vtu vtu  
model/vrml wrl vrml  
model/x3d+binary x3db x3dbz  
# model/x3d+fastinfoset  
model/x3d+vrml x3dv x3dvz  
model/x3d+xml x3d x3dz  
# model/x3d-vrml  
# multipart/alternative  
# multipart/appledouble  
# multipart/byteranges  
# multipart/digest  
# multipart/encrypted  
# multipart/example  
# multipart/form-data  
# multipart/header-set  
# multipart/mixed  
# multipart/parallel  
# multipart/related  
# multipart/report  
# multipart/signed  
# multipart/voice-message  
# multipart/x-mixed-replace



# text/1d-interleaved-parityfec  
text/cache-manifest appcache  
text/calendar ics ifb  
text/css css  
text/csv csv  
# text/csv-schema  
#  
text/directory  
# text/dns  
# text/ecmascript  
# text/encaprtpt  
# text/enriched  
# text/example  
# text/fwdred  
# text/grammar-ref-list  
text/html html htm  
# text/javascript  
# text/jcr-cnd  
# text/markdown  
# text/mizar  
text/n3 n3  
# text/parameters  
# text/parityfec  
text/plain txt text conf def list log in  
# text/provenance-notation  
# text/prs.fallenstein.rst  
text/prs.lines.tag dsc  
# text/prs.prop.logic  
# text/raptorfec  
# text/red  
# text/rfc822-headers  
text/richtext rtx  
# text/rtf  
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# text/rtploopback  
# text/rtx  
text/sgml sgml sgm  
# text/t140  
text/tab-separated-values tsv  
text/troff t tr roff man me ms  
text/turtle ttl  
# text/ulpfec  
text/uri-list uri uris urls  
text/vcard vcard  
# text/vnd.a  
# text/vnd.abc  
text/vnd.curl curl  
text/vnd.curl.dcurl dcurl

text/vnd.curl.mcurl mcurl  
text/vnd.curl.scurl scurl  
# text/vnd.debian.copyright  
# text/vnd.dmclientscript  
text/vnd.dvb.subtitle sub  
# text/vnd.esmertec.theme-descriptor  
text/vnd.fly fly  
text/vnd.fmi.flexstor flx  
text/vnd.graphviz gv  
text/vnd.in3d.3dml 3dml  
text/vnd.in3d.spot spot  
#  
text/vnd.iptc.newsml  
# text/vnd.iptc.nitf  
# text/vnd.latex-z  
# text/vnd.motorola.reflex  
# text/vnd.ms-mediapackage  
# text/vnd.net2phone.commcenter.command  
# text/vnd.radisys.msml-basic-layout  
# text/vnd.si.uricatalogue  
text/vnd.sun.j2me.app-descriptor jad  
# text/vnd.trolltech.linguist  
# text/vnd.wap.si  
# text/vnd.wap.sl  
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text/vnd.wap.wmlscript wmls  
text/x-asm s asm  
text/x-c c cc cxx cpp h hh dic  
text/x-fortran f for f77 f90  
text/x-java-source java  
text/x-nfo nfo  
text/x-opml opml  
text/x-pascal p pas  
text/x-setext etx  
text/x-sfv sfv  
text/x-uuencode uu  
text/x-vcalendar vcs  
text/x-vcard vcf  
# text/xml  
# text/xml-external-parsed-entity  
# video/1d-interleaved-parityfec  
video/3gpp 3gp  
# video/3gpp-tt  
video/3gpp2 3g2  
# video/bmpeg  
# video/bt656  
# video/celb  
# video/dv

```
video/encaprtsp
video/example
video/h261 h261
video/h263 h263
#
video/h263-1998
video/h263-2000
video/h264 h264
video/h264-rcdo
video/h264-svc
video/h265
video/iso.segment
video/jpeg jpgv
video/jpeg2000
video/jpm jpm jpgm
video/mj2 mj2 mjp2
video/mp1s
video/mp2p
video/mp2t
video/mp4 mp4 mp4v mpg4
video/mp4v-es
video/mpeg mpeg mpg mpe m1v m2v
video/mpeg4-generic
video/mpv
video/nv
video/ogg ogv
video/parityfec
video/pointer
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```

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# video/vnd.hns.video  
# video/vnd.iptvforum.1dparityfec-1010  
#  
video/vnd.iptvforum.1dparityfec-2005  
# video/vnd.iptvforum.2dparityfec-1010  
# video/vnd.iptvforum.2dparityfec-2005  
# video/vnd.iptvforum.ttsavc  
# video/vnd.iptvforum.ttsmpeg2  
# video/vnd.motorola.video  
# video/vnd.motorola.videop  
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video/vnd.ms-playready.media.pyv pyv  
# video/vnd.nokia.interleaved-multimedia  
# video/vnd.nokia.videovoip  
# video/vnd.objectvideo  
# video/vnd.radgamettools.bink  
# video/vnd.radgamettools.smacker  
# video/vnd.sealed.mpeg1  
# video/vnd.sealed.mpeg4  
# video/vnd.sealed.swf  
# video/vnd.sealedmedia.softseal.mov  
video/vnd.uvu.mp4 uvu uvvu  
video/vnd.vivo viv  
# video/vp8  
video/webm webm  
video/x-f4v f4v  
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video/x-mng mng  
video/x-ms-asf asf asx  
video/x-ms-vob vob  
video/x-ms-wm wm  
video/x-ms-wmv wmv  
video/x-ms-wmx wmx  
video/x-ms-wvx wvx  
video/x-msvideo avi  
video/x-sgi-movie movie  
video/x-smv smv  
x-conference/x-cooltalk ice

#### Found

in path(s):

\* /opt/cola/permits/1638896238\_1681459436.296813/0/micronaut-http-3-8-7-jar/META-INF/http/mime.types

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<url><http://www.apache.org/licenses/LICENSE-2.0.txt></url>

Found in path(s):

\* /opt/cola/permits/1638896238\_1681459436.296813/0/micronaut-http-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-http/pom.xml

## 1.192 micronaut-context 3.8.7

### 1.192.1 Available under license :

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Found in path(s):

\* /opt/cola/permits/1638896073\_1681819737.5329874/0/micronaut-context-3-8-7-jar/META-INF/maven/io.micronaut/micronaut-context/pom.xml

## 1.193 kafka-avro-serializer 6.2.1

### 1.193.1 Available under license :

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```
<project xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns="http://maven.apache.org/POM/4.0.0"
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
```

```
<modelVersion>4.0.0</modelVersion>
```

```
<parent>
 <groupId>io.confluent</groupId>
 <artifactId>kafka-schema-registry-parent</artifactId>
 <version>6.2.1</version>
</parent>
```

```
<licenses>
 <license>
 <name>Apache License 2.0</name>
 <url>http://www.apache.org/licenses/LICENSE-2.0.html</url>
 <distribution>repo</distribution>
 </license>
</licenses>
```

```
<artifactId>kafka-avro-serializer</artifactId>
<packaging>jar</packaging>
<name>kafka-avro-serializer</name>
```

```
<dependencies>
 <dependency>
 <groupId>org.apache.kafka</groupId>
 <artifactId>kafka_${kafka.scala.version}</artifactId>
 <scope>provided</scope>
 </dependency>
 <dependency>
 <groupId>org.apache.avro</groupId>
 <artifactId>avro</artifactId>
 </dependency>
 <dependency>
 <groupId>org.apache.commons</groupId>
 <artifactId>commons-compress</artifactId>
 </dependency>
 <dependency>
 <groupId>io.confluent</groupId>
 <artifactId>kafka-schema-serializer</artifactId>
 <version>${io.confluent.schema-registry.version}</version>
 </dependency>
 <dependency>
 <groupId>io.confluent</groupId>
 <artifactId>kafka-schema-registry-client</artifactId>
 <version>${io.confluent.schema-registry.version}</version>
 </dependency>

 <dependency>
 <groupId>com.google.guava</groupId>
 <artifactId>guava</artifactId>
 <scope>test</scope>
 </dependency>
 <dependency>
 <groupId>junit</groupId>
 <artifactId>junit</artifactId>
 <scope>test</scope>
 </dependency>
 <dependency>
 <groupId>org.slf4j</groupId>
 <artifactId>slf4j-log4j12</artifactId>
 <scope>test</scope>
 </dependency>
 <dependency>
 <groupId>io.confluent</groupId>
 <artifactId>confluent-log4j</artifactId>
 <scope>test</scope>
 </dependency>
</dependencies>

<build>
```

```

<plugins>
 <plugin>
 <groupId>org.apache.avro</groupId>
 <artifactId>avro-maven-plugin</artifactId>
 <executions>
 <execution>
 <phase>generate-sources</phase>
 <goals>
 <goal>schema</goal>
 </goals>
 <configuration>
 <testSourceDirectory>${project.basedir}/src/test/avro</testSourceDirectory>
 </configuration>
 </execution>
 </executions>
 </plugin>
</plugins>
</build>
</project>

```

Found in path(s):

\* /opt/cola/permits/1638896301\_1681459399.8776171/0/kafka-avro-serializer-6-2-1-jar/META-INF/maven/io.confluent/kafka-avro-serializer/pom.xml

# 1.194 micronaut-core 3.8.7

## 1.194.1 Available under license :

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Version 2.0, January 2004

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Last revised by Reagle \$Date: 2005-06-03 18:49:13 -0400 (Fri, 03 Jun 2005) \$

## 1.199 servlet-api 3.0.1

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jar/io/perfmark/PerfMark.java

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\*

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 */
/**
 * Constructor to establish non-empty getRolesAllowed and/or <tt>TransportGuarantee.CONFIDENTIAL</tt>.
 *
 * @param guarantee <tt>TransportGuarantee.NONE</tt> or <tt>TransportGuarantee.CONFIDENTIAL</tt>
 * @param roleNames the names of the roles that are to be allowed access
 */
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*/opt/cola/permits/1681312840_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-
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/opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/ServletSecurityElement.java

\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/annotation/HttpMethodConstraint.java

\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/annotation/ServletSecurity.java

\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/descriptor/JspPropertyGroupDescriptor.java

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\*  
/opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/MultipartConfigElement.java  
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\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/HttpMethodConstraintElement.java  
\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/annotation/WebInitParam.java  
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\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/annotation/WebListener.java

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jar/javax/servlet/http/HttpFilter.java

\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-  
jar/javax/servlet/GenericFilter.java

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jar/javax/servlet/AsyncEvent.java

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* /opt/cola/permits/1681312840_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-
jar/javax/servlet/http/MappingMatch.java
* /opt/cola/permits/1681312840_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-
jar/javax/servlet/http/Part.java
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\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/FilterChain.java  
\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/ServletException.java  
\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/ServletContextAttributeListener.java  
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Found in path(s):

\* /opt/cola/permits/1681312840\_1684484792.055749/0/jakarta-servlet-api-4-0-4-sources-jar/javax/servlet/http/HttpServletMapping.java

## 1.205 musl-obstack 1.2.3-r2

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\* SUCH DAMAGE.  
\*  
\* @(#)queue.h 8.5 (Berkeley) 8/20/94  
\*/

Found in path(s):

\* /opt/cola/permits/1686513755\_1685082238.691036/0/aports-master-main-libc-dev-  
zip/aports-master-main-libc-dev/main/libc-dev/sys-queue.h

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zip/aports-master-main-libc-dev/main/libc-dev/sys-tree.h

# 1.207 aop-alliance 2.6.1

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```
{\rtf1\ansi\ansicpg1252\cocoartf1671\cocoasubrtf600
{\fonttbl{\f0\froman\charset0 Times-Roman;\f1\fmmodern\charset0 Courier;}
{\colortbl;\red255\green255\blue255;\red0\green0\blue0;}
{*\expandedcolortbl;;\cssrgb\c0\c0\c0;}
\paperw11900\paperh16840\margl1440\margr1440\vieww10800\viewh8400\viewkind0
\defstab720
\pard\pardefstab720\sl280\partightenfactor0

\f0\fs24 \cf2 \expnd0\expndtw0\kerning0
\outl0\strokewidth0 \strokec2 This XML file does not appear to have any style information associated with it. The
document tree is shown below.\
\pard\pardefstab720\sl300\partightenfactor0

\f1\fs26 \cf2 <!--\
\
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\
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SPDX-License-Identifier: EPL-2.0 OR GPL-2.0 WITH Classpath-exception-2.0\
\
-->\
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-
v4_0_0.xsd">\
<modelVersion>4.0.0</modelVersion>\
<parent>\
<groupId>org.glassfish.hk2</groupId>\
<artifactId>external</artifactId>\
<version>2.6.1</version>\
</parent>\
<groupId>org.glassfish.hk2.external</groupId>\
```

```

<artifactId>aopalliance-repackaged</artifactId>\
<name>\
aopalliance version ${aopalliance.version} repackaged as a module\
</name>\
<build>\
<plugins>\
<plugin>\
<groupId>org.apache.maven.plugins</groupId>\
<artifactId>maven-dependency-plugin</artifactId>\
<executions>\
<execution>\
<id>step1-unpack-sources</id>\
<phase>process-sources</phase>\
<goals>\
<goal>unpack</goal>\
</goals>\
<configuration>\
<artifactItems>\
<artifactItem>\
<groupId>aopalliance</groupId>\
<artifactId>aopalliance</artifactId>\
<version>${aopalliance.version}</version>\
<classifier>sources</classifier>\
<overwrite>>false</overwrite>\
<outputDirectory>${project.build.directory}/alternateLocation</outputDirectory>\
</artifactItem>\
</artifactItems>\
</configuration>\
</execution>\
</executions>\
</plugin>\
<plugin>\
<groupId>org.codehaus.mojo</groupId>\
<artifactId>build-helper-maven-plugin</artifactId>\
<executions>\
<execution>\
<id>step2-add-sources</id>\
<phase>process-sources</phase>\
<goals>\
<goal>add-source</goal>\
</goals>\
<configuration>\
<sources>\
<source>${project.build.directory}/alternateLocation</source>\
</sources>\
</configuration>\
</execution>\
</executions>\

```



```

</plugin>
<plugin>
<groupId>org.apache.felix</groupId>
<artifactId>maven-bundle-plugin</artifactId>
<configuration>
<instructions>
<Embed-Dependency>'a0*;scope=compile;inline=true'a0</Embed-Dependency>
<!--\

```

We set a mandatory attribute for these packages, because we don't want them to be visible to just anyone. An importer must specify the mandatory attribute for it to be able to import. See section #3.6.5 of OSGi R4 spec.

Why is this required?  
See [https://glassfish.dev.java.net/issues/show\\_bug.cgi?id=5385](https://glassfish.dev.java.net/issues/show_bug.cgi?id=5385)  
By doing this, we allow user have any version of apache-commons lib in their application class loader hierarchy. They don't even have to set delegation=false in sun-web.xml! This is the true advantage of using OSGi.

Sahoo.\

```

\
-->
<Export-Package>org.aopalliance.*;version=${aopalliance.version}</Export-Package>
<Private-Package>!*</Private-Package>
</instructions>
</configuration>
<executions>
<execution>
<id>osgi-manifest</id>
<phase>process-classes</phase>
<goals>
<goal>manifest</goal>
</goals>
</execution>
</executions>
</plugin>
</plugins>
</build>
<dependencies>
<dependency>
<groupId>aopalliance</groupId>
<artifactId>aopalliance</artifactId>
<version>${aopalliance.version}</version>
<optional>>true</optional>
</dependency>
</dependencies>
</project>
}

```

Found in path(s):

\* /opt/cola/permits/1688041658\_1684928894.4895442/0/aopalliance-2-6-1-zip/aopalliance-2.6.1.rtf

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## 1.213 j2objc-annotations 2.8

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 */
```

Found in path(s):

```
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/OnDealloc.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/J2ObjCIncompatible.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/LoopTranslation.java
*
/opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/RetainedLocalRef.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/ReflectionSupport.java
```

```
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/Property.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/WeakOuter.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/RetainedWith.java
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
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```
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jar/com/google/j2objc/annotations/Weak.java
```

```
* /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-
jar/com/google/j2objc/annotations/AutoreleasePool.java
```

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## 1.215 slf4j-impl 2.17.1

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Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta ([tatu.saloranta@iki.fi](mailto:tatu.saloranta@iki.fi)), and has been in development since 2007. It is currently developed by a community of developers, as well as supported commercially by FasterXML.com.

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# 1.219 guava 32.0.1-jre

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- \*

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/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/InfoLogLevel.java
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jar/org/rocksdb/SizeApproximationFlag.java
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jar/org/rocksdb/AbstractTableFilter.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TableProperties.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/CompactionStopStyle.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/HashLinkedListMemTableConfig.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TransactionLogIterator.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/TableFilter.java
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jar/org/rocksdb/MutableOptionValue.java
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jar/org/rocksdb/SstFileMetaData.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/util/BytewiseComparator.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/StatsLevel.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/ColumnFamilyOptionsInterface.java
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jar/org/rocksdb/OptimisticTransactionDB.java
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* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/WriteBatchInterface.java
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jar/org/rocksdb/MutableDBOptions.java
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jar/org/rocksdb/Experimental.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Checkpoint.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/OptionsUtil.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/WALRecoveryMode.java
*
/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/HistogramType.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TransactionalDB.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/WriteBufferManager.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/CompactionReason.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/RocksObject.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/EventListener.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Cache.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/EncodingType.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/TimedEnv.java
*
/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/MemTableConfig.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/CompressionType.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/DBOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/MemoryUtil.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/StatisticsCollector.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TransactionDB.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TraceOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/SstFileReaderIterator.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/DbPath.java
*
/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Priority.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-

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jar/org/rocksdb/FlushReason.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/CompactRangeOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/FlushJobInfo.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/PlainTableConfig.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/BackupEngineOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/AbstractRocksIterator.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/WriteStallInfo.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/TraceWriter.java
*
/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/RestoreOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/LevelMetaData.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/ReusedSynchronisationType.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/DataBlockIndexType.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Env.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/SstFileWriter.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Statistics.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/IngestExternalFileOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/ComparatorType.java
*
/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/WriteBatchWithIndex.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/ComparatorOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/FileOperationInfo.java
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jar/org/rocksdb/RocksDBException.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/FlushOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/OptimisticTransactionOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/MutableColumnFamilyOptions.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/ColumnFamilyHandle.java

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/opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/CompactionOptions.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/ExternalFileIngestionInfo.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/WriteStallCondition.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/WalFilter.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/AbstractCompactionFilter.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/MemoryUsageType.java  
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/opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/CompactionJobStats.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/WriteOptions.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/BackupEngine.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/WBWIRocksIterator.java

\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/HistogramData.java  
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/opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/ColumnFamilyOptions.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/PersistentCache.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/ChecksumType.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/BackupInfo.java  
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/opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/AbstractSlice.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/CompressionOptions.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/SstFileManager.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/AdvancedMutableColumnFamilyOptionsInterface.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-

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jar/org/rocksdb/WalProcessingOption.java
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jar/org/rocksdb/util/SizeUnit.java
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/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TxnDBWritePolicy.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/util/IntComparator.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/AbstractTransactionNotifier.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/AbstractWriteBatch.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/util/ReverseBytewiseComparator.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/TableFileCreationReason.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Options.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/Logger.java
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/opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/LogFile.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/CompactionOptionsFIFO.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/RocksEnv.java
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* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/OperationType.java
* /opt/cola/permits/1720492446_1686745008.8065643/0/rocksdbjni-8-0-0-sources-
jar/org/rocksdb/WalFileType.java
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jar/org/rocksdb/AbstractNativeReference.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/RocksMutableObject.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/ConcurrentTaskLimiter.java  
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\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/ByteBufferGetStatus.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/PrepopulateBlobCache.java  
\* /opt/cola/permits/1720492446\_1686745008.8065643/0/rocksdbjni-8-0-0-sources-jar/org/rocksdb/util/ByteUtil.java

# 1.221 leveldb 1.23-r0

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/reader/RandomAccessReader.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/ArraySlice.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/PathSlice.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/reader/RandomAccessArrayReader.java  
\*

/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/reader/RandomAccessFileChannelReader.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/reader/SequentialReader.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/FileSlice.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/reader/ClassfileReader.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fileslice/reader/RandomAccessByteBufferReader.java  
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\* This file is part of ClassGraph.  
\*  
\* Author: Luke Hutchison  
\*  
\* Hosted at: <https://github.com/classgraph/classgraph>  
\*  
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Found in path(s):

\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/ClassGraphClassLoader.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/AnnotationParameterValue.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/MethodTypeSignature.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/Resource.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/nonapi/io/github/classgraph/fastzipfilereader/LogicalZipFile.java  
\*  
/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/nonapi/io/github/classgraph/scanspec/ScanSpec.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/AnnotationInfo.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/nonapi/io/github/classgraph/classpath/ClasspathOrder.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/MethodParameterInfo.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/ClassRefOrTypeVariableSignature.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/MappableInfoList.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/ModuleInfoList.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-  
jar/io/github/classgraph/GraphvizDotfileGenerator.java

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*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/recycler/RecycleOnClose.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/PlexusClassWorldsClassRealmClassLoaderHandler.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classpath/ClassLoaderOrder.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/json/JSONDeserializer.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/BaseTypeSignature.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/ClassLoaderHandler.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/json/JSONUtils.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/Classfile.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ClasspathElement.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/Scanner.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/Utils/CollectionUtils.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/EquinoxContextFinderClassLoaderHandler.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ModuleReaderProxy.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/PackageInfo.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ClassGraphException.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/json/ReferenceEqualityKey.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/ParentLastDelegationOrderTestClassLoaderHandler.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/WeblogicClassLoaderHandler.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classpath/SystemJarFinder.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ClasspathElementDir.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/reflection/ReflectionUtils.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/ClassGraphClassLoaderHandler.java

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ModulePathInfo.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/InfoList.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ScanResult.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/HasName.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/JSONArray.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classpath/ClassLoaderFinder.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ArrayTypeSignature.java  
 \*  
 /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/JSONReference.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/ClassFieldCache.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/concurrency/SingletonMap.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/JPMSCClassLoaderHandler.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ClassGraph.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/ClassLoaderHandlerRegistry.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/FieldInfoList.java  
 \*  
 /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fastzipfilereader/ZipFileSlice.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/types/ParseException.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ScanResultObject.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/AnnotationEnumValue.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/types/Parser.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/Utils/LogNode.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/TypeArgument.java  
 \* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/OSGiDefaultClassLoaderHandler.java  
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/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/Utils/VersionFinder.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/recycler/Resettable.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/AnnotationInfoList.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ClassMemberInfo.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/Utils/ProxyingInputStream.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ArrayClassInfo.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/MethodInfo.java  
\*  
/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fastzipfilereader/PhysicalZipFile.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/EquinoxClassLoaderHandler.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/types/TypeUtils.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/fastzipfilereader/FastZipEntry.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/Utils/StringUtils.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/AnnotationParameterValueList.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ClassRefTypeSignature.java  
\*  
/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/FallbackClassLoaderHandler.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ClasspathElementZip.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/recycler/Recycler.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/TypeParameter.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/URLClassLoaderHandler.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/ParameterizedTypeImpl.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/JSONSerializer.java  
\*  
/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classpath/CallStackReader.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-

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jar/nonapi/io/github/classgraph/json/Id.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/Utils/FastPathResolver.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ClasspathElementModule.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classpath/ClasspathFinder.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/json/JSONParser.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/TypeSignature.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/Utils/JarUtils.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ObjectTypedValueWrapper.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/FieldInfo.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/PotentiallyUnmodifiableList.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/PackageInfoList.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/Utils/FileUtils.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/fastzipfilereader/NestedJarHandler.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/json/JSONObject.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/HierarchicalTypeSignature.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classpath/ModuleFinder.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/concurrency/WorkQueue.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ModuleInfo.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/concurrency/InterruptChecker.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ClassTypeSignature.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ClassInfoList.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/TomcatWebappClassLoaderBaseHandler.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/UnoOneJarClassLoaderHandler.java

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/scanspec/AcceptReject.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/MethodInfoList.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/TypeVariableSignature.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ModuleRef.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/ClassFields.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/TypeResolutions.java  
\*

/opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/json/FieldTypeInfo.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/Utils/URLPathEncoder.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ReferenceTypeSignature.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/ClassInfo.java  
\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/AnnotationClassRef.java

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\* This file is part of ClassGraph.

\*

\* Author: @jacobg on GitHub

\*

\* Hosted at: <https://github.com/classgraph/classgraph>

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/AntClassLoaderHandler.java

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\* This file is part of ClassGraph.

\*

\* Author: Johno Crawford (johno@sulake.com)

\*

\* Hosted at: <https://github.com/classgraph/classgraph>

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/concurrency/AutoCloseableExecutorService.java

\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/concurrency/SimpleThreadFactory.java

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/io/github/classgraph/CloseableByteBuffer.java

\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/CxfContainerClassLoaderHandler.java

\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/reflection/ReflectionDriver.java

```
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/reflection/NarcissusReflectionDriver.java
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/reflection/JVMReflectionDriver.java
*
/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/reflection/StandardReflectionDriver.java
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```
/*
* This file is part of ClassGraph.
*
* Author: Luke Hutchison (luke.hutch@gmail.com)
*
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```
* /opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/io/github/classgraph/ResourceList.java
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```

```
/*
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 *
 * Author: Sergey Beshpalov
 *
 * Hosted at: https://github.com/classgraph/classgraph
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*/opt/cola/permits/1756038422_1690862953.5822532/0/classgraph-4-8-158-sources-
jar/nonapi/io/github/classgraph/classloaderhandler/WebSphereTraditionalClassLoaderHandler.java
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jar/nonapi/io/github/classgraph/classloaderhandler/JBossClassLoaderHandler.java

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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/SpringBootRestartClassLoaderHandler.java  
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\* /opt/cola/permits/1756038422\_1690862953.5822532/0/classgraph-4-8-158-sources-jar/nonapi/io/github/classgraph/classloaderhandler/WebsphereLibertyClassLoaderHandler.java

# 1.233 guava 32.1.2-jre

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# 1.234 accessors-smart 2.5.0

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Manifest-Version: 1.0

Bnd-LastModified: 1688919415452

Build-Jdk: 11.0.19

Built-By: uriel

Bundle-Description: Java reflect give poor performance on getter setter  
an constructor calls, accessors-smart use ASM to speed up those calls.

Bundle-DocURL: <https://urielch.github.io/>

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: accessors-smart

Bundle-SymbolicName: net.minidev.accessors-smart



Bundle-Vendor: Chemouni Uriel  
Bundle-Version: 2.5.0  
Created-By: Apache Maven Bundle Plugin  
Export-Package: net.minidev.asm;uses:="org.objectweb.asm";version="2.5.0",net.minidev.asm.ex;version="2.5.0"  
Import-Package: org.objectweb.asm;version="[8.0,10)",net.minidev.asm.e  
x  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"  
Tool: Bnd-5.1.1.202006162103

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INF/maven/net.minidev/accessors-smart/pom.xml

## 1.235 json-smart 2.5.0

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Manifest-Version: 1.0

Build-Jdk-Spec: 11

Bundle-Description: JSON (JavaScript Object Notation) is a lightweight  
data-interchange format. It is easy for humans to read and write. It  
is easy for machines to parse and generate. It is based on a subset  
of the JavaScript Programming Language, Standard ECMA-262 3rd Edition  
- December 1999. JSON is a text format that is completely language i  
ndependent but uses conventions that are familiar to programmers of t

he C-family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others. These properties make JSON an ideal data-interchange language.

Bundle-DocURL: <https://urielch.github.io/>

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: json-smart

Bundle-SymbolicName: net.minidev.json-smart

Bundle-Vendor: Chemouni Uriel

Bundle-Version: 2.5.0

Created-By: Apache Maven Bundle Plugin 5.1.9

Export-Package:

```
net.minidev.json;uses:="net.minidev.asm,net.minidev.js
on.parser,net.minidev.json.reader,net.minidev.json.writer";version="2
.5.0",net.minidev.json.annotate;version="2.5.0",net.minidev.json.pars
er;uses:="net.minidev.json.writer";version="2.5.0",net.minidev.json.r
eader;uses:="net.minidev.json";version="2.5.0",net.minidev.json.write
r;uses:="net.minidev.json,net.minidev.json.parser";version="2.5.0"
```

Import-Package: net.minidev.asm;version="[2.5,3)",net.minidev.json,net
.minidev.json.annotate,net.minidev.json.parser,net.minidev.json.reade
r,net.minidev.json.writer

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.8))"

Tool: Bnd-6.3.1.202206071316

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# 1.236 commons-lang3 3.13.0

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jar/com/google/common/io/MultiReader.java
```

```
*
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/primitives/Longs.java
```

```
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/io/FileBackedOutputStream.java
```

```
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/util/concurrent/ListenableFutureTask.java
```

```
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/primitives/Booleans.java
```

```
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/primitives/Floats.java
```

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/thirdparty/publicsuffix/TrieParser.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Stopwatch.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/Bytes.java  
\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/Chars.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/FluentIterable.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Converter.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Joiner.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/Escaper.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/Doubles.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/net/PercentEscaper.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/internal/Finalizer.java  
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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/Shorts.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/CharMatcher.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/SequentialExecutor.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableSortedSet.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RegularImmutableBiMap.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/PeekingIterator.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Range.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Platform.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/EmptyImmutableListMultimap.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableMapValues.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableMap.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableMapEntrySet.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Serialization.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableListMultimap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Table.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableMapKeySet.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Collections2.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/CollectPreconditions.java

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/\*\*

\* Returns an array containing all of the elements in the specified collection. This method  
\* returns the elements in the order they are returned by the collection's iterator. The returned  
\* array is "safe" in that no references to it are maintained by the collection. The caller is  
\* thus free to modify the returned

array.

\*

\* <p>This method assumes that the collection size doesn't change while the method is running.

\*

\* <p>TODO(kevinb): support concurrently modified collections?

\*

\* @param c the collection for which to return an array of elements

\*/

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jar/com/google/common/hash/AbstractHashFunction.java

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jar/com/google/common/util/concurrent/ForwardingCondition.java

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jar/com/google/common/primitives/ImmutableLongArray.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/PatternCompiler.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/CompactLinkedHashSet.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/AbstractNavigableMap.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/AllEqualOrdering.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/FilteredMultimap.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/CompactHashMap.java

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jar/com/google/common/collect/TreeRangeMap.java  
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jar/com/google/common/collect/UnmodifiableSortedMultiset.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/LinkedHashMultimapGwtSerializationDependencies.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/AbstractValueGraph.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/GraphBuilder.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/MultiEdgesConnecting.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/EndpointPairIterator.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/ForwardingNetwork.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/ImmutableValueGraph.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-

jar/com/google/common/graph/DirectedGraphConnections.java  
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jar/com/google/common/graph/StandardMutableValueGraph.java  
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jar/com/google/common/graph/NetworkConnections.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RowSortedTable.java

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- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AggregateFutureState.java
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- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ConsumingQueueIterator.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/CombinedFuture.java
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- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/FarmHashFingerprint64.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AsyncCallable.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/MacHashFunction.java

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- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/IndexedImmutableSet.java

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jar/com/google/common/base/Java8Compatibility.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/math/ToDoubleRounder.java

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jar/com/google/common/math/BigDecimalMath.java

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jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java

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jar/com/google/common/io/Java8Compatibility.java

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jar/com/google/common/hash/Java8Compatibility.java

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jar/com/google/common/util/concurrent/NullnessCasts.java

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jar/com/google/common/base/NullnessCasts.java

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jar/com/google/common/collect/CompactHashing.java

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jar/com/google/common/graph/IncidentEdgeSet.java

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jar/com/google/common/base/Strings.java

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jar/com/google/common/base/Ascii.java

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jar/com/google/common/util/concurrent/ListeningExecutorService.java

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jar/com/google/common/annotations/package-info.java

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jar/com/google/common/annotations/Beta.java

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jar/com/google/common/io/Flushables.java

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jar/com/google/common/base/FinalizableSoftReference.java  
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jar/com/google/common/primitives/Primitives.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/base/Defaults.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/util/concurrent/ExecutionList.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/io/CountingInputStream.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/io/CharStreams.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/base/Supplier.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/base/AbstractIterator.java  
\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/base/Functions.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/eventbus/DeadEvent.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/TempFileCreator.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/Closeables.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/DirectExecutor.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Interners.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Charsets.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Objects.java  
\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractFuture.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Suppliers.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/FinalizableReferenceQueue.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Preconditions.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/eventbus/Subscribe.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/package-info.java  
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\* This following method is a modified version of one found in

\* <http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30>

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jar/com/google/common/collect/SortedMultiset.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ImmediateFuture.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/Futures.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/UncheckedTimeoutException.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/annotations/VisibleForTesting.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/CharEscaper.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractCatchingFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/CharEscaperBuilder.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/AppendableWriter.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/CollectionFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/FakeTimeLimiter.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/FuturesGetChecked.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AggregateFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/TimeLimiter.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/FluentFuture.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractTransformFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/TimeoutFuture.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/ArrayBasedEscaperMap.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractIdleService.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/SignedBytes.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ForwardingFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ForwardingListenableFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/ArrayBasedCharEscaper.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/SparseImmutableTable.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractService.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ForwardingFluentFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Cut.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/annotations/J2ktIncompatible.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/DenseImmutableTable.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/Escapers.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/LineProcessor.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/annotations/GwtIncompatible.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/cache/LocalCache.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/MapMakerInternalMap.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/cache/ReferenceEntry.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/cache/CacheBuilder.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/Service.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/net/HostSpecifier.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/UnsignedBytes.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RegularImmutableTable.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/ByteArrayDataInput.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/html/HtmlEscapers.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Platform.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/annotations/GwtCompatible.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/TypeResolver.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/Callables.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/MapMaker.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-

jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/net/UrlEscapers.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/net/InternetDomainName.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/util/concurrent/JdkFutureAdapters.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/util/concurrent/SettableFuture.java  
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jar/com/google/common/escape/Platform.java  
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jar/com/google/common/hash/ImmutableSupplier.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/BaseEncoding.java  
\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/PairedStats.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/ClassPath.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/LongAddables.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/PairedStatsAccumulator.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/FileWriteMode.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/AbstractByteHasher.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/html/package-info.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ServiceManager.java  
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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/CharSink.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/StatsAccumulator.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/package-info.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/CharSource.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/AbstractInvocationHandler.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/LinearTransformation.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/cache/LongAddable.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/CartesianList.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/SipHashFunction.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/FilteredKeyMultimap.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/ByteSink.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/Closer.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/package-info.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/Stats.java

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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/StandardSystemProperty.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/SmoothRateLimiter.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableRangeSet.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/Parameter.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AtomicDoubleArray.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/Crc32cHashFunction.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/WrappingExecutorService.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/AbstractScheduledService.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/hash/AbstractNonStreamingHashFunction.java  
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jar/com/google/common/reflect/IgnoreJRERequirement.java  
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jar/com/google/common/primitives/Platform.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ClosingFuture.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/AbstractBaseGraph.java

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/Runnables.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/VerifyException.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Utf8.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/TypeVisitor.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/CharSequenceReader.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/eventbus/SubscriberExceptionHandlerContext.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/HashingInputStream.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/FilteredMultimapValues.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/eventbus/SubscriberExceptionHandler.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/Verify.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/AbstractTable.java

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/\*\*

\* Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}

\* key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy

\* version.

\*

\* @throws UnsupportedOperationException always

\* @deprecated <b>Pass a key of type {@code Comparable}

to use {@link

\* `ImmutableSortedMap#of(Comparable, Object)}`.</b>

\*/

Found in path(s):

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java

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\* the License.  
\*/  
/\*\*  
\* Holder for web specializations of methods of { @code Doubles }. Intended to be empty for regular  
\* version.  
\*/

Found in path(s):

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/primitives/DoublesMethodsForWeb.java  
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jar/com/google/common/collect/Maps.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/SetMultimap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/LinkedListMultimap.java  
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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ForwardingIterator.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ForwardingMapEntry.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Iterators.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ForwardingSortedMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableList.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/HashMultiset.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ForwardingObject.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ReverseNaturalOrdering.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/CompoundOrdering.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ForwardingMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/NullsLastOrdering.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Multisets.java  
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/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/MapDifference.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ListMultimap.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ForwardingSortedSet.java  
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jar/com/google/common/collect/TreeMultiset.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/LinkedHashMapMultimap.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ClassToInstanceMap.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/AbstractSortedSetMultimap.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/SingletonImmutableSet.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Iterables.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/EnumHashBiMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/MutableClassToInstanceMap.java  
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- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/MutableNetwork.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/TopKSelector.java
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- /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/Graph.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/Network.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/SuccessorsFunction.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/Graphs.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/PredecessorsFunction.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/ImmutableGraph.java
- \* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/ImmutableNetwork.java

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\* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular version.

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\* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular version.

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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/SortedIterables.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/SortedIterable.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/AbstractRangeSet.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ForwardingSortedMultiset.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RegularImmutableSortedMultiset.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RangeSet.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/GeneralRange.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableSortedMultiset.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/Count.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java

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*/
/*
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*
* As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
* java.util.HashMap
class.
*/
```

Found in path(s):

```
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/util/concurrent/Striped.java
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express
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* the License.
*/
/**
* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/primitives/IntsMethodsForWeb.java
```

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 * the License.
 */
/*
 * This method was rewritten in Java from an intermediate step of the Murmur hash function in
 * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
 * following header:
 *
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 * copyright to this source code.
 */
```

Found in path(s):

```
*/opt/cola/permits/1779683696_1693137085.7490354/0/guava-32-0-1-android-sources-
jar/com/google/common/base/SmallCharMatcher.java
```

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 */
```

Found in path(s):

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/ElementTypesAreNonnullByDefault.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/net/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/eventbus/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/primitives/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/xml/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/net/ParametricNullness.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/math/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/html/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/html/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/graph/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/base/ParametricNullness.java

\*

/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/hash/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/eventbus/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/reflect/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/io/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/escape/ParametricNullness.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-

jar/com/google/common/xml/ParametricNullness.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/hash/ParametricNullness.java  
\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/base/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/escape/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/util/concurrent/ParametricNullness.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/cache/ParametricNullness.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/io/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/reflect/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/EmptyImmutableSetMultimap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ImmutableSortedMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java  
\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ImmutableTable.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ImmutableClassToInstanceMap.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-  
jar/com/google/common/collect/ImmutableSetMultimap.java

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableEnumSet.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ForwardingTable.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RegularImmutableSortedSet.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ArrayTable.java

\*  
/opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/SingletonImmutableTable.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ImmutableAsList.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/AbstractIndexedListIterator.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/RegularImmutableList.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ComparisonChain.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/DiscreteDomain.java  
\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/collect/ComputationException.java

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\* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain  
\* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available  
\* under GWT but with a slightly different signature.

\*

\* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler  
wouldn't recognize

\* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT  
\* compiler to autostrip the normal server method in order to expose the special, inherited GWT

\* version.

\*/

Found in path(s):

\* /opt/cola/permits/1779683696\_1693137085.7490354/0/guava-32-0-1-android-sources-jar/com/google/common/util/concurrent/Partially.java

## 1.240 okio 3.5.0

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\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/SizetVariant.kt

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\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/FileSystem.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/unixMain/okio/UnixFileHandle.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/FileHandle.kt  
\*

/opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/FileSystem.kt

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\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/SegmentedByteString.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonAppleMain/okio/SegmentedByteString.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/appleMain/okio/SegmentedByteString.kt

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  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Segment.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/SegmentPool.kt
- \*

- /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/ForwardingSource.kt
- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/SegmentPool.kt
- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/ForwardingSource.kt

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- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/hashFunctions/okio/internal/HashFunction.kt

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- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/HashingSink.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/PosixVariant.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/HashingSink.kt
  - \*
  - /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/appleMain/okio/ApplePosixVariant.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/Path.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/FileSystem.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/ForwardingFileSystem.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/HashingSource.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/FileSource.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/HashingSource.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/FileMetadata.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/ExperimentalFileSystem.kt
  - \*
  - /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/FileSink.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/unixMain/okio/UnixPosixVariant.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/PosixFileSystem.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nativeMain/okio/Cinterop.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Path.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/hashFunctions/okio/internal/Hmac.kt
  - \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/Path.kt
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- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/RealBufferedSource.kt
- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/SegmentedByteString.kt

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- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/hashFunctions/okio/internal/Sha512.kt
- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/hashFunctions/okio/internal/Sha256.kt
- \*
- \* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/hashFunctions/okio/internal/Md5.kt

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\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/Utf8.kt  
\*  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/NonJvmPlatform.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/ByteString.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/ByteString.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Util.kt  
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jar/commonMain/okio/RealBufferedSink.kt
*/opt/cola/permits/1779742482_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Buffer.kt
*/opt/cola/permits/1779742482_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Sink.kt
*/opt/cola/permits/1779742482_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Okio.kt
*/opt/cola/permits/1779742482_1693226770.6289008/0/okio-3-5-0-sources-1-
jar/nonJvmMain/okio/BufferedSource.kt
*/opt/cola/permits/1779742482_1693226770.6289008/0/okio-3-5-0-sources-1-
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*/opt/cola/permits/1779742482_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Source.kt
```

\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/Sink.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/Timeout.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/internal/Buffer.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/BufferedSink.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/RealBufferedSource.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/Timeout.kt  
\*  
/opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/BufferedSink.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/commonMain/okio/BufferedSource.kt  
\* /opt/cola/permits/1779742482\_1693226770.6289008/0/okio-3-5-0-sources-1-jar/nonJvmMain/okio/Buffer.kt

## 1.241 opentelemetry-semconv 1.29.0-alpha

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## 1.242 avro 1.11.3

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- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/Okio.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/Timeout.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/nonJvmMain/okio/RealBufferedSink.kt
- \*
- /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/nonJvmMain/okio/Buffer.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/BufferedSink.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/nonJvmMain/okio/Timeout.kt
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- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/nonJvmMain/okio/BufferedSink.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/nonJvmMain/okio/Sink.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/nonJvmMain/okio/BufferedSource.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/internal/Buffer.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/RealBufferedSource.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/Sink.kt
- \*
- /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/Source.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/BufferedSource.kt
- \* /opt/cola/permits/1825538429\_1697657800.9267037/0/okio-3-6-0-sources-jar/commonMain/okio/RealBufferedSink.kt

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- \*
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## 1.250 libcxxabi 1.1.10.5

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Manifest-Version: 1.0

Bnd-LastModified: 1695799258578

Bundle-ActivationPolicy: lazy

Bundle-Activator: org.xerial.snappy.SnappyBundleActivator

Bundle-Description: snappy-java: A fast compression/decompression library

Bundle-DocURL: <http://www.xerial.org/>

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: snappy-java: A fast compression/decompression library



Bundle-NativeCode: org/xerial/snappy/native/Windows/x86\_64/snappyjava.dll;osname=win32;processor=x86-64,org/xerial/snappy/native/Windows/x86\_64/snappyjava.dll;osname=win32;processor=x64,org/xerial/snappy/native/Windows/x86\_64/snappyjava.dll;osname=win32;processor=amd64,org/xerial/snappy/native/Windows/x86/snappyjava.dll;osname=win32;processor=x86,org/xerial/snappy/native/Mac/x86/libsnappyjava.jnilib;osname=macosx;processor=x86,org/xerial/snappy/native/Mac/x86\_64/libsnappyjava.dylib;osname=macosx;processor=x86-64,org/xerial/snappy/native/Mac/aarch64/libsnappyjava.dylib;osname=macosx;processor=aarch64,org/xerial/snappy/native/Linux/x86\_64/libsnappyjava.so;osname=linux;processor=x86-64,org/xerial/snappy/native/Linux/x86\_64/libsnappyjava.so;osname=linux;processor=x64,org/xerial/snappy/native/Linux/x86\_64/libsnappyjava.so;osname=linux;processor=amd64,org/xerial/snappy/native/Linux/x86/libsnappyjava.so;osname=linux;processor=x86,org/xerial/snappy/native/Linux/aarch64/libsnappyjava.so;osname=linux;processor=aarch64,org/xerial/snappy/native/Linux/riscv64/libsnappyjava.so;osname=linux;processor=riscv64,org/xerial/snappy/native/Linux/arm/libsnappyjava.so;osname=linux;processor=arm,org/xerial/snappy/native/Linux/armv7/libsnappyjava.so;osname=linux;processor=arm\_le,org/xerial/snappy/native/Linux/ppc64/libsnappyjava.so;osname=linux;processor=ppc64le,org/xerial/snappy/native/Linux/s390x/libsnappyjava.so;osname=linux;processor=s390x,org/xerial/snappy/native/AIX/ppc/libsnappyjava.a;osname=aix;processor=ppc,org/xerial/snappy/native/AIX/ppc64/libsnappyjava.a;osname=aix;processor=ppc64,org/xerial/snappy/native/SunOS/x86/libsnappyjava.so;osname=sunos;processor=x86,org/xerial/snappy/native/SunOS/x86\_64/libsnappyjava.so;osname=sunos;processor=x86-64,org/xerial/snappy/native/SunOS/sparc/libsnappyjava.so;osname=sunos;processor=sparc

Bundle-SymbolicName: org.xerial.snappy.snappy-java

Bundle-Vendor: xerial.org

Bundle-Version: 1.1.10.5

Created-By: 11.0.20 (Azul Systems, Inc.)

Export-Package: org.xerial.snappy;uses:="org.osgi.framework,org.xerial.snappy.buffer,org.xerial.snappy.pool";version="1.1.10",org.xerial.snappy.buffer;version="1.1.10",org.xerial.snappy.pool;version="1.1.10"

Implementation-Title: snappy-java

Implementation-URL: <https://github.com/xerial/snappy-java>

Implementation-Vendor: xerial.org

Implementation-Vendor-Id: org.xerial.snappy

Implementation-Version: 1.1.10.5

Import-Package: org.osgi.framework;version="[1.5,2)"

Private-Package: org.xerial.snappy.native.AIX.ppc,org.xerial.snappy.native.AIX.ppc64,org.xerial.snappy.native.FreeBSD.x86\_64,org.xerial.snappy.native.Linux.aarch64,org.xerial.snappy.native.Linux.android-aarch64,org.xerial.snappy.native.Linux.android-arm,org.xerial.snappy.native.Linux.arm,org.xerial.snappy.native.Linux.armv6,org.xerial.snappy.native.Linux.armv7,org.xerial.snappy.native.Linux.ppc,org.xerial.snappy.native.Linux.ppc64,org.xerial.snappy.native.Linux.ppc64le,org.xerial

.snappy.native.Linux.riscv64,org.xerial.snappy.native.Linux.s390x,org.xerial.snappy.native.Linux.x86,org.xerial.snappy.native.Linux.x86\_64,org.xerial.snappy.native.Mac.aarch64,org.xerial.snappy.native.Mac.x86\_64,org.xerial.snappy.native.Mac.x86\_64,org.xerial.snappy.native,org.xerial.snappy.native.SunOS.sparc,org.xerial.snappy.native.SunOS.x86,org.xerial.snappy.native.SunOS.x86\_64,org.xerial.snappy.native.Windows.aarch64,org.xerial.snappy.native.Windows.x86,org.xerial.snappy.native.Windows.x86\_64

Require-Capability:

osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"

Specification-Title: snappy-java

Specification-Vendor: xerial.org

Specification-Version: 1.1.10.5

Tool: Bnd-5.1.2.202007211702

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\* /opt/cola/permits/1825539415\_1697666805.4214594/0/snappy-java-1-1-10-5-jar/META-INF/MANIFEST.MF

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when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
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```

The hypothetical commands  
`show w' and `show c' should show the appropriate  
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be called something other than `show w' and `show c'; they could even be  
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```
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```

```
<signature of Ty Coon>, 1 April 1989
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Julian Seward, [jseward@bzip.org](mailto:jseward@bzip.org)  
bzip2/libbzip2 version 1.0.6 of 6 September 2010

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(28) Artem Bityuckiy (--enable-newlib-iconv)

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Any

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Version 3.1, 31 March 2009

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| -----                                                     | -----                          |
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# 1.254 activation 1.2.1

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jar/io/netty/resolver/NameResolver.java  
\* /opt/cola/permits/1845710476\_1699909673.9453893/0/netty-resolver-4-1-101-final-sources-jar/io/netty/resolver/NoopAddressResolverGroup.java  
\* /opt/cola/permits/1845710476\_1699909673.9453893/0/netty-resolver-4-1-101-final-sources-jar/io/netty/resolver/SimpleNameResolver.java  
\*  
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\* /opt/cola/permits/1845710476\_1699909673.9453893/0/netty-resolver-4-1-101-final-sources-jar/io/netty/resolver/package-info.java  
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\* /opt/cola/permits/1845710476\_1699909673.9453893/0/netty-resolver-4-1-101-final-sources-jar/io/netty/resolver/DefaultHostsFileEntriesResolver.java

\*

/opt/cola/permits/1845710476\_1699909673.9453893/0/netty-resolver-4-1-101-final-sources-jar/io/netty/resolver/AddressResolver.java

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- \*
- /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Bzip2MoveToFrontTable.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Bzip2Rand.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Crc32.java
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- /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/FastLz.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Bzip2MTFAndRLE2StageEncoder.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Bzip2Encoder.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/AsciiHeadersEncoder.java

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* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Bzip2HuffmanAllocator.java
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* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
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/opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Lz4FrameDecoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Bzip2HuffmanStageDecoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Bzip2HuffmanStageEncoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/MessageAggregationException.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Bzip2BlockDecompressor.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/LzmaFrameEncoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Bzip2BlockCompressor.java
*
/opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
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- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/ZlibCodecFactory.java
- \*
- /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/LengthFieldPrepender.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/JdkZlibEncoder.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/ByteToMessageCodec.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/ReplayingDecoderByteBuf.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/ZlibEncoder.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/marshalling/package-info.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/serialization/ObjectDecoderInputStream.java
- \*
- /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/SnappyFrameEncoder.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/serialization/SoftReferenceMap.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/serialization/CachingClassResolver.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/ZlibWrapper.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/MessageToByteEncoder.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/UnsupportedMessageTypeException.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/MessageToMessageEncoder.java
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- /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/ZlibUtil.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/serialization/ReferenceMap.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/marshalling/MarshallerProvider.java
- \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/serialization/CompactObjectInputStream.java

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 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/string/StringDecoder.java  
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 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/base64/package-info.java  
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 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/MessageToMessageCodec.java  
 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/JZlibDecoder.java  
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 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/protobuf/package-info.java  
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 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Snappy.java  
 \* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/Delimiters.java  
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jar/io/netty/handler/codec/DelimiterBasedFrameDecoder.java  
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jar/io/netty/handler/codec/TooLongFrameException.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/marshalling/ChannelBufferByteInput.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/MessageToMessageDecoder.java  
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jar/io/netty/handler/codec/marshalling/MarshallingEncoder.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
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jar/io/netty/handler/codec/compression/package-info.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/serialization/WeakReferenceMap.java  
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jar/io/netty/handler/codec/marshalling/ChannelBufferByteOutput.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/PrematureChannelClosureException.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/SnappyFrameDecoder.java  
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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
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jar/io/netty/handler/codec/serialization/ClassLoaderClassResolver.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
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jar/io/netty/handler/codec/package-info.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/CorruptedFrameException.java  
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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/base64/Base64Encoder.java  
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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/marshalling/UnmarshallerProvider.java  
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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/serialization/ClassResolvers.java  
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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/marshalling/DefaultUnmarshallerProvider.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/DecoderResult.java

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jar/io/netty/handler/codec/DefaultHeadersImpl.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/CharSequenceValueConverter.java
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* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
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/opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufEncoder.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/protobuf/ProtobufDecoder.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/HeadersUtils.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/ProtocolDetectionResult.java

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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/UnsupportedValueConverter.java

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/\*\*

\* Enumeration of supported Base64 dialects.

\* <p>

\* The internal lookup tables in this class has been derived from

\* <a href="http://iharder.sourceforge.net/current/java/base64/">Robert  
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\* Base64 Encoder/Decoder</a>.  
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Found in path(s):

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/base64/Base64Dialect.java

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\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/GzipOptions.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/ZstdConstants.java

\*

/opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/Brotli.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/BrotliOptions.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/ZstdOptions.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/DeflateOptions.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/BrotliEncoder.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/CompressionOptions.java

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-  
jar/io/netty/handler/codec/compression/Zstd.java

\*

/opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/BrotliDecoder.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/ZstdEncoder.java  
\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/StandardCompressionOptions.java  
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Found in path(s):

\* /opt/cola/permits/1845709715\_1699909368.4920034/0/netty-codec-4-1-101-final-sources-jar/io/netty/handler/codec/compression/Lz4XXHash32.java  
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```

```
/**
* A decoder that splits the received {@link ByteBuf}s dynamically by the
* value of the length field in the message. It is particularly useful when you
* decode a binary message which has an integer header field that represents the
```



\* length of the message body or the whole message.  
 \*  
 <p>  
 \* { @link LengthFieldBasedFrameDecoder } has many configuration parameters so  
 \* that it can decode any message with a length field, which is often seen in  
 \* proprietary client-server protocols. Here are some example that will give  
 \* you the basic idea on which option does what.

\* <h3>2 bytes length field at offset 0, do not strip header</h3>

\* The value of the length field in this example is <tt>12 (0x0C)</tt> which  
 \* represents the length of "HELLO, WORLD". By default, the decoder assumes  
 \* that the length field represents the number of the bytes that follows the  
 \* length field. Therefore, it can be decoded with the simplistic parameter  
 \* combination.

\* <pre>

```
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
* initialBytesToStrip = 0 (= do not strip header)
```

\* BEFORE DECODE (14 bytes)      AFTER DECODE (14 bytes)

```
* +-----+-----+ +-----+-----+
* | Length | Actual Content
* |---->| Length | Actual Content |
* | 0x000C | "HELLO, WORLD" | | 0x000C | "HELLO, WORLD" |
```

\* </pre>

\* <h3>2 bytes length field at offset 0, strip header</h3>

\* Because we can get the length of the content by calling  
 \* { @link ByteBuf#readableBytes() }, you might want to strip the length  
 \* field by specifying <tt>initialBytesToStrip</tt>. In this example, we  
 \* specified <tt>2</tt>, that is same with the length of the length field, to  
 \* strip the first two bytes.

\* <pre>

```
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
* initialBytesToStrip = 2 (= the length of the Length field)
```

\* BEFORE DECODE (14 bytes)      AFTER DECODE (12 bytes)

```
* +-----+-----+ +-----+
* | Length | Actual Content |---->| Actual Content |
* | 0x000C | "HELLO, WORLD" | | "HELLO, WORLD" |
```

```

* </pre>
*
* <h3>2 bytes length field at offset 0, do not strip header, the length field
* represents the length of the whole message</h3>
*
* In most cases, the length field represents the length of the message body
* only, as shown in the previous examples. However, in some protocols, the
* length field represents the length of the whole message, including the
* message header. In such a case, we specify a non-zero
* <tt>lengthAdjustment</tt>. Because the length value in this example message
* is always greater than the body length by <tt>2</tt>, we specify <tt>-2</tt>
* as <tt>lengthAdjustment</tt> for compensation.
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = -2 (= the length of the Length field)
* initialBytesToStrip = 0
*
* BEFORE DECODE (14 bytes) AFTER DECODE (14 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | Length | Actual Content |---->| Length | Actual
* Content |
* | 0x000E | "HELLO, WORLD" | | 0x000E | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
*
* <h3>3 bytes length field at the end of 5 bytes header, do not strip header</h3>
*
* The following message is a simple variation of the first example. An extra
* header value is prepended to the message. <tt>lengthAdjustment</tt> is zero
* again because the decoder always takes the length of the prepended data into
* account during frame length calculation.
* <pre>
* lengthFieldOffset = 2 (= the length of Header 1)
* lengthFieldLength = 3
* lengthAdjustment = 0
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes) AFTER DECODE (17 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | Header 1 | Length | Actual Content |---->| Header 1 | Length | Actual Content |
* | 0xCAFE | 0x00000C | "HELLO, WORLD" | | 0xCAFE | 0x00000C | "HELLO, WORLD" |
* | 0xCAFE | 0x00000C | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
*
* <h3>3 bytes length field at the beginning of 5 bytes header, do not strip header</h3>
*

```

\* This is an advanced example that shows the case where there is an extra header between the length field and the message body. You have to specify a positive `<tt>lengthAdjustment</tt>` so that the decoder counts the extra header into the frame length calculation.

```
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 3
* lengthAdjustment = 2 (= the length of Header 1)
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes) AFTER DECODE (17 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | Length | Header 1 | Actual Content |---->| Length | Header 1 | Actual Content |
* | 0x00000C | 0xCAFE | "HELLO, WORLD" | | 0x00000C | 0xCAFE | "HELLO,
* WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
```

\* `<h3>`2 bytes length field at offset 1 in the middle of 4 bytes header,  
 \* strip the first header field and the length field`</h3>`

\* This is a combination of all the examples above. There are the prepended header before the length field and the extra header after the length field. The prepended header affects the `<tt>lengthFieldOffset</tt>` and the extra header affects the `<tt>lengthAdjustment</tt>`. We also specified a non-zero `<tt>initialBytesToStrip</tt>` to strip the length field and the prepended header from the frame. If you don't want to strip the prepended header, you could specify `<tt>0</tt>` for `<tt>initialBytesToSkip</tt>`.

```
* <pre>
* lengthFieldOffset = 1 (= the length of HDR1)
* lengthFieldLength = 2
* lengthAdjustment = 1 (= the length of HDR2)
* initialBytesToStrip = 3 (= the length of HDR1 +
* LEN)
*
* BEFORE DECODE (16 bytes) AFTER DECODE (13 bytes)
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x000C | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+-----+-----+
* </pre>
```

\* `<h3>`2 bytes length field at offset 1 in the middle of 4 bytes header,  
 \* strip the first header field and the length field, the length field  
 \* represents the length of the whole message`</h3>`

\* Let's give another twist to the previous example. The only difference from the previous example is that the length field represents the length of the

```

* whole message instead of the message body, just like the third example.
* We have to count the length of HDR1 and Length into <tt>lengthAdjustment</tt>.
* Please note that we don't need to take the length of HDR2 into account
* because
the length field already includes the whole header length.
* <pre>
* lengthFieldOffset = 1
* lengthFieldLength = 2
* lengthAdjustment = -3 (= the length of HDR1 + LEN, negative)
* initialBytesToStrip = 3
*
* BEFORE DECODE (16 bytes) AFTER DECODE (13 bytes)
* +-----+-----+-----+-----+ +-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x0010 | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+
* </pre>
* @see LengthFieldPrepender
*/

```

Found in path(s):

```

* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/LengthFieldBasedFrameDecoder.java

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```

* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/EmptyHeaders.java

```

```

* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/DefaultHeaders.java

```

```

* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/Headers.java

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* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/JdkZlibDecoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/Crc32c.java
*
```

```
/opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/xml/XmlFrameDecoder.java
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jar/io/netty/handler/codec/string/LineEncoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/ByteBufChecksum.java
*
/opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/CodecOutputList.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/DatagramPacketEncoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/DatagramPacketDecoder.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/compression/CompressionUtil.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/string/LineSeparator.java
* /opt/cola/permits/1845709715_1699909368.4920034/0/netty-codec-4-1-101-final-sources-
jar/io/netty/handler/codec/DateFormat.java
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\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/bootstrap/ChannelInitializerExtension.java  
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\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/PreferHeapByteBufAllocator.java  
\*  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/bootstrap/BootstrapConfig.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/bootstrap/ServerBootstrapConfig.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultSelectStrategyFactory.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/SelectStrategyFactory.java

```
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/WriteBufferWaterMark.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/socket/DuplexChannel.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/bootstrap/AbstractBootstrapConfig.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/group/VoidChannelGroupFuture.java
*
```

```
/opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/ChannelOutboundInvoker.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/DefaultSelectStrategy.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
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jar/io/netty/channel/socket/SocketChannelConfig.java
```

```
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/group/ChannelGroupFuture.java
```



\*  
/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/local/LocalServerChannel.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/FileRegion.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/oio/OioEventLoopGroup.java  
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* WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the
* License for the specific language governing permissions and limitations
* under the License.
*/
/**
* Handles an I/O event or intercepts an I/O operation, and forwards it to its next handler in
* its { @link ChannelPipeline}.
*
* <h3>Sub-types</h3>
* <p>
* { @link ChannelHandler} itself does not provide many methods, but you usually have to implement one of its
subtypes:
*
* { @link
ChannelInboundHandler} to handle inbound I/O events, and
* { @link ChannelOutboundHandler} to handle outbound I/O operations.
*
* </p>
* <p>
* Alternatively, the following adapter classes are provided for your convenience:
*
* { @link ChannelInboundHandlerAdapter} to handle inbound I/O events,
* { @link ChannelOutboundHandlerAdapter} to handle outbound I/O operations, and
* { @link ChannelDuplexHandler} to handle both inbound and outbound events
*
* </p>
* <p>
* For more information, please refer to the documentation of each subtype.
* </p>
*
* <h3>The context object</h3>
* <p>
* A { @link ChannelHandler} is provided with a { @link ChannelHandlerContext}
* object. A { @link ChannelHandler} is supposed to interact with the
* { @link ChannelPipeline} it belongs to via a context object. Using the
* context object, the { @link ChannelHandler} can pass events upstream or
* downstream, modify the pipeline dynamically,
* or store the information
* (using { @link AttributeKey}s) which is specific to the handler.
*
* <h3>State management</h3>
*
* A { @link ChannelHandler} often needs to store some stateful information.
* The simplest and recommended approach is to use member variables:
* <pre>
* public interface Message {

```

```

* // your methods here
* }
*
* public class DataServerHandler extends { @link SimpleChannelInboundHandler } <Message > {
*
* private boolean loggedIn;
*
* { @code @Override }
* public void channelRead0({ @link ChannelHandlerContext } ctx, Message message) {
* if (message instanceof LoginMessage) {
* authenticate((LoginMessage) message);
* loggedIn = true;
* } else (message instanceof GetDataMessage) {
* if (loggedIn) {
* ctx.writeAndFlush(fetchSecret((GetDataMessage) message));
* } else {
* fail();
* }
* }
* }
* }
* ...
* }
* </pre>

```

\* Because the handler instance has a state variable which is dedicated to
 \* one connection, you have to create a new handler instance for each new
 \* channel to avoid a race condition where an unauthenticated client can get
 \* the confidential information:

```

* <pre>
* // Create a new handler instance per channel.
* // See { @link ChannelInitializer#initChannel(Channel) }.
* public class DataServerInitializer extends { @link ChannelInitializer } <{ @link Channel } > {
* { @code @Override }
* public void initChannel({ @link Channel } channel) {
* channel.pipeline().addLast("handler", new DataServerHandler());
* }
* }
* </pre>

```

\* <h4>Using { @link AttributeKey }s</h4>

\* Although it's recommended to use member variables to store the state of a
 \* handler, for some reason you might not want to create many handler instances.
 \* In such a case, you can use { @link AttributeKey }s which is provided by
 \* { @link ChannelHandlerContext }:

```

* <pre>
* public interface Message {

```



```

* // your methods here
* }
*
* { @code @Sharable }
* public class DataServerHandler extends { @link SimpleChannelInboundHandler } <Message > {
* private final { @link AttributeKey } < { @link Boolean } >; auth =
* { @link AttributeKey#valueOf(String) AttributeKey.valueOf("auth") };
*
* { @code @Override }
* public void channelRead({ @link ChannelHandlerContext } ctx, Message message) {
* { @link Attribute } < { @link Boolean } >; attr = ctx.attr(auth);
* if (message instanceof LoginMessage) {
* authenticate((LoginMessage) o);
* attr.set(true);
* } else (message instanceof GetDataMessage) {
* if (Boolean.TRUE.equals(attr.get())) {
* ctx.writeAndFlush(fetchSecret((GetDataMessage) o));
* } else {
* fail();
* }
* }
* }
* }
* ...
* }
* </pre>

```

\* Now that the state of the handler is attached to the { @link ChannelHandlerContext }, you can add the same handler instance to different pipelines:

```

* <pre>
* public class DataServerInitializer extends { @link ChannelInitializer } < { @link Channel } > {
*
* private static final DataServerHandler SHARED = new DataServerHandler();
*
* { @code @Override }
* public void initChannel({ @link Channel } channel) {
* channel.pipeline().addLast("handler", SHARED);
* }
* }
* </pre>

```

\* <h4>The { @code @Sharable } annotation</h4>

\* <p>

\* In the example above which used an { @link AttributeKey }, you might have noticed the { @code @Sharable } annotation.

\* <p>

\* If a { @link ChannelHandler } is annotated with the { @code @Sharable } annotation, it means you can create an instance of the handler just once and

- \* add it to one or more { @link ChannelPipeline}s multiple times without
- \* a race condition.
- \* <p>
- \* If this annotation is not specified, you have to create
- a new handler
- \* instance every time you add it to a pipeline because it has unshared state
- \* such as member variables.
- \* <p>
- \* This annotation is provided for documentation purpose, just like
- \* <a href="http://www.javaconcurrencyinpractice.com/annotations/doc/">the JCIP annotations</a>.
- \*
- \* <h3>Additional resources worth reading</h3>
- \* <p>
- \* Please refer to the { @link ChannelHandler}, and
- \* { @link ChannelPipeline} to find out more about inbound and outbound operations,
- \* what fundamental differences they have, how they flow in a pipeline, and how to handle
- \* the operation in your application.
- \*/

Found in path(s):

- \* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ChannelHandler.java

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Found in path(s):

- \* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultMaxMessagesRecvByteBufAllocator.java

- \* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultMaxBytesRecvByteBufAllocator.java

\*

- \* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/MaxMessagesRecvByteBufAllocator.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/ChannelPoolMap.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/FixedChannelPool.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/package-info.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/ChannelHealthChecker.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/AbstractChannelPoolMap.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/MaxBytesRecvByteBufAllocator.java  
\*

/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/ChannelPool.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/AbstractChannelPoolHandler.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/SimpleChannelPool.java  
\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/pool/ChannelPoolHandler.java  
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Found in path(s):

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultChannelHandlerContext.java

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Found in path(s):

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/oio/OioByteStreamChannel.java

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Found in path(s):

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/socket/nio/SelectorProviderUtil.java

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Found in path(s):

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-  
jar/io/netty/channel/CoalescingBufferQueue.java

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\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-  
jar/io/netty/channel/AbstractCoalescingBufferQueue.java

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```
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/embedded/EmbeddedChannelId.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/ReflectiveChannelFactory.java
*
/opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/AbstractEventLoop.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/PendingWriteQueue.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/ChannelFactory.java
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```
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/socket/ChannelOutputShutdownException.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/PendingBytesTracker.java
*
/opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/internal/ChannelUtils.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/internal/package-info.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/socket/oio/OioDatagramChannelConfig.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/DelegatingChannelPromiseNotifier.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/nio/SelectedSelectionKeySetSelector.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/socket/ChannelOutputShutdownEvent.java
```

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/socket/ChannelInputShutdownReadComplete.java

\*

/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/socket/oio/DefaultOioDatagramChannelConfig.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/bootstrap/FailedChannel.java

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\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ExtendedClosedChannelException.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ChannelHandlerMask.java

\*

/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/EventLoopTaskQueueFactory.java

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\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/MessageSizeEstimator.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/group/ChannelMatcher.java

\*

/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ConnectTimeoutException.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/bootstrap/ChannelFactory.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ChannelId.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultAddressedEnvelope.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/group/ChannelMatchers.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/socket/oio/OioSocketChannelConfig.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/socket/oio/OioServerSocketChannelConfig.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultMessageSizeEstimator.java

\*

/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultChannelProgressivePromise.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/AddressedEnvelope.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/DefaultChannelId.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ChannelOutboundBuffer.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ChannelProgressivePromise.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/socket/oio/DefaultOioSocketChannelConfig.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/nio/SelectedSelectionKeySet.java

\*

/opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/group/ChannelGroupException.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/ChannelProgressiveFutureListener.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-jar/io/netty/channel/group/DefaultChannelGroup.java

\* /opt/cola/permits/1845710023\_1699909357.2160501/0/netty-transport-4-1-101-final-sources-



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jar/io/netty/channel/group/ChannelGroup.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/AbstractEventLoopGroup.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/socket/oio/DefaultOioServerSocketChannelConfig.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/SimpleChannelInboundHandler.java
*
/opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/ChannelHandlerAdapter.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
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jar/io/netty/channel/socket/nio/NioChannelOption.java
* /opt/cola/permits/1845710023_1699909357.2160501/0/netty-transport-4-1-101-final-sources-
jar/io/netty/channel/SimpleUserEventChannelHandler.java
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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/ResourcesUtil.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/ByteProcessorUtils.java

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xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
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```

```
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```

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```

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```

```
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```

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```

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<dependency>
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```

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<dependency>
```

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<artifactId>guava-testlib</artifactId>
```

```
<version>${guava-testlib.version}</version>
```

```
<scope>test</scope>
```

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</instructions>
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</additionalOptions>
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</configuration>
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 <execution>
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 </goals>
 </execution>
</executions>
</plugin>
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 </developer>
 <developer>
 <url>https://github.com/mjpt777</url>
 </developer>
 <developer>
 <url>https://github.com/RichardWarburton</url>
 </developer>

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</developer>
<developer>
 <url>https://github.com/kay</url>
</developer>
<developer>
 <url>https://github.com/franz1981</url>
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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/OrderedEventExecutor.java

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/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/RejectedExecutionHandlers.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/ResourceLeakTracker.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/MacAddressUtil.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/BooleanSupplier.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/NonStickyEventExecutorGroup.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/EventExecutorChooserFactory.java

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jar/io/netty/util/concurrent/PromiseCombiner.java
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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/META-INF/maven/io.netty/netty-common/pom.xml

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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/CleanerJava6.java

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jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpSCChunkedAtomicArrayQueue.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/shaded/org/jctools/util/UnsafeAccess.java
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/opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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/opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/shaded/org/jctools/queues/MessagePassingQueueUtil.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/BaseSpSCLinkedAtomicArrayQueue.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/shaded/org/jctools/queues/MessagePassingQueue.java
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jar/io/netty/util/internal/shaded/org/jctools/queues/MpmcUnboundedXaddArrayQueue.java
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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/UnpaddedInternalThreadLocalMap.java

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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/svm/PlatformDependent0Substitution.java  
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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/svm/CleanerJava6Substitution.java

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jar/io/netty/util/internal/logging/InternalLogger.java

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jar/io/netty/util/internal/logging/JdkLogger.java

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jar/io/netty/util/concurrent/SingleThreadEventExecutor.java

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jar/io/netty/util/NetUtil.java

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jar/io/netty/util/TimerTask.java

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jar/io/netty/util/Attribute.java

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jar/io/netty/util/concurrent/DefaultEventExecutorGroup.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/concurrent/GlobalEventExecutor.java
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jar/io/netty/util/package-info.java
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/concurrent/SucceededFuture.java
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jar/io/netty/util/Timer.java
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
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jar/io/netty/util/concurrent/FailedFuture.java
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jar/io/netty/util/Constant.java
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\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/DefaultFutureListeners.java  
\*  
/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/RecyclableArrayList.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/DefaultProgressivePromise.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/AppendableCharSequence.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/ReadOnlyIterator.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/NoOpTypeParameterMatcher.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/TypeParameterMatcher.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/ProgressiveFuture.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/DefaultThreadFactory.java  
\*  
/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/AbstractReferenceCounted.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/logging/package-info.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/ReferenceCountUtil.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/ProgressivePromise.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/AbstractFuture.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/DefaultPromise.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/ScheduledFuture.java  
\*  
/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/package-info.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/PendingWrite.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/Version.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/ThreadPoolExecutor.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/ResourceLeak.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/AbstractEventExecutor.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/GenericFutureListener.java  
\*  
/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/Promise.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/ResourceLeakDetector.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/CompleteFuture.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/AbstractEventExecutorGroup.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/FutureListener.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/EmptyArrays.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/concurrent/ImmediateEventExecutor.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/internal/ConcurrentSet.java

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/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/concurrent/Future.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/ReferenceCounted.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/Recycler.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/concurrent/PromiseTask.java

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jar/io/netty/util/concurrent/GenericProgressiveFutureListener.java

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jar/io/netty/util/internal/PlatformDependent0.java

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jar/io/netty/util/concurrent/ScheduledFutureTask.java

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jar/io/netty/util/concurrent/ImmediateExecutor.java

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jar/io/netty/util/ConstantPool.java

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jar/io/netty/util/collection/CharCollections.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/collection/ShortObjectMap.java

\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-

jar/io/netty/util/collection/LongObjectMap.java

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/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/CharObjectHashMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/ByteObjectMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/ByteObjectHashMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/ShortCollections.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/CharObjectMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/IntCollections.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/ByteCollections.java  
\*  
/opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/IntObjectHashMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/IntObjectMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/ShortObjectHashMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/LongObjectHashMap.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/internal/ObjectUtil.java  
\* /opt/cola/permits/1845711756\_1699909854.0518098/0/netty-common-4-1-101-final-sources-jar/io/netty/util/collection/LongCollections.java  
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* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/NettyRuntime.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/UncheckedBooleanSupplier.java
*
/opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/ReflectionUtil.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/logging/LocationAwareSlf4JLogger.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/SuppressForbidden.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/ObjectCleaner.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/EmptyPriorityQueue.java
* /opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/PriorityQueue.java
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io.netty.util.internal.Hidden$NettyBlockHoundIntegration
```

```
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jar/io/netty/util/internal/logging/MessageFormatter.java
*
/opt/cola/permits/1845711756_1699909854.0518098/0/netty-common-4-1-101-final-sources-
jar/io/netty/util/internal/logging/FormattingTuple.java
```

## 1.263 netty-handler 4.1.101.Final

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jar/io/netty/handler/ssl/OpenSslCertificateCompressionAlgorithm.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
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jar/io/netty/handler/traffic/GlobalChannelTrafficShapingHandler.java

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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SslCompletionEvent.java  
\*  
/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ConscryptAlpnSslEngine.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/Conscrypt.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ocsp/package-info.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SslClientHelloHandler.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SslCloseCompletionEvent.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JdkAlpnSslEngine.java  
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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JdkAlpnSslUtils.java  
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/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OptionalSslHandler.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SniCompletionEvent.java

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jar/io/netty/handler/traffic/TrafficCounter.java

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jar/io/netty/handler/traffic/ChannelTrafficShapingHandler.java

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jar/io/netty/handler/traffic/GlobalTrafficShapingHandler.java

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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/util/BouncyCastleSelfSignedCertGenerator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ipfilter/AbstractRemoteAddressFilter.java  
\*

/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/util/SimpleTrustManagerFactory.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/util/OpenJdkSelfSignedCertGenerator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolConfig.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslClientContext.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslSessionContext.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-

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jar/io/netty/handler/ipfilter/IpSubnetFilterRule.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/IdentityCipherSuiteFilter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/OpenSsl.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/JettyNpnSslEngine.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/OpenSslDefaultApplicationProtocolNegotiator.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/JdkSslServerContext.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/JdkSslClientContext.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/util/LazyX509Certificate.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ipfilter/RuleBasedIpFilter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/PemReader.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/SslContext.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ipfilter/IpFilterRule.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/OpenSslEngineMap.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/SupportedCipherSuiteFilter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/traffic/GlobalChannelTrafficCounter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/JdkNpnApplicationProtocolNegotiator.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/JdkSslContext.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/util/InsecureTrustManagerFactory.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/CipherSuiteConverter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/JdkBaseApplicationProtocolNegotiator.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/ApplicationProtocolNegotiator.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/util/ThreadLocalInsecureRandom.java
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/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslContext.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslEngine.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SniHandler.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslServerContext.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslServerSessionContext.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SslProvider.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactory.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ipfilter/IpFilterRuleType.java  
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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JdkDefaultApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JdkAlpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/CipherSuiteFilter.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JettyAlpnSslEngine.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ipfilter/UniqueIpFilter.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslSessionStats.java  
\*  
/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ipfilter/package-info.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslNpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JdkApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SslUtils.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/JdkSslEngine.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/Java7SslParametersUtils.java  
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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/traffic/AbstractTrafficShapingHandler.java

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jar/io/netty/handler/address/DynamicAddressConnectHandler.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/address/package-info.java

\*

/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/util/TrustManagerFactoryWrapper.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/SslMasterKeyHandler.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslPrivateKeyMethod.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-



jar/io/netty/handler/ssl/util/SimpleKeyManagerFactory.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/util/X509KeyManagerWrapper.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/util/KeyManagerFactoryWrapper.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/PseudoRandomFunction.java  
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* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/DelegatingSslContext.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/PemPrivateKey.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/flush/FlushConsolidationHandler.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/flush/package-info.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/PemValue.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/ReferenceCountedOpenSslContext.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/PemX509Certificate.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/util/X509TrustManagerWrapper.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/flow/package-info.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/Java8SslUtils.java
*
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/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ReferenceCountedOpenSslEngine.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ReferenceCountedOpenSslServerContext.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslKeyMaterialManager.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/PemEncoded.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslCertificateException.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ReferenceCountedOpenSslClientContext.java  
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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslSessionTicketKey.java  
\*  
/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolNames.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolAccessor.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolNegotiationHandler.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/ClientAuth.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/SslContextBuilder.java  
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jar/io/netty/handler/pcap/State.java
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*/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/SslHandshakeCompletionEvent.java
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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/EnhancingX509ExtendedTrustManager.java  
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jar/io/netty/handler/ssl/SslHandler.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/timeout/IdleState.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/timeout/TimeoutException.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/logging/LogLevel.java  
\*  
/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/timeout/WriteTimeoutException.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/timeout/package-info.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/logging/LoggingHandler.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/NotSslRecordException.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/timeout/IdleStateEvent.java  
\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/stream/ChunkedFile.java  
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jar/io/netty/handler/ssl/OpenSslCachingX509KeyManagerFactory.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/DefaultOpenSslKeyMaterial.java

\*

/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/SignatureAlgorithmConverter.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslSession.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslKeyMaterial.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslKeyMaterialProvider.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslCachingKeyMaterialProvider.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslPrivateKey.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/ExtendedOpenSslSession.java

\*

/opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslX509KeyManagerFactory.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-  
jar/io/netty/handler/ssl/OpenSslX509TrustManagerWrapper.java

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```
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/TCPpacket.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/PcapWriter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/IPPacket.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/PcapHeaders.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/EthernetPacket.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/package-info.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/UDPPacket.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/pcap/PcapWriteHandler.java
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image/io.netty.handler.native-image.properties
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jar/io/netty/handler/flow/FlowControlHandler.java

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\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslSessionId.java

\* /opt/cola/permits/1845712372\_1699909923.353999/0/netty-handler-4-1-101-final-sources-jar/io/netty/handler/ssl/OpenSslContextOption.java

\*



```
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/BouncyCastleAlpnSslUtils.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/GroupsConverter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/BouncyCastle.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/AsyncRunnable.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/OpenSslSessionCache.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/OpenSslClientSessionCache.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/Ciphers.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/SslContextOption.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/BouncyCastleAlpnSslEngine.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/OpenSslAsyncPrivateKeyMethod.java
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jar/io/netty/handler/address/ResolveAddressHandler.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/logging/ByteBufFormat.java
*
/opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ipfilter/IpSubnetFilter.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
```

```
jar/io/netty/handler/ssl/SslClosedEngineException.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ipfilter/IpSubnetFilterRuleComparator.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/SslHandshakeTimeoutException.java
* /opt/cola/permits/1845712372_1699909923.353999/0/netty-handler-4-1-101-final-sources-
jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactoryBuilder.java
```

## 1.264 netty-transport-native-unix-common

### 4.1.101.Final

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jar/io/netty/channel/unix/DomainDatagramChannel.java
* /opt/cola/permits/1845709862_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-
jar/io/netty/channel/unix/DomainDatagramSocketAddress.java
*
/opt/cola/permits/1845709862_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-
jar/io/netty/channel/unix/SegmentedDatagramPacket.java
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jar/io/netty/channel/unix/DomainDatagramChannelConfig.java
* /opt/cola/permits/1845709862_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-
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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/LimitsStaticallyReferencedJniMethods.java  
\*  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/netty\_unix\_limits.h  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/Limits.java  
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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/ErrorsStaticallyReferencedJniMethods.java  
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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/DomainSocketChannel.java

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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/DomainSocketAddress.java

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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/netty\_unix\_filedescriptor.c

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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/NativeInetAddress.java  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/DomainSocketReadMode.java  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/Socket.java  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/netty\_unix\_socket.h  
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/opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/DomainSocketChannelConfig.java  
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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/netty\_unix\_buffer.h  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/Buffer.java  
\*  
/opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/PreferredDirectByteBufAllocator.java  
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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/UnixChannelOption.java  
\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/package-info.java

\*  
/opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/IovArray.java

\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/Unix.java

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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/IntegerUnixChannelOption.java

\*  
/opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/GenericUnixChannelOption.java  
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\* /opt/cola/permits/1845709862\_1699909634.91991/0/netty-transport-native-unix-common-4-1-101-final-sources-jar/io/netty/channel/unix/UnixChannelUtil.java

# 1.265 netty-handler-proxy 4.1.101.Final

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```

```
* /opt/cola/permits/1847741632_1700148917.0881903/0/netty-handler-proxy-4-1-101-final-sources-
```



```
jar/io/netty/handler/proxy/HttpProxyHandler.java
*
/opt/cola/permits/1847741632_1700148917.0881903/0/netty-handler-proxy-4-1-101-final-sources-
jar/io/netty/handler/proxy/ProxyHandler.java
* /opt/cola/permits/1847741632_1700148917.0881903/0/netty-handler-proxy-4-1-101-final-sources-
jar/io/netty/handler/proxy/ProxyConnectException.java
* /opt/cola/permits/1847741632_1700148917.0881903/0/netty-handler-proxy-4-1-101-final-sources-
jar/io/netty/handler/proxy/Socks5ProxyHandler.java
* /opt/cola/permits/1847741632_1700148917.0881903/0/netty-handler-proxy-4-1-101-final-sources-
jar/io/netty/handler/proxy/ProxyConnectionEvent.java
* /opt/cola/permits/1847741632_1700148917.0881903/0/netty-handler-proxy-4-1-101-final-sources-
jar/io/netty/handler/proxy/Socks4ProxyHandler.java
```

## 1.266 netty-codec-socks 4.1.101.Final

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jar/io/netty/handler/codec/socksx/v5/AbstractSocks5Message.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v4/Socks4Message.java
*
/opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthResponseDecoder.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/AbstractSocksMessage.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v4/package-info.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
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jar/io/netty/handler/codec/socksx/v5/Socks5ServerEncoder.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5CommandRequestDecoder.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/package-info.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v4/Socks4ServerEncoder.java  
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jar/io/netty/handler/codec/socksx/v5/Socks5Message.java  
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jar/io/netty/handler/codec/socksx/v4/AbstractSocks4Message.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5CommandResponseDecoder.java  
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jar/io/netty/handler/codec/socksx/v5/Socks5InitialResponseDecoder.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthRequestDecoder.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5InitialRequestDecoder.java  
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/opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v4/Socks4ClientEncoder.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5ClientEncoder.java  
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jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthStatus.java

\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-  
jar/io/netty/handler/codec/socks/SocksCmdStatus.java

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*
/opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksResponseType.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksAuthStatus.java
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jar/io/netty/handler/codec/socksx/v5/Socks5CommandType.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksAuthScheme.java
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jar/io/netty/handler/codec/socksx/v5/Socks5AddressType.java
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jar/io/netty/handler/codec/socksx/v5/Socks5AuthMethod.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksAddressType.java
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/opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksSubnegotiationVersion.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
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* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksMessageType.java
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jar/io/netty/handler/codec/socksx/v5/Socks5CommandStatus.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
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\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socks/SocksInitResponse.java  
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\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socksx/v4/Socks4ClientDecoder.java  
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\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socks/SocksCmdRequestDecoder.java  
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\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5InitialResponse.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5PasswordAuthResponse.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socksx/SocksMessage.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5PasswordAuthRequest.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-jar/io/netty/handler/codec/socks/SocksAuthResponseDecoder.java  
\* /opt/cola/permits/1847741657\_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-

```
jar/io/netty/handler/codec/socks/UnknownSocksRequest.java
*
/opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5InitialResponse.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v4/Socks4CommandType.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksAuthRequestDecoder.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksRequest.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v4/Socks4CommandResponse.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socks/SocksCommonUtils.java
*
/opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5CommandRequest.java
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```
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* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5AddressDecoder.java
* /opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/SocksPortUnificationServerHandler.java
*
/opt/cola/permits/1847741657_1700148914.7722342/0/netty-codec-socks-4-1-101-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5AddressEncoder.java
```

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```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/META-INF/native-image/io.netty/netty-codec-http/native-image.properties
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*/
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```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/Attribute.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpConstants.java
```

```
*
```

```
/opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker00.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspResponseStatuses.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultLastHttpContent.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpContentDecompressor.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultHttpResponse.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspMethods.java
```

```
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-
```

jar/io/netty/handler/codec/http/HttpObjectEncoder.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/InternalAttribute.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/spdy/SpdyHttpEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/rtsp/RtspResponseEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/rtsp/package-info.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/HttpDataFactory.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/spdy/package-info.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpResponse.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/HttpPostRequestEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpContentDecoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/rtsp/RtspResponseDecoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/AbstractHttpData.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/DiskAttribute.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/HttpPostMultipartRequestDecoder.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpMethod.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/DefaultHttpDataFactory.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/websocketx/WebSocketUtil.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/websocketx/package-info.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HTTPHeaderDateFormat.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/package-info.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/websocketx/PingWebSocketFrame.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpMessage.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-



jar/io/netty/handler/codec/http/DefaultHttpObject.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/MixedFileUpload.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpResponseStatus.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/HttpData.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/websocketx/WebSocket00FrameEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/CookieDecoder.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/rtsp/RtspVersions.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/MemoryFileUpload.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/DefaultHttpContent.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpRequestDecoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpRequestEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/DefaultHttpHeaders.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpResponseDecoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker08.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/spdy/SpdyHttpHeaders.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/LastHttpContent.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/InterfaceHttpData.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/HttpServerCodec.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/AbstractDiskHttpData.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/websocketx/PongWebSocketFrame.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/QueryStringDecoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/FileUpload.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-  
jar/io/netty/handler/codec/http/multipart/HttpPostBodyUtil.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultHttpMessage.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/BinaryWebSocketFrame.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/HttpPostStandardRequestDecoder.java

\*

/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspRequestDecoder.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/HttpPostRequestDecoder.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdySettingsFrame.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/DiskFileUpload.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspRequestEncoder.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketHandshakeException.java

\*

/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspObjectEncoder.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshakerFactory.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketVersion.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker13.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultHttpRequest.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpContentEncoder.java

\*

/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker07.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshaker.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspObjectDecoder.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/ContinuationWebSocketFrame.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpClientCodec.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpVersion.java

\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/InterfaceHttpPostRequestDecoder.java

\*

/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/QueryStringEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/package-info.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/MemoryAttribute.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/MixedAttribute.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketFrame.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdySession.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpObjectDecoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/CaseIgnoringComparator.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpResponseEncoder.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpRequest.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultCookie.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/rtsp/RtspHeaders.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpContent.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpObjectAggregator.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyHttpResponseStreamIdHandler.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpHeaders.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/multipart/AbstractMemoryHttpData.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpObject.java  
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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/cors/CorsConfigBuilder.java

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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientHandshakeException.java

\*

/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketServerHandshakeException.java

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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpClientUpgradeHandler.java

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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyHttpDecoder.java

\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdyHeaders.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdyHeadersFrame.java  
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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyPingFrame.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientProtocolHandshakeHandler.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketFrameAggregator.java  
\*  
/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyStreamFrame.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdySynReplyFrame.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketProtocolHandler.java  
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/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdyGoAwayFrame.java  
\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdySessionStatus.java  
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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketClientProtocolHandler.java  
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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyFrame.java  
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/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/ComposedLastHttpContent.java  
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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdySessionHandler.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyVersion.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketFrameEncoder.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyGoAwayFrame.java  
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 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyHeadersFrame.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdySynStreamFrame.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultFullHttpRequest.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/FullHttpResponse.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdyRstStreamFrame.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyDataFrame.java  
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 /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyHeaderBlockRawEncoder.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyStreamStatus.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/cors/package-info.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/DefaultFullHttpResponse.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdySynStreamFrame.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketFrameDecoder.java  
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 /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/DefaultSpdyPingFrame.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdySettingsFrame.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyCodecUtil.java  
 \* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/spdy/SpdyHeaderBlockZlibEncoder.java

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jar/io/netty/handler/codec/http/HttpServerExpectContinueHandler.java
*
/opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-
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* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-
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jar/io/netty/handler/codec/http/cors/CorsConfig.java

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\* /opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketChunkedInput.java

\*

/opt/cola/permits/1849078729\_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-jar/io/netty/handler/codec/http/HttpServerKeepAliveHandler.java

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* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocket13FrameEncoder.java
* /opt/cola/permits/1849078729_1700256546.4903014/0/netty-codec-http-4-1-101-final-sources-
jar/io/netty/handler/codec/http/websocketx/WebSocket08FrameEncoder.java
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It is excluded from the public Javadocs (<http://netflix.github.io/RxJava/javadoc/>) and should not be relied upon by any code.

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 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/schedulers/TimeInterval.java  
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jar/rx/internal/operators/OperatorScan.java
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- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeDetach.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/ActionNotificationObserver.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/plugins/RxJavaHooks.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/subscriptions/package-info.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleTakeUntilObservable.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/ActionSubscriber.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/plugins/package-info.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleTakeUntilSingle.java
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- /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/observers/package-info.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/schedulers/SchedulerWhen.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/observables/package-info.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/plugins/RxJavaSingleExecutionHookDefault.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/subjects/package-info.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/CompletableFlatMapSingleToCompletable.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/InternalObservableUtils.java
- \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleDoOnUnsubscribe.java
- \*
- /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/subscriptions/Unsubscribed.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/singles/package-info.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeOnAssemblySingle.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleDelay.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeCreate.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/ObserverSubscriber.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/functions/Cancellable.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleFromCallable.java  
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 /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/schedulers/GenericScheduledExecutorServiceFactory.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeOnAssemblyCompletable.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/Emitter.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/ActionObserver.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/subscriptions/CancellableSubscription.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeOnAssembly.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeLift.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleFromObservable.java  
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 /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleLiftObservableOperator.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/observers/AssertableSubscriber.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/exceptions/package-info.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleFromEmitter.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleTimeout.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/observers/AssertableSubscriberObservable.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/observers/AsyncCompletableSubscriber.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/exceptions/AssemblyStackTraceException.java  
 \* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/plugins/RxJavaCompletableExecutionHook.java  
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/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/BackpressureOverflow.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/annotations/package-info.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/schedulers/SchedulePeriodicHelper.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/observers/SafeCompletableSubscriber.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/plugins/RxJavaSingleExecutionHook.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeFlattenIterable.java
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* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleFromFuture.java
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/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleObserveOn.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleToObservable.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/SingleTakeUntilCompletable.java
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* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/BackpressureUtils.java
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* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/producers/ProducerObserverArbiter.java
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/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/producers/QueuedValueProducer.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/producers/SingleDelayedProducer.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/producers/ProducerArbiter.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
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*/
```

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jar/rx/internal/util/atomic/LinkedQueueNode.java
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\* This plugin class provides 2 ways to customize { @link Scheduler } functionality

\* 1. You may redefine entire schedulers, if you so choose. To do so, override

\* the 3 methods that return Scheduler (io(), computation(), newThread()).

\* 2. You may wrap/decorate an { @link Action0 }, before it is handed off to a Scheduler. The system-

\* supplied Schedulers (Schedulers.ioScheduler, Schedulers.computationScheduler,

\* Scheduler.newThreadScheduler) all use this hook, so it's a convenient way to

\* modify Scheduler functionality without redefining Schedulers wholesale.

\*

\* Also, when redefining Schedulers, you are free to use/not use the onSchedule decoration hook.

\* <p>

\* See { @link RxJavaPlugins } or the RxJava GitHub Wiki for information on configuring plugins:

\* <a

href="https://github.com/ReactiveX/RxJava/wiki/Plugins">https://github.com/ReactiveX/RxJava/wiki/Plugins</a>.

\*/

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\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/SingleEmitter.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/CompletableFromEmitter.java  
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/opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/CompletableEmitter.java

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\*/

Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/atomic/SpscUnboundedAtomicArrayQueue.java

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\* Original location: <https://github.com/JCTools/JCTools/blob/master/jctools-core/src/main/java/org/jctools/queues/ConcurrentCircularArrayQueue.java>  
\*/

Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/unsafe/ConcurrentCircularArrayQueue.java

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\*/

Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/atomic/AtomicReferenceArrayQueue.java

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Found in path(s):

```
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/SingleOnSubscribeUsing.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/DeferredScalarSubscriber.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeReduce.java
*
/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeCollect.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/SingleOperatorZip.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/util/ExceptionsUtils.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeConcatMap.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/DeferredScalarSubscriberSafe.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/schedulers/SchedulerLifecycle.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeTakeLastOne.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeFromCallable.java
*
/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribePublishMulticast.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/SingleOperatorOnErrorResumeNext.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeReduceSeed.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/util/SuppressAnimalSniffer.java
```

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\*/

Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/unsafe/MpmcArrayQueue.java

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\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OperatorDebounceWithTime.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OperatorWindowWithObservable.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/schedulers/NewThreadWorker.java

\*

/opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/RxThreadFactory.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeTimerPeriodically.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OperatorMulticast.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OperatorBufferWithSize.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/schedulers/ExecutorScheduler.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OperatorMapPair.java

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-

jar/rx/internal/operators/OperatorDoAfterTerminate.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorBufferWithSingleObservable.java  
\*  
/opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OnSubscribeDelaySubscriptionOther.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/schedulers/ScheduledAction.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorOnBackpressureLatest.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/functions/Actions.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorBufferWithTime.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorBufferWithStartEndObservable.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorDebounceWithSelector.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorTakeTimed.java  
\*  
/opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorWindowWithSize.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorSampleWithObservable.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OnSubscribeDelaySubscriptionWithSelector.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorDistinctUntilChanged.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorSkipUntil.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OnSubscribeRefCount.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/util/atomic/SpSCLinkedListArrayQueue.java  
\*  
/opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorPublish.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/SingleOnSubscribeDelaySubscriptionOther.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/util/PlatformDependent.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OnSubscribeDelaySubscription.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OnSubscribeTimerOnce.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-  
jar/rx/internal/operators/OperatorRetryWithPredicate.java  
\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-

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jar/rx/internal/operators/OperatorWindowWithStartEndObservable.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorSampleWithTime.java
*
/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorDelayWithSelector.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorWindowWithObservableFactory.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorSwitch.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorEagerConcatMap.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorDistinct.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OnSubscribeSkipTimed.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorWindowWithTime.java
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/operators/OperatorWithLatestFrom.java
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core/src/main/java/org/jctools/queues/SpscLinkedQueue.java
*/
```

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Found in path(s):
* /opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/util/unsafe/SpscLinkedQueue.java
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\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/operators/OnSubscribeToMultimap.java

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\* Originally from <https://code.google.com/p/guava->

libraries/source/browse/guava/src/com/google/common/annotations/Beta.java

\*/

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\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/annotations/Beta.java

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Found in path(s):

```
*/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-
jar/rx/internal/util/ScalarSynchronousSingle.java
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*/
```

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```
*/opt/cola/permits/1856379022_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/OpenHashSet.java
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\* Original location: <https://github.com/JCTools/JCTools/blob/master/jctools-core/src/main/java/org/jctools/queues/QueueProgressIndicators.java>  
\*/

Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/unsafe/QueueProgressIndicators.java

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\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/UtilityFunctions.java

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This package contains code that relies on sun.misc.Unsafe. Before using it you MUST assert  
UnsafeAccess.isUnsafeAvailable() == true

Much of the code in this package comes from or is inspired by the JCTools project:

<https://github.com/JCTools/JCTools>

JCTools has now published artifacts (<https://github.com/JCTools/JCTools/issues/17>) so RxJava could add JCTools as a "shadow" dependency (<https://github.com/ReactiveX/RxJava/issues/1735>).

RxJava has a "zero dependency" policy for the core library, so if we do add it as a dependency, it won't be an externally visible dependency that results in a separate jar.

The license for the JCTools code is <https://github.com/JCTools/JCTools/blob/master/LICENSE>

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Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/unsafe/README.md

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\* Original location: <https://github.com/JCTools/JCTools/blob/master/jctools-core/src/main/java/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java>  
\*/

Found in path(s):

\* /opt/cola/permits/1856379022\_1701265124.64784/0/rxjava-1-2-9-sources-1-jar/rx/internal/util/unsafe/ConcurrentSequencedCircularArrayQueue.java

# 1.280 jackson-datatype-joda 2.16.0

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# 1.281 jackson-module-guice 2.16.0

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## 2.16.0

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# 1.283 alpine-baselayout 3.4.3-r2

### 1.283.1 Available under license :

# Automatically generated by apkbuild-cpan, template 3

# Contributor: Valery Kartel <valery.kartel@gmail.com>

# Maintainer: Celeste <cielesti@protonmail.com>

pkgname=perl-bsd-resource

#\_pkgreal is used by apkbuild-cpan to find modules at MetaCpan

\_pkgreal=BSD-Resource

pkgver=1.2911

pkgrel=9

pkgdesc="Perl extension implements the BSD process resource limit functions"

url="https://metacpan.org/release/BSD-Resource/"

arch="all"

license="Artistic-2.0 OR LGPL-2.0"

```

depends="perl"
makedepends="perl-dev"
subpackages="$pkgname-doc"
source="https://cpan.metacpan.org/authors/id/J/JH/JHI/BSD-Resource-$pkgver.tar.gz"
builddir="$srcdir/$_pkgreal-$pkgver"

build() {
 export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
 PERL_MM_USE_DEFAULT=1 perl -I. Makefile.PL INSTALLDIRS=vendor
 make
}

check() {
 export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
 make test
}

package() {
 make DESTDIR="$pkgdir" install
 find "$pkgdir" \(-name perllocal.pod -o -name .packlist \) -delete
}

sha512sums="
d0032d41c7c0468ed1c6d8f57b885f6cb97a5039d754c8cb60b2067daedaf53bd15fb6561a3d0f828df16dfa5417f663b
8065ba65f4fea16dc9262728b3b6b85
 BSD-Resource-1.2911.tar.gz
"
Contributor: Dhruvin Gandhi <contact@dhruvin.dev>
Maintainer: Patrycja Rosa <alpine@ptrcnull.me>
pkgname=py3-license-expression
_pkgname=license-expression
pkgver=30.2.0
pkgrel=0
pkgdesc="Library to parse, compare, simplify and normalize license expressions"
url="https://github.com/nexB/license-expression"
arch="noarch"
license="Apache-2.0"
depends="python3 py3-boolean.py"
makedepends="py3-setuptools py3-setuptools_scm py3-gpep517 py3-wheel"
checkdepends="py3-pytest py3-pytest-xdist"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/l/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="$srcdir/${_pkgname}-${pkgver}"

build() {
 gpep517 build-wheel \
 --wheel-dir .dist \
 --output-fd 3 3>&1 >&2

```



```

}

check() {
python3 -m venv --clear --without-pip --system-site-packages .testenv
.testenv/bin/python3 -m installer .dist/*.whl
.testenv/bin/python3 -m pytest
}

package() {
python3 -m installer -d "$pkgdir" \
.dist/*.whl
}

sha512sums="
7be7ebab1d980063ab846a228c5247570d0e23ed52f4362ef7d88eb7a59274e6f74653b4e9cff8225597693087d750c5
bf7fcf604440d8d3d2976ebcd7442c24
license-expression-30.2.0.tar.gz
"
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The Kohonen neural network code for color optimization was written by Anthony Dekker.

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The X-Spline code was written Carole Blanc (blanc@labri.u-bordeaux.fr) and Christophe Schlick (schlick@labri.u-bordeaux.fr) starting from an initial implementation done by C. Feuille, S. Grosbois, L. Maziere and L. Minihot as a student practice (Universite Bordeaux, France). For additional information about X-splines, see:

"X-Splines: A Spline Model Designed for the End User" by C. Blanc and C. Schlick, Proceedings of SIGGRAPH'95  
<http://dept-info.labri.u-bordeaux.fr/~schlick/DOC/sig1.html>

```

Maintainer: Jakub Panek <me@panekj.dev>
pkgname=cargo-license
pkgver=0.5.1
pkgrel=4
pkgdesc="Cargo subcommand to see license of dependencies"
url="https://github.com/onur/cargo-license"
arch="all !s390x !riscv64" # rust
license="MIT"
makedepends="cargo cargo-auditable"
source="$pkgname-$pkgver.tar.gz::https://crates.io/api/v1/crates/cargo-license/$pkgver/download"

prepare() {
 default_prepare

 cargo fetch --target="$CTARGET" --locked
}

build() {
 cargo auditable build --release --frozen
}

check() {
 cargo test --frozen
}

package() {
 install -Dm755 target/release/cargo-license -t "$pkgdir"/usr/bin
}

sha512sums="
4d8d430df91c6aac53d2305d3125eaaa492324e85c4db29d33d452b3848f33a55088e71247c6c72c6a62f4e924a374a
115bf14b4f398e7950b9eb52415f2244 cargo-license-0.5.1.tar.gz
"

Contributor: Maxim Karasev <begs@disroot.org>
Maintainer: mio <miyopan@e.email>
pkgname=bsd-games
pkgver=3.3
pkgrel=1
pkgdesc="traditional text mode games from BSD"
url="https://bsd-games.sourceforge.io/"
arch="all"
license="BSD-3-Clause"
install="$pkgname.post-install"
makedepends="ncurses-dev coreutils" # configure causes busybox expr error
subpackages="$pkgname-doc"
source="https://sourceforge.net/projects/bsd-games/files/bsd-games-$pkgver.tar.gz"
options="!check" # no tests

```

```

build() {
some GNU autoconf options are ignored, but it works
./configure \
--build=$CBUILD \
--host=$CHOST \
--prefix=/usr \
--sysconfdir=/etc \
--mandir=/usr/share/man \
--localstatedir=/var/lib # it really shouldn't be in /var
make
}

package() {
make DESTDIR="$pkgdir" install
install -Dm644 LICENSE "$pkgdir"/usr/share/licenses/bsd-games/LICENSE
}

sha512sums="
aaf36d09d4fe68514a5c279063d7e77a9a9a84c447037cba974b29faa07eb80c2aab2379d0699c196b5c27ffe1b2bb2c6
8d3390143e0e62d5e3d210ccfb61294
 bsd-games-3.3.tar.gz
"

Contributor: Carlo Landmeter <clandmeter@alpinelinux.org>
Maintainer: Kevin Daudt <kdaudt@alpinelinux.org>
pkgname=spdx-licenses
pkgver=3.22
pkgrel=0
pkgdesc="Various data formats for the SPDX License List"
url="https://spdx.org/"
arch="noarch"
options="!check" # no test suite
license="CC-BY-3.0"
source="license-list-data-$pkgver.tar.gz::https://github.com/spdx/license-list-data/archive/v$pkgver.tar.gz"
builddir="$srcdir/license-list-data-$pkgver"
subpackages="$pkgname-list"

_types="html json rdfa rdft rdfturtle rdfxml template text"

for type in $_types; do
subpackages="$subpackages $pkgname-$type:_subpkg"
done

package() {
mkdir -p "$pkgdir"
}

_subpkg() {

```

```
local type=${subpkgname/$pkgname-/
pkgdesc="$pkgdesc ($type)"
install_if="$pkgname"
mkdir -p "$subpkgdir"/usr/share/spdx
cp -r "$builddir"/$type "$subpkgdir"/usr/share/spdx/
}
```

```
list() {
 pkgdesc="$pkgdesc (licence list)"
 mkdir -p "$subpkgdir"/usr/share/spdx
 local i; for i in "$builddir"/text/*.txt; do
 local license=${i##*/}
 echo
 ${license%.*} >> "$subpkgdir"/usr/share/spdx/license.lst
 done
}
```

```
sha512sums="
b213fe66699770d75a4c994a01a5c08325751423516c2fb871088a47e7e7ce605736064f5ce3a63dc1d3c462271832db
7bc464ac968df1888f9823787964c786 license-list-data-3.22.tar.gz
"
```

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vintagedreamworks@hotmail.com

<http://www.geocities.com/SiliconValley/Campus/8645/index.html>

<http://members.nbc.com/silicon39/>

<http://www.mp3.com/silicon39>

<https://analoguesque.x10host.com/>

# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>

# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>

pkgname=py3-flake8-copyright

\_pkgname=flake8-copyright

pkgver=0.2.4

pkgrel=1

pkgdesc="Extension for flake8 which checks for copyrights"

options="!check" # No testsuite

url="https://github.com/savoirfairelinux/flake8-copyright"

arch="noarch"

license="MIT"

depends="py3-flake8 py3-setuptools"

subpackages="\$pkgname-pyc"

source="https://files.pythonhosted.org/packages/source/\${\_pkgname:0:1}/\${\_pkgname}/\${\_pkgname}-\${pkgver}.tar.gz"

builddir="\$srcdir/\${\_pkgname}-\${pkgver}

replaces="py-flake8-copyright" # Backwards compatibility

provides="py-flake8-copyright=\${pkgver}-r\${pkgrel}" # Backwards compatibility

build() {

python3 setup.py build

}

package() {

python3 setup.py install --skip-build --root="\$pkgdir"

}

sha512sums="

a6ab47e1bb715618f075c51f398e18180404871b3b0faf1c2d30701d5203db6bc23771bf22ffb5bafcd8ee856b9b64237

b316bd503ae7dceed6ca284ccd5a74d flake8-copyright-0.2.4.tar.gz

"

```

Maintainer: Natanael Copa <ncopa@alpinelinux.org>
pkgname=libart-igpl
pkgver=2.3.21
pkgrel=8
pkgdesc="A library for high-performance 2D graphics"
url="https://www.levien.com/libart/"
arch="all"
options="!check" # No test suite.
license="LGPL-2.0-or-later"
subpackages="$pkgname-dev"
source="https://download.gnome.org/sources/libart_igpl/2.3/libart_igpl-$pkgver.tar.bz2"
"

builddir="$srcdir"/libart_igpl-$pkgver

prepare() {
 update_config_sub
 default_prepare
}

build() {
 ./configure \
 --build=$CBUILD \
 --host=$CHOST \
 --prefix=/usr
 make
}

package() {
 make DESTDIR="$pkgdir" install
}

sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e7
6654309e001aee9bace727b5b4c8589405256a3c020 libart_igpl-2.3.21.tar.bz2"
mini_sendmail - accept email on behalf of real sendmail

```

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## 1.284 ssl-client 1.36.1-r15

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Julian Seward, Cambridge, UK.

jseward@bzip.org

bzip2/libbzip2 version 1.0.4 of 20 December 2006

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The hypothetical  
commands `show w' and `show c' should show the appropriate  
parts of the General Public License. Of course, the commands you use may  
be called something other than `show w' and `show c'; they could even be  
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your  
school, if any, to sign a "copyright disclaimer" for the program, if  
necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into  
proprietary programs. If your program is a subroutine library, you may  
consider it more useful to permit linking proprietary applications with the  
library. If this is what you want to do, use the GNU Library General  
Public License instead of this License.

## 1.287 logback-access 1.4.14

### 1.287.1 Available under license :

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```
/**
```

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\* or (per the licensee's choosing)  
\* <p>  
\* under the terms of the GNU Lesser General Public License version 2.1  
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\*/

Found in path(s):

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/jetty/RequestLogImpl.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/jetty/JettyModernServerAdapter.java  
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Found in path(s):

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/joran/ModelClassToModelHandlerLinker.java  
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\*/

Found in path(s):

```
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/ThreadNameConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/QueryStringConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/SessionIDConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/ElapsedSecondsConverter.java
```

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--

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-- conditions.

-- This SQL script creates the required tables by ch.qos.logback.access.db.DBAppender

--

```
DROP TABLE access_event_header
```

```
DROP TABLE access_event
```

```
CREATE TABLE access_event
```

```
(
 timestmp BIGINT NOT NULL,
 requestURI VARCHAR(254),
 requestURL VARCHAR(254),
 remoteHost VARCHAR(254),
 remoteUser VARCHAR(254),
 remoteAddr VARCHAR(254),
 protocol VARCHAR(254),
 method VARCHAR(254),
 serverName VARCHAR(254),
 postContent VARCHAR(254),
 event_id INT NOT NULL identity,
 PRIMARY KEY(event_id)
)
```

```
CREATE TABLE access_event_header
```

```
(
 event_id INT NOT NULL,
 header_key VARCHAR(254) NOT NULL,
 header_value VARCHAR(1024),
 PRIMARY KEY(event_id, header_key),
 FOREIGN KEY (event_id) REFERENCES access_event(event_id)
)
```

Found in path(s):

```
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/db/script/msSQLServer.sql
```

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```
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```

```
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```

```
#
```

```
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```

```
conditions.
```

```
This SQL script creates the required tables by ch.qos.logback.access.db.DBAppender.
```

```
#
```

```
It is intended for MySQL databases. It has been tested on MySQL 5.5.31 with
```

```
INNODB tables.
```

```
BEGIN;
```

```
DROP TABLE IF EXISTS access_event_header;
```

```
DROP TABLE IF EXISTS access_event;
```

```
COMMIT;
```

```
BEGIN;
```

```
CREATE TABLE access_event
```

```
(
```

```
 timestmp BIGINT NOT NULL,
```

```
 requestURI VARCHAR(254),
```

```
 requestURL VARCHAR(254),
```

```
 remoteHost VARCHAR(254),
```

```
 remoteUser VARCHAR(254),
```

```
 remoteAddr VARCHAR(254),
```

```
 protocol VARCHAR(254),
```

```
 method VARCHAR(254),
```

```
 serverName VARCHAR(254),
```

```
 postContent VARCHAR(254),
```

```
 event_id BIGINT NOT NULL
```

```
 AUTO_INCREMENT PRIMARY KEY
```

```
);
```

```
COMMIT;
```

```
BEGIN;
```

```
CREATE TABLE access_event_header
```

```
(
```

```
 event_id BIGINT NOT NULL,
```

```
 header_key VARCHAR(254) NOT NULL,
```

```
 header_value VARCHAR(1024),
```

```
 PRIMARY KEY(event_id, header_key),
```

```
FOREIGN KEY (event_id) REFERENCES access_event(event_id)
);
COMMIT;
```

Found in path(s):

```
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/db/script/mysql.sql
```

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```
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```

```
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```

```
#
```

```
See http://logback.qos.ch/license.html for the applicable licensing
```

```
conditions.
```

```
This SQL script creates the required tables by ch.qos.logback.classic.db.DBAppender
```

```
#
```

```
It is intended for PostgreSQL databases.
```

```
DROP TABLE access_event_exception;
```

```
DROP SEQUENCE access_event_id_seq;
```

```
DROP TABLE access_event;
```

```
CREATE SEQUENCE access_event_id_seq MINVALUE 1 START 1;
```

```
CREATE TABLE access_event
```

```
(
```

```
 timestmp BIGINT NOT NULL,
```

```
 requestURI VARCHAR(254),
```

```
 requestURL VARCHAR(254),
```

```
 remoteHost VARCHAR(254),
```

```
 remoteUser VARCHAR(254),
```

```
 remoteAddr VARCHAR(254),
```

```
 protocol VARCHAR(254),
```

```
 method VARCHAR(254),
```

```
 serverName VARCHAR(254),
```

```
 postContent VARCHAR(254),
```

```
 event_id BIGINT DEFAULT
```

```
 nextval('access_event_id_seq') PRIMARY KEY
```

```
);
```

```
CREATE TABLE access_event_header
```

```
(
```

```
 event_id BIGINT NOT NULL,
```

```
 header_key VARCHAR(254) NOT NULL,
```

```
 header_value VARCHAR(1024),
```

```
 PRIMARY KEY(event_id, header_key),
```

```
 FOREIGN KEY (event_id) REFERENCES access_event(event_id)
```

);

Found in path(s):

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/db/script/postgresql.sql

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Found in path(s):

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/joran/JoranConfigurator.java

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/model/processor/ConfigurationModelHandler.java

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/model/ConfigurationModel.java

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# conditions.

# This SQL script creates the required tables by ch.qos.logback.access.db.DBAppender

#

# It is intended for HSQL databases.

DROP TABLE access\_event\_header IF EXISTS;

DROP TABLE access\_event IF EXISTS;

CREATE TABLE access\_event (

timestamp BIGINT NOT NULL,

requestURI VARCHAR(254),

requestURL VARCHAR(254),



```
remoteHost VARCHAR(254),
remoteUser VARCHAR(254),
remoteAddr VARCHAR(254),
protocol VARCHAR(254),
method VARCHAR(254),
serverName VARCHAR(254),
postContent VARCHAR(254),
event_id BIGINT NOT NULL IDENTITY);
```

```
CREATE TABLE access_event_header (
event_id BIGINT NOT NULL,
header_key VARCHAR(254) NOT NULL,
header_value LONGVARCHAR,
PRIMARY KEY(event_id, header_key),
FOREIGN KEY
(event_id) REFERENCES access_event(event_id));
```

Found in path(s):

```
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/db/script/hsqldb.sql
```

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# This SQL script creates the required tables by ch.qos.logback.access.db.DBAppender

#

# It is intended for IBM DB2 databases.

#

# WARNING WARNING WARNING WARNING

# =====

# This SQL script has not been tested on an actual DB2

# instance. It may contain errors or even invalid SQL

# statements.

```
DROP TABLE access_event_header;
```

```
DROP TABLE access_event;
```

```
CREATE TABLE access_event
```

```
(
```

```
 timestmp BIGINT NOT NULL,
```

```
 requestURI VARCHAR(254),
```

```
 requestURL VARCHAR(254),
```

```
 remoteHost VARCHAR(254),
```

```

remoteUser VARCHAR(254),
remoteAddr VARCHAR(254),
protocol VARCHAR(254),
method VARCHAR(254),
serverName VARCHAR(254),
postContent VARCHAR(254),
event_id INTEGER GENERATED ALWAYS AS IDENTITY (START WITH 1)
);

```

```

CREATE TABLE access_event_header
(
 event_id INTEGER NOT NULL,
 header_key VARCHAR(254) NOT NULL,
 header_value VARCHAR(1024),
 PRIMARY KEY(event_id, header_key),
 FOREIGN KEY (event_id) REFERENCES access_event(event_id)
);

```

Found in path(s):

```

* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/db/script/db2.sql

```

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-- conditions.

-- This SQL script creates the required tables by ch.qos.logback.access.db.DBAppender

--

-- It is intended for Oracle databases.

```

CREATE SEQUENCE access_event_id_seq MINVALUE 1 START WITH 1;

```

```

CREATE TABLE access_event
(
 timestmp NUMBER(20) NOT NULL,
 requestURI VARCHAR(254),
 requestURL VARCHAR(254),
 remoteHost VARCHAR(254),
 remoteUser VARCHAR(254),
 remoteAddr VARCHAR(254),
 protocol VARCHAR(254),
 method VARCHAR(254),

```

```

serverName VARCHAR(254),
postContent VARCHAR(254),
event_id NUMBER(20) PRIMARY KEY
);

-- the / suffix may or may not be needed depending on your SQL Client
--
Some SQL Clients, e.g. Squirrel SQL has trouble with the following
-- trigger creation command, while SQLPlus (the basic SQL Client which
-- ships with Oracle) has no trouble at all.

```

```

CREATE TRIGGER access_event_id_seq_trig
BEFORE INSERT ON access_event
FOR EACH ROW
BEGIN
 SELECT access_event_id_seq.NEXTVAL
 INTO :NEW.event_id
 FROM DUAL;
END access_event_id_seq_trig;

```

```

CREATE TABLE access_event_header
(
 event_id NUMBER(20) NOT NULL,
 header_key VARCHAR2(254) NOT NULL,
 header_value VARCHAR2(1024),
 PRIMARY KEY(event_id, header_key),
 FOREIGN KEY (event_id) REFERENCES access_event(event_id)
);

```

Found in path(s):

```

* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/db/script/oracle.sql

```

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```

/**

```

```

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*
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* as published by the Free Software Foundation.
*/

```

Found in path(s):

- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/sift/AccessEventDiscriminator.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/RequestParameterConverter.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/net/server/ServerSocketAppender.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/tomcat/TomcatServerAdapter.java
- \*
- /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/net/server/SSLServerSocketAppender.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/NAConverter.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/servlet/TeeFilter.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/joran/action/ConfigurationAction.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/RequestHeaderConverter.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/servlet/TeeHttpServletRequest.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/StatisticalViewImpl.java
- \*
- /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/net/SMTPAppender.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/StatsByWeek.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/StatsByMinute.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/PeriodicStats.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/StatisticalView.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/sift/SiftingAppender.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/StatsByDay.java
- \*
- /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/servlet/TeeServletOutputStream.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/ContentLengthConverter.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/RequestProtocolConverter.java
- \* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-

```

jar/ch/qos/logback/access/pattern/RemoteIPAddressConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/RequestMethodConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/html/HTMLLayout.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/html/DefaultCssBuilder.java
*
/opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/FullRequestConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/html/UrlCssBuilder.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/boolex/JaninoEventEvaluator.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/jetty/RequestLogRegistry.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/PatternLayout.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/net/SimpleSocketServer.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/PatternLayoutEncoder.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/ResponseContentConverter.java
*
/opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/spi/IAccessEvent.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/spi/ServerAdapter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/RequestURICConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/net/SSLSocketAppender.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/joran/action/AccessEvaluatorAction.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/spi/AccessContext.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/net/SocketNode.java
*
/opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/filter/StatsByMonth.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/RequestContentConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/StatusCodeConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/ResponseHeaderConverter.java

```

\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/FullResponseConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/LineSeparatorConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/RequestCookieConverter.java  
\*  
/opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/servlet/Util.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/AccessConstants.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/net/URLEvaluator.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/servlet/TeeServletInputStream.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/filter/CountingFilter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/ViewStatusMessagesServlet.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/model/processor/LogbackAccessDefaultNestedComponentRegistryRules.java  
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/opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/AccessConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/jetty/JettyServerAdapter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/servlet/TeeHttpServletResponse.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/net/SocketAppender.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/ElapsedTimeConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/spi/AccessEvent.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/spi/Util.java  
\*  
/opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/tomcat/LogbackValve.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/RemoteHostConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/EnsureLineSeparation.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/LocalPortConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-jar/ch/qos/logback/access/pattern/LocalIPAddressConverter.java  
\* /opt/cola/permits/1862824013\_1701912840.4561653/0/logback-access-1-4-14-sources-

```
jar/ch/qos/logback/access/net/AccessEventPreSerializationTransformer.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/RemoteUserConverter.java
*
/opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/ServerNameConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/RequestAttributeConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/filter/StatsByHour.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/DateConverter.java
* /opt/cola/permits/1862824013_1701912840.4561653/0/logback-access-1-4-14-sources-
jar/ch/qos/logback/access/pattern/RequestURLConverter.java
```

## 1.288 logback-core 1.4.14

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* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/rolling/DefaultTimeBasedFileNamingAndTriggeringPolicy.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/rolling/SizeAndTimeBasedFNATP.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/rolling/helper/TimeBasedArchiveRemover.java
*
/opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/joran/GenericXMLConfigurator.java
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/sanity/AppenderWithinAppenderSanityChecker.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/ModelClassToModelHandlerLinkerBase.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/processor/SerializeModelModelHandler.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/SerializeModelAction.java  
\*  
/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/DummyEncoder.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/XTeeOutputStream.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/encoder/JsonEscapeUtil.java



\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/SerializeModelModel.java

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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/sift/NOPSiftModelHandler.java

\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/sift/SiftingAppenderBase.java

\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/processor/ImplicitModelHandler.java

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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/AppenderRefModel.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/NamedComponentModel.java

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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/NPEAppender.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/FileTestUtil.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/DelayingListAppender.java

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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/RandomUtil.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/MockInitialContextFactory.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/EnvUtilForTests.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/TeeOutputStream.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/spi/ConfigurationEvent.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/TrivialStatusListener.java

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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/MockInitialContext.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/StringListAppender.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/testUtil/CoreTestConstants.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/util/SimpleInvocationGate.java

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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/rolling/helper/MonoTypedConverter.java  
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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/color/MagentaCompositeConverter.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/recovery/ResilientSyslogOutputStream.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/util/DefaultInvocationGate.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/ContextBase.java  
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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/rolling/helper/TokenConverter.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/event/SaxEventRecorder.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/rolling/helper/RenameUtil.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/spi/LogbackLock.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/color/BoldBlueCompositeConverter.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/color/YellowCompositeConverter.java  
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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/spi/HostClassAndPropertyDouble.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/read/CyclicBufferAppender.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/util/StatusPrinter.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/property/ResourceExistsPropertyDefiner.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/net/LoginAuthenticator.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/boolex/JaninoEventEvaluatorBase.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/spi/AbstractComponentTracker.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/spi/PreSerializationTransformer.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/spi/JoranException.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/sift/DefaultDiscriminator.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/OutputStreamAppender.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/color/BoldWhiteCompositeConverter.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/ImplicitActionDataForBasicProperty.java  
\*

/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/util/AlmostAsIsEscapeUtil.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/PatternLayoutBase.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/recovery/ResilientOutputStreamBase.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/AppenderBase.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/util/LocationUtil.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/util/ConfigurationWatchListUtil.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/spi/DefaultNestedComponentRegistry.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/conditional/PropertyEvalScriptBuilder.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/NOPAction.java  
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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/EventEvaluatorAction.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/sift/AppenderFactoryUsingSiftModel.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/net/server/RemoteReceiverClient.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/net/AbstractSocketAppender.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/subst/NodeToStringTransformer.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/util/CharSequenceToRegexMapper.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/hook/DefaultShutdownHook.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/hook/ShutdownHook.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/pattern/color/RedCompositeConverter.java  
\*



/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-  
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 jar/ch/qos/logback/core/rolling/helper/Compressor.java  
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 /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-  
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 jar/ch/qos/logback/core/net/ssl/SSLComponent.java

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* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
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jar/ch/qos/logback/core/rolling/helper/SizeAndTimeBasedArchiveRemover.java
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jar/ch/qos/logback/core/util/DelayStrategy.java
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jar/ch/qos/logback/core/net/ssl/TrustManagerFactoryFactoryBean.java
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jar/ch/qos/logback/core/UnsynchronizedAppenderBase.java
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/opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/util/ContentTypeUtil.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/ImplicitModelData.java  
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\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/spi/RuleStore.java  
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- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/JoranConfiguratorBase.java
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- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/TimestampModel.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/conditional/ThenAction.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/ShutdownHookModel.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/ImplicitModelAction.java
- \*
- /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/conditional/ElseAction.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/ImportModel.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/ComponentModel.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/sanity/SanityChecker.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/spi/ErrorCodes.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/ModelConstants.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/NamedModel.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/processor/ProcessingPhase.java
- \*
- /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/joran/action/BaseModelAction.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/Model.java
- \* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-

```

jar/ch/qos/logback/core/model/processor/RefContainerDependencyAnalyser.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/conditional/ThenModelHandler.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/conditional/IfModel.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/DependencyDefinition.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/AppenderRefDependencyAnalyser.java
*
/opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/ModelInterpretationContext.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/TimeStampModelHandler.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/joran/conditional/IfAction.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/DefineModelHandler.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/util/TagUtil.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/EventEvaluatorModel.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/SequenceNumberGeneratorModel.java
*
/opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/conditional/ElseModel.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/ModelHandlerFactoryMethod.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/net/HardenedObjectInputStream.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/conditional/ElseModelHandler.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/recovery/RecoveryListener.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/StatusListenerModel.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/conditional/IfModelHandler.java
*
/opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/ModelHandlerBase.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/rolling/TimeBasedFileNamingAndTriggeringPolicy.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/rolling/TimeBasedRollingPolicy.java
* /opt/cola/permits/1862824011_1701915195.1574955/0/logback-core-1-4-14-sources-
jar/ch/qos/logback/core/model/processor/SequenceNumberGeneratorModelHandler.java

```

\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/AppenderModel.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/processor/NOPModelHandler.java  
\* /opt/cola/permits/1862824011\_1701915195.1574955/0/logback-core-1-4-14-sources-jar/ch/qos/logback/core/model/SiftModel.java

# 1.289 commons-io 2.15.1

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# 1.290 snappy-java 1.1.10.5

## 1.290.1 Available under license :

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Manifest-Version: 1.0

Bnd-LastModified: 1695799258578

Bundle-ActivationPolicy: lazy

Bundle-Activator: org.xerial.snappy.SnappyBundleActivator

Bundle-Description: snappy-java: A fast compression/decompression library

Bundle-DocURL: <http://www.xerial.org/>

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>  
Bundle-ManifestVersion: 2  
Bundle-Name: snappy-java: A fast compression/decompression library  
Bundle-NativeCode: org/xerial/snappy/native/Windows/x86\_64/snappyjava.dll;osname=win32;processor=x86-64,org/xerial/snappy/native/Windows/x86\_64/snappyjava.dll;osname=win32;processor=x64,org/xerial/snappy/native/Windows/x86\_64/snappyjava.dll;osname=win32;processor=amd64,org/xerial/snappy/native/Windows/x86/snappyjava.dll;osname=win32;processor=x86,org/xerial/snappy/native/Mac/x86/libsnappyjava.jnilib;osname=macosx;processor=x86,org/xerial/snappy/native/Mac/x86\_64/libsnappyjava.dylib;osname=macosx;processor=x86-64,org/xerial/snappy/native/Mac/aarch64/libsnappyjava.dylib;osname=macosx;processor=aarch64,org/xerial/snappy/native/Linux/x86\_64/libsnappyjava.so;osname=linux;processor=x86-64,org/xerial/snappy/native/Linux/x86\_64/libsnappyjava.so;osname=linux;processor=x64,org/xerial/snappy/native/Linux/x86\_64/libsnappyjava.so;osname=linux;processor=amd64,org/xerial/snappy/native/Linux/x86/libsnappyjava.so;osname=linux;processor=x86,org/xerial/snappy/native/Linux/aarch64/libsnappyjava.so;osname=linux;processor=aarch64,org/xerial/snappy/native/Linux/riscv64/libsnappyjava.so;osname=linux;processor=riscv64,org/xerial/snappy/native/Linux/arm/libsnappyjava.so;osname=linux;processor=arm,org/xerial/snappy/native/Linux/armv7/libsnappyjava.so;osname=linux;processor=arm\_le,org/xerial/snappy/native/Linux/ppc64/libsnappyjava.so;osname=linux;processor=ppc64le,org/xerial/snappy/native/Linux/s390x/libsnappyjava.so;osname=linux;processor=s390x,org/xerial/snappy/native/AIX/ppc/libsnappyjava.a;osname=aix;processor=ppc,org/xerial/snappy/native/AIX/ppc64/libsnappyjava.a;osname=aix;processor=ppc64,org/xerial/snappy/native/SunOS/x86/libsnappyjava.so;osname=sunos;processor=x86,org/xerial/snappy/native/SunOS/x86\_64/libsnappyjava.so;osname=sunos;processor=x86-64,org/xerial/snappy/native/SunOS/sparc/libsnappyjava.so;osname=sunos;processor=sparc  
Bundle-SymbolicName: org.xerial.snappy.snappy-java  
Bundle-Vendor: xerial.org  
Bundle-Version: 1.1.10.5  
Created-By: 11.0.20 (Azul Systems, Inc.)  
Export-Package: org.xerial.snappy;uses:="org.osgi.framework,org.xerial.snappy.buffer,org.xerial.snappy.pool";version="1.1.10",org.xerial.snappy.buffer;version="1.1.10",org.xerial.snappy.pool;version="1.1.10"  
Implementation-Title: snappy-java  
Implementation-URL: <https://github.com/xerial/snappy-java>  
Implementation-Vendor: xerial.org  
Implementation-Vendor-Id: org.xerial.snappy  
Implementation-Version: 1.1.10.5  
Import-Package: org.osgi.framework;version="[1.5,2)"  
Private-Package: org.xerial.snappy.native.AIX.ppc,org.xerial.snappy.native.AIX.ppc64,org.xerial.snappy.native.FreeBSD.x86\_64,org.xerial.snappy.native.Linux.aarch64,org.xerial.snappy.native.Linux.android-aarch64,org.xerial.snappy.native.Linux.android-arm,org.xerial.snappy.nativ



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tive.Linux.armv7,org.xerial.snappy.native.Linux.ppc,org.xerial.snappy  
.native.Linux.ppc64,org.xerial.snappy.native.Linux.ppc64le,org.xerial  
.snappy.native.Linux.riscv64,org.xerial.snappy.native.Linux.s390x,org  
.xerial.snappy.native.Linux.x86,org.xerial.snappy.native.Linux.x86\_64  
,org.xerial.snappy.native.Mac.aarch64,org.xerial.snappy.native.Mac.x8  
6,org.xerial.snappy.native.Mac.x86\_64,org.xerial.snappy.native,org.xe  
rial.snappy.native.SunOS.sparc,org.xerial.snappy.native.SunOS.x86,org  
.xerial.snappy.native.SunOS.x86\_64,org.xerial.snappy.native.Windows.a  
arch64,org.xerial.snappy.native.Windows.x86,org.xerial.snappy.native.  
Windows.x86\_64

Require-Capability:

osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"

Specification-Title: snappy-java

Specification-Vendor: xerial.org

Specification-Version: 1.1.10.5

Tool: Bnd-5.1.2.202007211702

Found in path(s):

\* /opt/cola/permits/1866412376\_1702418090.4402528/0/snappy-java-1-1-10-5-1-jar/META-INF/MANIFEST.MF

## 1.291 error\_prone\_annotations 2.23.0

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\* /opt/cola/permits/1880697838\_1704469724.6983197/0/error-prone-annotations-2-23-0-jar/META-

INF/maven/com.google.errorprone/error\_prone\_annotations/pom.xml

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Manifest-Version: 1.0  
Created-By: Maven JAR Plugin 3.2.2  
Build-Jdk-Spec: 17  
Automatic-Module-Name: com.google.errorprone.annotations  
Bundle-Description: Error Prone is a static analysis tool for Java that catches common programming mistakes at compile-time.  
Bundle-DocURL: [https://errorprone.info/error\\_prone\\_annotations](https://errorprone.info/error_prone_annotations)  
Bundle-License: "Apache 2.0";link="http://www.apache.org/licenses/LICENSE-2.0.txt"  
Bundle-ManifestVersion: 2  
Bundle-Name: error-prone annotations  
Bundle-SCM: url="https://github.com/google/error-prone/error\_prone\_annotations",connection="scm:git:https://github.com/google/error-prone.git/error\_prone\_annotations",developer-connection="scm:git:git@github.com:google/error-prone.git/error\_prone\_annotations",tag=HEAD  
Bundle-SymbolicName: com.google.errorprone.annotations  
Bundle-Vendor: Google LLC  
Bundle-Version: 2.23.0  
Export-Package: com.google.errorprone.annotations;uses:="javax.lang.model.element";version="2.23.0",com.google.errorprone.annotations.concurrent;version="2.23.0"  
Import-Package: javax.lang.model.element  
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.8))"

Found in path(s):

\* /opt/cola/permits/1880697838\_1704469724.6983197/0/error-prone-annotations-2-23-0-jar/META-INF/MANIFEST.MF

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\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Options.java  
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\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/SyntaxError.java  
\*  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/EOFError.java  
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jar/org/jline/utils/NonBlockingInputStream.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/terminal/impl/PosixPtyTerminal.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/StyleResolver.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/utils/NonBlockingReader.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/terminal/impl/jna/win/Kernel32.java  
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\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/InfoCmp.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Candidate.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Highlighter.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/terminal/impl/AbstractPty.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/reader/impl/completer/StringsCompleter.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/reader/impl/completer/ArgumentCompleter.java  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/terminal/impl/AbstractWindowsTerminal.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/Status.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/builtins/ConfigurationPath.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Tmux.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Editor.java  
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* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/widget/TailTipWidgets.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/impl/ConsoleEngineImpl.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/history/DefaultHistory.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Styles.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/LineReader.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/impl/SystemRegistryImpl.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/ArgDesc.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/PrintAboveWriter.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/utils/AttributedCharSequence.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Completers.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Commands.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/AbstractTerminal.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/impl/AttributedStyle.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/Printer.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/CompletionMatcherImpl.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/SystemRegistry.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/impl/DefaultPrinter.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/DefaultHighlighter.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/impl/SystemHighlighter.java
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* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/impl/ExecHelper.java
```

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/package-info.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/AbstractPosixTerminal.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/Levenshtein.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/ExecPty.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jna/win/WindowsAnsiWriter.java  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/UserInterruptException.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Expander.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/DiffHelper.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/keymap/KeyMap.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/UndoTree.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/completer/NullCompleter.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/package-info.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/completer/package-info.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/CursorSupport.java  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Widget.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/history/package-info.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/NativeSignalHandler.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Reference.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/spi/Pty.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/package-info.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/AttributedString.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/MouseEvent.java  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/MouseSupport.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/WCWidth.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/completer/AggregateCompleter.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Source.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/OSUtils.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/InputStreamReader.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-

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jar/org/jline/reader/impl/DefaultExpander.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/Cursor.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/utils/ClosedException.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/completer/EnumCompleter.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Binding.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/utils/ShutdownHooks.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/Attributes.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Macro.java
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jar/org/jline/builtins/ScreenTerminal.java
```



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#
```

```
auto_left_margin, bw, bw
auto_right_margin, am, am
back_color_erase, bce, ut
can_change, ccc, cc
ceol_standout_glitch, xhp, xs
col_addr_glitch, xhpa, YA
cpi_changes_res, cpix, YF
cr_cancels_micro_mode, crxm, YB
dest_tabs_magic_sms0, xt, xt
eat_newline_glitch, xenl, xn
erase_overstrike, eo, eo
generic_type, gn, gn
hard_copy, hc, hc
hard_cursor, chts, HC
has_meta_key, km, km
has_print_wheel, daisy, YC
has_status_line, hs, hs
hue_lightness_saturation, hls, hl
insert_null_glitch, in, in
lpi_changes_res, lpix, YG
memory_above, da, da
memory_below, db, db
move_insert_mode, mir, mi
move_standout_mode, msgr, ms
needs_xon_xoff, nxon, nx
no_esc_ctlc, xsb, xb
no_pad_char, npc,
NP
non_dest_scroll_region, ndscr, ND
non_rev_rmcup, nrrmc, NR
over_strike, os, os
prtr_silent, mc5i, 5i
row_addr_glitch, xvpa, YD
semi_auto_right_margin, sam, YE
status_line_esc_ok, eslok, es
tilde_glitch, hz, hz
transparent_underline, ul, ul
```

xon\_xoff, xon, xo  
columns, cols, co  
init\_tabs, it, it  
label\_height, lh, lh  
label\_width, lw, lw  
lines, lines, li  
lines\_of\_memory, lm, lm  
magic\_cookie\_glitch, xmc, sg  
max\_attributes, ma, ma  
max\_colors, colors, Co  
max\_pairs, pairs, pa  
maximum\_windows, wnum, MW  
no\_color\_video, ncv, NC  
num\_labels, nlab, Nl  
padding\_baud\_rate, pb, pb  
virtual\_terminal, vt, vt  
width\_status\_line, wsl, ws  
bit\_image\_entwining, bitwin, Yo  
bit\_image\_type, bitype, Yp  
buffer\_capacity, bufsz, Ya  
buttons, btns, BT  
dot\_horz\_spacing, spinh, Yc  
dot\_vert\_spacing, spinv, Yb  
max\_micro\_address, maddr, Yd  
max\_micro\_jump, mjump, Ye  
micro\_col\_size, mcs, Yf  
micro\_line\_size, mls, Yg  
number\_of\_pins, npins, Yh  
output\_res\_char, orc, Yi  
output\_res\_horz\_inch, orhi, Yk  
output\_res\_line, orl, Yj  
output\_res\_vert\_inch,  
orvi, Yl  
print\_rate, cps, Ym  
wide\_char\_size, widcs, Yn  
acs\_chars, acsc, ac  
back\_tab, cbt, bt  
bell, bel, bl  
carriage\_return, cr, cr  
change\_char\_pitch, cpi, ZA  
change\_line\_pitch, lpi, ZB  
change\_res\_horz, chr, ZC  
change\_res\_vert, cvr, ZD  
change\_scroll\_region, csr, cs  
char\_padding, rmp, rP  
clear\_all\_tabs, tbc, ct  
clear\_margins, mgc, MC  
clear\_screen, clear, cl

clr\_bol, e11, cb  
clr\_eol, e1, ce  
clr\_eos, ed, cd  
column\_address, hpa, ch  
command\_character, cmdch, CC  
create\_window, cwin, CW  
cursor\_address, cup, cm  
cursor\_down, cud1, do  
cursor\_home, home, ho  
cursor\_invisible, civis, vi  
cursor\_left, cub1, le  
cursor\_mem\_address, mrcup, CM  
cursor\_normal, cnorm, ve  
cursor\_right, cuf1, nd  
cursor\_to\_ll, ll, ll  
cursor\_up, cuu1, up  
cursor\_visible, cvvis, vs  
define\_char, defc, ZE  
delete\_character, dch1, dc  
delete\_line, dl1, dl  
dial\_phone, dial, DI  
dis\_status\_line, dsl, ds  
display\_clock, dclk, DK  
down\_half\_line, hd, hd  
ena\_acs, enacs, eA  
enter\_alt\_charset\_mode, smacs, as  
enter\_am\_mode, smam,  
SA  
enter\_blink\_mode, blink, mb  
enter\_bold\_mode, bold, md  
enter\_ca\_mode, smcup, ti  
enter\_delete\_mode, smdc, dm  
enter\_dim\_mode, dim, mh  
enter\_doublewide\_mode, swidm, ZF  
enter\_draft\_quality, sdrfq, ZG  
enter\_insert\_mode, smir, im  
enter\_italics\_mode, sitm, ZH  
enter\_leftward\_mode, slm, ZI  
enter\_micro\_mode, smicm, ZJ  
enter\_near\_letter\_quality, snlq, ZK  
enter\_normal\_quality, snrmq, ZL  
enter\_protected\_mode, prot, mp  
enter\_reverse\_mode, rev, mr  
enter\_secure\_mode, invis, mk  
enter\_shadow\_mode, sshm, ZM  
enter\_standout\_mode, smso, so  
enter\_subscript\_mode, ssubm, ZN  
enter\_superscript\_mode, ssupm, ZO

enter\_underline\_mode, smul, us  
enter\_upward\_mode, sum, ZP  
enter\_xon\_mode, smxon, SX  
erase\_chars, ech, ec  
exit\_alt\_charset\_mode, rmacs, ae  
exit\_am\_mode, rmam, RA  
exit\_attribute\_mode, sgr0, me  
exit\_ca\_mode, rmcup, te  
exit\_delete\_mode, rmdc, ed  
exit\_doublewide\_mode, rwidm, ZQ  
exit\_insert\_mode, rmir, ei  
exit\_italics\_mode, ritm, ZR  
exit\_leftward\_mode, rlm, ZS  
exit\_micro\_mode, rmicm, ZT  
exit\_shadow\_mode, rshm,  
ZU  
exit\_standout\_mode, rmso, se  
exit\_subscript\_mode, rsubm, ZV  
exit\_superscript\_mode, rsupm, ZW  
exit\_underline\_mode, rmul, ue  
exit\_upward\_mode, rum, ZX  
exit\_xon\_mode, rmxon, RX  
fixed\_pause, pause, PA  
flash\_hook, hook, fh  
flash\_screen, flash, vb  
form\_feed, ff, ff  
from\_status\_line, fsl, fs  
goto\_window, wingo, WG  
hangup, hup, HU  
init\_1string, is1, i1  
init\_2string, is2, is  
init\_3string, is3, i3  
init\_file, if, if  
init\_prog, iprog, iP  
initialize\_color, initc, Ic  
initialize\_pair, initp, Ip  
insert\_character, ich1, ic  
insert\_line, il1, al  
insert\_padding, ip, ip  
key\_a1, ka1, K1  
key\_a3, ka3, K3  
key\_b2, kb2, K2  
key\_backspace, kbs, kb  
key\_beg, kbeg, @1  
key\_btab, kcbt, kB  
key\_c1, kc1, K4  
key\_c3, kc3, K5  
key\_cancel, kcan, @2

key\_catab, ktbc, ka  
key\_clear, kclr, kC  
key\_close, kclo, @3  
key\_command, kcmd, @4  
key\_copy, kcpy, @5  
key\_create, kcrt, @6  
key\_ctab, kctab, kt  
key\_dc, kdch1, kD  
key\_dl, kdl1, kL  
key\_down, kcud1, kd  
key\_eic, krmir, kM  
key\_end, kend, @7  
key\_enter, kent, @8  
key\_eol, kel, kE  
key\_eos,  
ked, kS  
key\_exit, kext, @9  
key\_f0, kf0, k0  
key\_f1, kf1, k1  
key\_f10, kf10, k;  
key\_f11, kf11, F1  
key\_f12, kf12, F2  
key\_f13, kf13, F3  
key\_f14, kf14, F4  
key\_f15, kf15, F5  
key\_f16, kf16, F6  
key\_f17, kf17, F7  
key\_f18, kf18, F8  
key\_f19, kf19, F9  
key\_f2, kf2, k2  
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key\_f26, kf26, FG  
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key\_f3, kf3, k3  
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key\_f31, kf31, FL  
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key\_f33, kf33, FN  
key\_f34, kf34, FO  
key\_f35, kf35, FP  
key\_f36, kf36, FQ

key\_f37, kf37, FR  
key\_f38, kf38, FS  
key\_f39, kf39, FT  
key\_f4, kf4, k4  
key\_f40, kf40, FU  
key\_f41, kf41, FV  
key\_f42, kf42, FW  
key\_f43, kf43, FX  
key\_f44, kf44, FY  
key\_f45, kf45, FZ  
key\_f46, kf46, Fa  
key\_f47, kf47, Fb  
key\_f48, kf48, Fc  
key\_f49, kf49, Fd  
key\_f5, kf5, k5  
key\_f50, kf50, Fe  
key\_f51, kf51, Ff  
key\_f52, kf52, Fg  
key\_f53, kf53, Fh  
key\_f54, kf54, Fi  
key\_f55, kf55, Fj  
key\_f56, kf56, Fk  
key\_f57, kf57, Fl  
key\_f58, kf58,  
Fm  
key\_f59, kf59, Fn  
key\_f6, kf6, k6  
key\_f60, kf60, Fo  
key\_f61, kf61, Fp  
key\_f62, kf62, Fq  
key\_f63, kf63, Fr  
key\_f7, kf7, k7  
key\_f8, kf8, k8  
key\_f9, kf9, k9  
key\_find, kfnd, @0  
key\_help, khlp, %1  
key\_home, khome, kh  
key\_ic, kich1, kI  
key\_il, kill1, kA  
key\_left, kcub1, kl  
key\_ll, kll, kH  
key\_mark, kmrk, %2  
key\_message, kmsg, %3  
key\_move, kmov, %4  
key\_next, knxt, %5  
key\_npage, knp, kN  
key\_open, kopn, %6  
key\_options, kopt, %7

key\_ppage, kpp, kP  
key\_previous, kprv, %8  
key\_print, kpri, %9  
key\_redo, krdo, %0  
key\_reference, kref, &1  
key\_refresh, krfr, &2  
key\_replace, krpl, &3  
key\_restart, krst, &4  
key\_resume, kres, &5  
key\_right, kcuf1, kr  
key\_save, ksav, &6  
key\_sbeg, kBEG, &9  
key\_scancel, kCAN, &0  
key\_scommand, kCMD, \*1  
key\_scopy, kCPY, \*2  
key\_screate, kCRT, \*3  
key\_sdc, kDC, \*4  
key\_sdl, kDL, \*5  
key\_select, kslt, \*6  
key\_send, kEND, \*7  
key\_seol, kEOL, \*8  
key\_sexit, kEXT, \*9  
key\_sf, kind, kF  
key\_sfind, kFND, \*0  
key\_shelp, kHLP, #1  
key\_shome, kHOM, #2  
key\_sic, kIC, #3  
key\_sleft, kLFT, #4  
key\_smessage,  
kMSG, %a  
key\_smove, kMOV, %b  
key\_snext, kNXT, %c  
key\_soptions, kOPT, %d  
key\_sprevious, kPRV, %e  
key\_sprint, kPRT, %f  
key\_sr, kri, kR  
key\_sredo, kRDO, %g  
key\_sreplace, kRPL, %h  
key\_sright, kRIT, %i  
key\_sresume, kRES, %j  
key\_ssav, kSAV, !1  
key\_ssuspend, kSPD, !2  
key\_stab, khts, kT  
key\_sundo, kUND, !3  
key\_suspend, kspd, &7  
key\_undo, kund, &8  
key\_up, kcuu1, ku  
keypad\_local, rmkx, ke

keypad\_xmit, smkx, ks  
lab\_f0, lf0, l0  
lab\_f1, lf1, l1  
lab\_f10, lf10, la  
lab\_f2, lf2, l2  
lab\_f3, lf3, l3  
lab\_f4, lf4, l4  
lab\_f5, lf5, l5  
lab\_f6, lf6, l6  
lab\_f7, lf7, l7  
lab\_f8, lf8, l8  
lab\_f9, lf9, l9  
label\_format, fln, Lf  
label\_off, rmln, LF  
label\_on, smln, LO  
meta\_off, rmm, mo  
meta\_on, smm, mm  
micro\_column\_address, mhpa, ZY  
micro\_down, mcud1, ZZ  
micro\_left, mcub1, Za  
micro\_right, mcuf1, Zb  
micro\_row\_address, mvpa, Zc  
micro\_up, mciu1, Zd  
newline, nel, nw  
order\_of\_pins, porder, Ze  
orig\_colors, oc, oc  
orig\_pair, op, op  
pad\_char, pad, pc  
parm\_dch, dch, DC  
parm\_delete\_line, dl, DL  
parm\_down\_cursor, cud, DO  
parm\_down\_micro,  
mcud, Zf  
parm\_ich, ich, IC  
parm\_index, indn, SF  
parm\_insert\_line, il, AL  
parm\_left\_cursor, cub, LE  
parm\_left\_micro, mcub, Zg  
parm\_right\_cursor, cuf, RI  
parm\_right\_micro, mcuf, Zh  
parm\_rindex, rin, SR  
parm\_up\_cursor, cuu, UP  
parm\_up\_micro, mciu, Zi  
pkey\_key, pfkey, pk  
pkey\_local, pfloc, pl  
pkey\_xmit, pfx, px  
plab\_norm, pln, pn  
print\_screen, mc0, ps



prtr\_non, mc5p, pO  
prtr\_off, mc4, pf  
prtr\_on, mc5, po  
pulse, pulse, PU  
quick\_dial, qdial, QD  
remove\_clock, rmclk, RC  
repeat\_char, rep, rp  
req\_for\_input, rfi, RF  
reset\_1string, rs1, r1  
reset\_2string, rs2, r2  
reset\_3string, rs3, r3  
reset\_file, rf, rf  
restore\_cursor, rc, rc  
row\_address, vpa, cv  
save\_cursor, sc, sc  
scroll\_forward, ind, sf  
scroll\_reverse, ri, sr  
select\_char\_set, scs, Zj  
set\_attributes, sgr, sa  
set\_background, setb, Sb  
set\_bottom\_margin, smgb, Zk  
set\_bottom\_margin\_parm, smgbp, Zl  
set\_clock, sclk, SC  
set\_color\_pair, scp, sp  
set\_foreground, setf, Sf  
set\_left\_margin, smgl, ML  
set\_left\_margin\_parm, smglp, Zm  
set\_right\_margin,  
smgr, MR  
set\_right\_margin\_parm, smgrp, Zn  
set\_tab, hts, st  
set\_top\_margin, smgt, Zo  
set\_top\_margin\_parm, smgtp, Zp  
set\_window, wind, wi  
start\_bit\_image, sbim, Zq  
start\_char\_set\_def, scsd, Zr  
stop\_bit\_image, rbim, Zs  
stop\_char\_set\_def, rcsd, Zt  
subscript\_characters, subcs, Zu  
superscript\_characters, supcs, Zv  
tab, ht, ta  
these\_cause\_cr, docr, Zw  
to\_status\_line, tsl, ts  
tone, tone, TO  
underline\_char, uc, uc  
up\_half\_line, hu, hu  
user0, u0, u0  
user1, u1, u1

user2, u2, u2  
user3, u3, u3  
user4, u4, u4  
user5, u5, u5  
user6, u6, u6  
user7, u7, u7  
user8, u8, u8  
user9, u9, u9  
wait\_tone, wait, WA  
xoff\_character, xoffc, XF  
xon\_character, xonc, XN  
zero\_motion, zerom, Zx  
alt\_scancode\_esc, scesa, S8  
bit\_image\_carriage\_return, bicr, Yv  
bit\_image\_newline, binel, Zz  
bit\_image\_repeat, birep, Xy  
char\_set\_names, csnm, Zy  
code\_set\_init, csin, ci  
color\_names, colorm, Yw  
define\_bit\_image\_region, defbi, Yx  
device\_type, devt, dv  
display\_pc\_char, dispc, S1  
end\_bit\_image\_region, endbi, Yy  
enter\_pc\_charset\_mode,  
smpch, S2  
enter\_scancode\_mode, smsc, S4  
exit\_pc\_charset\_mode, rmpch, S3  
exit\_scancode\_mode, rmsc, S5  
get\_mouse, getm, Gm  
key\_mouse, kmous, Km  
mouse\_info, minfo, Mi  
pc\_term\_options, pctrm, S6  
pkey\_plab, pfxl, xl  
req\_mouse\_pos, reqmp, RQ  
scancode\_escape, scesc, S7  
set0\_des\_seq, s0ds, s0  
set1\_des\_seq, s1ds, s1  
set2\_des\_seq, s2ds, s2  
set3\_des\_seq, s3ds, s3  
set\_a\_background, setab, AB  
set\_a\_foreground, setaf, AF  
set\_color\_band, setcolor, Yz  
set\_lr\_margin, smglr, ML  
set\_page\_length, slines, YZ  
set\_tb\_margin, smgtb, MT  
enter\_horizontal\_hl\_mode, ehhl, Xh  
enter\_left\_hl\_mode, elhl, Xl  
enter\_low\_hl\_mode, elohl, Xo

enter\_right\_hl\_mode, erhlm, Xr  
enter\_top\_hl\_mode, ethlm, Xt  
enter\_vertical\_hl\_mode, evhlm, Xv  
set\_a\_attributes, sgr1, sA  
set\_pglen\_inch, slength, sL

Found in path(s):

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/capabilities.txt

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\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/telnet/PortListener.java

\*

/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/telnet/TelnetIO.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/telnet/Connection.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/telnet/ConnectionData.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/telnet/ConnectionManager.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/telnet/ConnectionEvent.java

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\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/style/NopStyleSource.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/ssh/ShellFactoryImpl.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/style/StyleResolver.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Buffer.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jansi/win/JansiWinConsoleWriter.java

\*

/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/style/StyleBundle.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/style/MemoryStyleSource.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jansi/freebsd/FreeBsdNativePty.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jansi/solaris/SolarisNativePty.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jna/win/JnaWinConsoleWriter.java

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-

```
jar/org/jline/utils/NonBlockingPumpInputStream.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/builtins/telnet/Telnet.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/utils/NonBlockingPumpReader.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/SimpleMaskingCallback.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/PumpReader.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/style/StyleBundleInvocationHandler.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/style/InterpolationHelper.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/utils/WriterOutputStream.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/AbstractWindowsConsoleWriter.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jansi/linux/LinuxNativePty.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/style/StyledWriter.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/style/StyleColor.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/BufferImpl.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jansi/osx/OsXNativePty.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/builtins/ssh/ShellCommand.java
```

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```
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-
INF/maven/org.jline/jline-remote-ssh/pom.xml
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-
INF/maven/org.jline/jline/pom.xml
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-
INF/maven/org.jline/jline-style/pom.xml
```

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-console/pom.xml  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-terminal-jna/pom.xml  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-builtins/pom.xml  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-reader/pom.xml  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-terminal/pom.xml  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-remote-telnet/pom.xml  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/META-INF/maven/org.jline/jline-terminal-jansi/pom.xml  
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\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/completer/SystemCompleter.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/CommandInput.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jansi/JansiSupportImpl.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/widget/AutopairWidgets.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/TerminalBuilder.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/terminal/impl/jna/JnaSupportImpl.java  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/impl/JlineCommandRegistry.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/impl/ReaderUtils.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Nano.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/ScriptEngine.java  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-

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jar/org/jline/console/ConsoleEngine.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/Log.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/CommandMethods.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/freebsd/FreeBsdNativePty.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/Display.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/linux/LinuxNativePty.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/freebsd/CLibrary.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jansi/JansiNativePty.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/spi/JansiSupport.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/LineReaderBuilder.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/spi/JnaSupport.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/widget/AutosuggestionWidgets.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/builtins/ConsoleOptionGetter.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/CmdDesc.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/win/JnaWinSysTerminal.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/solaris/CLibrary.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/widget/Widgets.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/console/CmdLine.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jansi/win/JansiWinSysTerminal.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/DefaultParser.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/JnaNativePty.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/linux/CLibrary.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/TTop.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/EndOfFileException.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/impl/Builtins.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/reader/Parser.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/ColorPalette.java

```

```
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/osx/CLibrary.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/builtins/Less.java
*
/opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/impl/LineReaderImpl.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/osx/OsXNativePty.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/reader/CompletionMatcher.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/CommandRegistry.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jna/solaris/SolarisNativePty.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/Signals.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/console/impl/AbstractCommandRegistry.java
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```

```
black
maroon
green
olive
navy
purple
teal
silver
grey
red
lime
yellow
blue
fuchsia
aqua
white
grey0
navyblue
darkblue
blue3
```



blue3a  
blue1  
darkgreen  
deepskyblue4  
deepskyblue4a  
deepskyblue4b  
dodgerblue3  
dodgerblue2  
green4  
springgreen4  
turquoise4  
deepskyblue3  
deepskyblue3a  
dodgerblue1  
green3  
springgreen3  
darkcyan  
lightseagreen  
deepskyblue2  
deepskyblue1  
green3a  
springgreen3a  
springgreen2  
cyan3  
darkturquoise  
turquoise2  
green1  
springgreen2a  
springgreen1  
mediumspringgreen  
cyan2  
cyan1  
darkred  
deeppink4  
purple4  
purple4a  
purple3  
blueviolet  
orange4  
grey37  
mediumpurple4  
slateblue3  
slateblue3a  
royalblue1  
chartreuse4  
darkseagreen4  
paleturquoise4  
steelblue

steelblue3  
cornflowerblue  
chartreuse3  
darkseagreen4a  
cadetblue  
cadetbluea  
skyblue3  
steelblue1  
chartreuse3a  
palegreen3  
seagreen3  
aquamarine3  
mediumturquoise  
steelblue1a  
chartreuse2  
seagreen2  
seagreen1  
seagreen1a  
aquamarine1  
darkslategray2  
darkreda  
deeppink4a  
darkmagenta  
darkmagentaa  
darkviolet  
purplea  
orange4a  
lightpink4  
plum4  
mediumpurple3  
mediumpurple3a  
slateblue1  
yellow4  
wheat4  
grey53  
lightslategrey  
mediumpurple  
lightslateblue  
yellow4a  
darkolivegreen3  
darkseagreen  
lightskyblue3  
lightskyblue3a  
skyblue2  
chartreuse2a  
darkolivegreen3a  
palegreen3a  
darkseagreen3

darkslategray3  
skyblue1  
chartreuse1  
lightgreen  
lightgreena  
palegreen1  
aquamarine1a  
darkslategray1  
red3  
deeppink4b  
mediumvioletred  
magenta3  
darkvioleta  
purpleb  
darkorange3  
indianred  
hotpink3  
mediumorchid3  
mediumorchid  
mediumpurple2  
darkgoldenrod  
lightsalmon3  
rosybrown  
grey63  
mediumpurple2a  
mediumpurple1  
gold3  
darkkhaki  
navajowhite3  
grey69  
lightsteelblue3  
lightsteelblue  
yellow3  
darkolivegreen3b  
darkseagreen3a  
darkseagreen2  
lightcyan3  
lightskyblue1  
greenyellow  
darkolivegreen2  
palegreen1a  
darkseagreen2a  
darkseagreen1  
paleturquoise1  
red3a  
deeppink3  
deeppink3a  
magenta3a

magenta3b  
magenta2  
darkorange3a  
indianreda  
hotpink3a  
hotpink2  
orchid  
mediumorchid1  
orange3  
lightsalmon3a  
lightpink3  
pink3  
plum3  
violet  
gold3a  
lightgoldenrod3  
tan  
mistyrose3  
thistle3  
plum2  
yellow3a  
khaki3  
lightgoldenrod2  
lightyellow3  
grey84  
lightsteelblue1  
yellow2  
darkolivegreen1  
darkolivegreen1a  
darkseagreen1a  
honeydew2  
lightcyan1  
red1  
deeppink2  
deeppink1  
deeppink1a  
magenta2a  
magenta1  
orangered1  
indianred1  
indianred1a  
hotpink  
hotpinka  
mediumorchid1a  
darkorange  
salmon1  
lightcoral  
palevioletred1

orchid2  
orchid1  
orange1  
sandybrown  
lightsalmon1  
lightpink1  
pink1  
plum1  
gold1  
lightgoldenrod2a  
lightgoldenrod2b  
navajowhite1  
mistyrose1  
thistle1  
yellow1  
lightgoldenrod1  
khaki1  
wheat1  
cornsilk1  
grey100  
grey3  
grey7  
grey11  
grey15  
grey19  
grey23  
grey27  
grey30  
grey35  
grey39  
grey42  
grey46  
grey50  
grey54  
grey58  
grey62  
grey66  
grey70  
grey74  
grey78  
grey82  
grey85  
grey89  
grey93

Found

in path(s):

\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/utils/colors.txt

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```

Found in path(s):

```
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-
jar/org/jline/terminal/impl/jansi/win/WindowsAnsiWriter.java
* /opt/cola/permits/1882208046_1704836222.642235/0/jline-3-20-0-sources-2-jar/org/jline/Utils/AnsiWriter.java
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```

```
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\*\*\*/  
  
Found in path(s):  
\* /opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/builtins/telnet/ConnectionListener.java  
\*  
/opt/cola/permits/1882208046\_1704836222.642235/0/jline-3-20-0-sources-2-  
jar/org/jline/builtins/telnet/ConnectionFilter.java

## 1.293 hazelcast-tpc-engine 5.3.6

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Found in path(s):  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/META-

INF/maven/com.hazelcast/hazelcast-tpc-engine/pom.xml

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List of third-party dependencies grouped by their license type:

Apache-2.0

Java Concurrency Tools Core Library:4.0.1

Third-party license texts:

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- \* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/Option.java
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- \* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AsyncServerSocket.java
- \* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/OS.java
- \* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AsyncSocket.java

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/opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/util/ThreadAffinityHelper.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/serialization/SerializableByConvention.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/BitUtil.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/package-info.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/TpcEngine.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/TpcEngineBuilder.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/iobuffer/NonConcurrentIOBufferAllocator.java  
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\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AsyncSocketMetrics.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/CloseUtil.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/iobuffer/IOBufferAllocator.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/Preconditions.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioAsyncServerSocketBuilder.java  
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\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AcceptRequest.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioAsyncServerSocketOptions.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/ScheduledTask.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/logging/TpcLoggerLocator.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/package-info.java  
\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioEventloop.java  
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\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/iobuffer/package-info.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioReactor.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/JVM.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioAsyncSocketBuilder.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AbstractAsyncSocket.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/iobuffer/IOBuffer.java

\*

/opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AsyncSocketReader.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioReactorBuilder.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioAsyncSocketOptions.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/UnsafeLocator.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioAsyncServerSocket.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/NioHandler.java

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/opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/ReactorBuilder.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/nio/SelectorOptimizer.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/CachedNanoClock.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/Eventloop.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/logging/JulLoggerFactory.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/NopScheduler.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/iobuffer/ConcurrentIOBufferAllocator.java

\*

/opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/StandardNanoClock.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/util/NanoClock.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/Promise.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-jar/com/hazelcast/internal/tpcengine/net/AsyncSocketOptions.java

\* /opt/cola/permits/1883172649\_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-



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jar/com/hazelcast/internal/tpcengine/util/CircularQueue.java
* /opt/cola/permits/1883172649_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-
jar/com/hazelcast/internal/tpcengine/util/BufferUtil.java
* /opt/cola/permits/1883172649_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-
jar/com/hazelcast/internal/tpcengine/util/ThreadAffinity.java
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/opt/cola/permits/1883172649_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-
jar/com/hazelcast/internal/tpcengine/Scheduler.java
* /opt/cola/permits/1883172649_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-
jar/com/hazelcast/internal/tpcengine/util/BoundPriorityQueue.java
* /opt/cola/permits/1883172649_1704944610.7694407/0/hazelcast-tpc-engine-5-3-6-sources-
jar/com/hazelcast/internal/tpcengine/PromiseAllocator.java
```

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Objenesis

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The packages:

```
com.hazelcast.internal.util.collection
com.hazelcast.internal.util.concurrent
```

and the classes:

```
com.hazelcast.internal.util.QuickMath
com.hazelcast.client.impl.protocol.util.UnsafeBuffer
com.hazelcast.client.impl.protocol.util.BufferBuilder
```

contain code originating from the Agrona project  
(<https://github.com/real-logic/Agrona>).

The class `com.hazelcast.internal.util.HashUtil` contains code originating  
from the Koloboke project (<https://github.com/OpenHFT/Koloboke>).

The class `classloading.ThreadLocalLeakTestUtils` contains code originating  
from the Tomcat

project (<https://github.com/apache/tomcat>).

com.hazelcast.internal.cluster.fd.PhiAccrualFailureDetector contains code originating from the Akka project (<https://github.com/akka/akka/>).

The package com.hazelcast.internal.json contains code originating from minimal-json project (<https://github.com/ralfstx/minimal-json>).

The class com.hazelcast.instance.impl.MobyNames contains code originating from The Moby Project (<https://github.com/moby/moby>).

The class com.hazelcast.internal.util.graph.BronKerboschCliqueFinder contains code originating from The JGraphT Project (<https://github.com/jgrapht/jgrapht>).

The packages:

com.hazelcast.sql

com.hazelcast.jet.sql

contain code originating from the Apache Calcite (<https://github.com/apache/calcite>)

The class com.hazelcast.jet.kafka.impl.ResumeTransactionUtil contains code derived from the Apache Flink project.

The class com.hazelcast.internal.util.ConcurrentReferenceHashMap contains code written by Doug Lea and updated within the WildFly project (<https://github.com/wildfly/wildfly>).

The classes:

com.hazelcast.cp.internal.raft.impl.state.FollowerState

com.hazelcast.cp.internal.raft.impl.state.FollowerStateTest

com.hazelcast.cp.internal.raft.impl.SlowFollowerBackoffTest

contain code originating from the MicroRaft project (<https://github.com/MicroRaft/MicroRaft>)

# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library.

It was originally written by Tatu Saloranta ([tatu.saloranta@iki.fi](mailto:tatu.saloranta@iki.fi)), and has been in development since 2007.

It is currently developed by a community of developers.

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## ## FastDoubleParser

jackson-core bundles a shaded copy of FastDoubleParser <<https://github.com/wrandelshofer/FastDoubleParser>>. That code is available under an MIT license <<https://github.com/wrandelshofer/FastDoubleParser/blob/main/LICENSE>> under the following copyright.

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# FastDoubleParser

This is a Java port of Daniel Lemire's fast\_float project.

This project provides parsers for double, float, BigDecimal and BigInteger values.



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- \* /opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-jar/org/zeroturnaround/zip/ZipEntryUtil.java
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- \* /opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-jar/org/zeroturnaround/zip/NameMapper.java
- \* /opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-jar/org/zeroturnaround/zip/ZipEntrySource.java
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- \* /opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-jar/org/zeroturnaround/zip/timestamps/TimestampStrategyFactory.java
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jar/org/zeroturnaround/zip/commons/StringBuilderWriter.java

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/opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-  
jar/org/zeroturnaround/zip/commons/FilenameUtils.java

\* /opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-  
jar/org/zeroturnaround/zip/commons/FileUtilsV2\_2.java

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jar/org/zeroturnaround/zip/commons/FileExistsException.java

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jar/org/zeroturnaround/zip/commons/IOUtils.java

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jar/org/zeroturnaround/zip/extra/ZipConstants.java

\*

/opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-  
jar/org/zeroturnaround/zip/extra/AsiExtraField.java

\* /opt/cola/permits/1886919998\_1705485810.177811/0/zt-zip-1-16-sources-  
jar/org/zeroturnaround/zip/extra/ZipShort.java

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jar/org/zeroturnaround/zip/extra/ZipExtraField.java
* /opt/cola/permits/1886919998_1705485810.177811/0/zt-zip-1-16-sources-
jar/org/zeroturnaround/zip/extra/ExtraFieldUtils.java
* /opt/cola/permits/1886919998_1705485810.177811/0/zt-zip-1-16-sources-
jar/org/zeroturnaround/zip/extra/UnrecognizedExtraField.java
* /opt/cola/permits/1886919998_1705485810.177811/0/zt-zip-1-16-sources-
jar/org/zeroturnaround/zip/extra/ZipLong.java
```

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## xwd v1.0.7

### xwd utility

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## Double-conversion v1.1.5

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|                | KHR/khrplatform.h  | Khronos        |

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Mesa 3-D  
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include/GL/wglxt.h :
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### xwd utility

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Version 3, 29 June 2007

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Mesa 3-D  
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include/GL/glxext.h  
include/GL/wglxext.h :

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## xwd v1.0.7

### xwd utility

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```
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```
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```

```
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```

```
Ty Coon, President of Vice
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```

```
<signature of Ty Coon>, 1 April 1989
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```
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```
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Copyright (C) <year> <name of author>
```

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```
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This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

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## 1.309 openssl 3.0.13

### 1.309.1 Available under license :

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

/opt/cola/permits/1899965984\_1707259742.364137/0/openssl-3-0-13-tar-1-gz/openssl-3.0.13.tar[1]: binary file  
matches

Found in path(s):

\* /bin/grep

## 1.310 alpine-baselayout-data 3.4.3-r2

### 1.310.1 Available under license :

```
Automatically generated by apkbuild-cpan, template 3
Contributor: Valery Kartel <valery.kartel@gmail.com>
Maintainer: Celeste <cielesti@protonmail.com>
pkgname=perl-bsd-resource
#_pkgreal is used by apkbuild-cpan to find modules at MetaCpan
_pkgreal=BSD-Resource
pkgver=1.2911
pkgrel=9
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="https://metacpan.org/release/BSD-Resource/"
arch="all"
license="Artistic-2.0 OR LGPL-2.0"
depends="perl"
makedepends="perl-dev"
subpackages="$pkgname-doc"
source="https://cpan.metacpan.org/authors/id/J/JH/JHI/BSD-Resource-$pkgver.tar.gz"
builddir="$srcdir/${_pkgreal}-$pkgver"
```

```

build() {
 export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
 PERL_MM_USE_DEFAULT=1 perl -I. Makefile.PL INSTALLDIRS=vendor
 make
}

check() {
 export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
 make test
}

package() {
 make DESTDIR="$pkgdir" install
 find "$pkgdir" \(-name perllocal.pod -o -name .packlist \) -delete
}

sha512sums="
d0032d41c7c0468ed1c6d8f57b885f6cb97a5039d754c8cb60b2067daedaf53bd15fb6561a3d0f828df16dfa5417f663b
8065ba65f4fea16dc9262728b3b6b85
 BSD-Resource-1.2911.tar.gz
"
Contributor: Dhruvin Gandhi <contact@dhruvin.dev>
Maintainer: Patrycja Rosa <alpine@ptrcnull.me>
pkgname=py3-license-expression
_pkgname=license-expression
pkgver=30.2.0
pkgrel=0
pkgdesc="Library to parse, compare, simplify and normalize license expressions"
url="https://github.com/nexB/license-expression"
arch="noarch"
license="Apache-2.0"
depends="python3 py3-boolean.py"
makedepends="py3-setuptools py3-setuptools_scm py3-gpep517 py3-wheel"
checkdepends="py3-pytest py3-pytest-xdist"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/l/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="$srcdir/${_pkgname}-${pkgver}"

build() {
 gpep517 build-wheel \
 --wheel-dir .dist \
 --output-fd 3 3>&1 >&2
}

check() {
 python3 -m venv --clear --without-pip --system-site-packages .testenv
 .testenv/bin/python3 -m installer .dist/*.whl
 .testenv/bin/python3 -m pytest

```

```
}
```

```
package() {
 python3 -m installer -d "$pkgdir" \
 .dist/*.whl
}
```

```
sha512sums="
```

```
7be7ebab1d980063ab846a228c5247570d0e23ed52f4362ef7d88eb7a59274e6f74653b4e9cff8225597693087d750c5
bf7fcf604440d8d3d2976ebcd7442c24
```

```
 license-expression-30.2.0.tar.gz
```

```
"
```

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The Kohonen neural network code for color optimization was written by Anthony Dekker.

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The X-Spline code was written Carole Blanc (blanc@labri.u-bordeaux.fr) and Christophe Schlick (schlick@labri.u-bordeaux.fr) starting from an initial implementation done by C. Feuille, S. Grosbois, L. Maziere and L. Minihot as a student practice (Universite Bordeaux, France). For additional information about X-splines, see:

"X-Splines: A Spline Model Designed for the End User" by C. Blanc and C. Schlick, Proceedings of SIGGRAPH'95

<http://dept-info.labri.u-bordeaux.fr/~schlick/DOC/sig1.html>

# Maintainer: Jakub Panek <me@panekj.dev>

```
pkgname=cargo-license
```

```
pkgver=0.5.1
```

```
pkgrel=4
```

```
pkgdesc="Cargo subcommand to see license of dependencies"
```

```
url="https://github.com/onur/cargo-license"
```

```
arch="all !s390x !riscv64" # rust
```

```

license="MIT"
makedepends="cargo cargo-auditable"
source="$pkgname-$pkgver.tar.gz::https://crates.io/api/v1/crates/cargo-license/$pkgver/download"

prepare() {
 default_prepare

 cargo fetch --target="$CTARGET" --locked
}

build() {
 cargo auditable build --release --frozen
}

check() {
 cargo test --frozen
}

package() {
 install -Dm755 target/release/cargo-license -t "$pkgdir"/usr/bin
}

sha512sums="
4d8d430df91c6aac53d2305d3125eae492324e85c4db29d33d452b3848f33a55088e71247c6c72c6a62f4e924a374a
115bf14b4f398e7950b9eb52415f2244 cargo-license-0.5.1.tar.gz
"
Contributor: Maxim Karasev <begs@disroot.org>
Maintainer: mio <miyopan@e.email>
pkgname=bsd-games
pkgver=3.3
pkgrelease=1
pkgdesc="traditional text mode games from BSD"
url="https://bsd-games.sourceforge.io/"
arch="all"
license="BSD-3-Clause"
install="$pkgname.post-install"
makedepends="ncurses-dev coreutils" # configure causes busybox expr error
subpackages="$pkgname-doc"
source="https://sourceforge.net/projects/bsd-games/files/bsd-games-$pkgver.tar.gz"
options="!check" # no tests

build() {
 # some GNU autoconf options are ignored, but it works
 ./configure \
 --build=$CBUILD \
 --host=$CHOST \
 --prefix=/usr \

```

```

--sysconfdir=/etc \
--mandir=/usr/share/man \
--localstatedir=/var/lib # it really shouldn't be in /var
make
}

package() {
make DESTDIR="$pkgdir" install
install -Dm644 LICENSE "$pkgdir"/usr/share/licenses/bsd-games/LICENSE
}

sha512sums="
aaf36d09d4fe68514a5c279063d7e77a9a9a84c447037cba974b29faa07eb80c2aab2379d0699c196b5c27ffe1b2bb2c6
8d3390143e0e62d5e3d210ccfb61294
 bsd-games-3.3.tar.gz
"
Contributor: Carlo Landmeter <clandmeter@alpinelinux.org>
Maintainer: Kevin Daudt <kdaudt@alpinelinux.org>
pkgname=spdx-licenses
pkgver=3.22
pkgrel=0
pkgdesc="Various data formats for the SPDX License List"
url="https://spdx.org/"
arch="noarch"
options="!check" # no test suite
license="CC-BY-3.0"
source="license-list-data-$pkgver.tar.gz::https://github.com/spdx/license-list-data/archive/v$pkgver.tar.gz"
builddir="$srcdir/license-list-data-$pkgver"
subpackages="$pkgname-list"

_types="html json rdfa rdfnt rdfturtle rdfxml template text"

for type in $_types; do
subpackages="$subpackages $pkgname-$type:_subpkg"
done

package() {
mkdir -p "$pkgdir"
}

_subpkg() {
local type=${subpkgname/$pkgname-/}
pkgdesc="$pkgdesc ($type)"
install_if="$pkgname"
mkdir -p "$subpkgdir"/usr/share/spdx
cp -r "$builddir"/$type "$subpkgdir"/usr/share/spdx/
}

```



```
list() {
 pkgdesc="$pkgdesc (licence list)"
 mkdir -p "$subpkgdir"/usr/share/spdx
 local i; for i in "$builddir"/text/*.txt; do
 local license=${i##*/}
 echo
 ${license%. *} >> "$subpkgdir"/usr/share/spdx/license.lst
 done
}
```

sha512sums="

b213fe66699770d75a4c994a01a5c08325751423516c2fb871088a47e7e7ce605736064f5ce3a63dc1d3c462271832db  
7bc464ac968df1888f9823787964c786 license-list-data-3.22.tar.gz

"

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vintagedreamworks@hotmail.com

<http://www.geocities.com/SiliconValley/Campus/8645/index.html>

<http://members.nbc.com/silicon39/>

<http://www.mp3.com/silicon39>

<https://analoguesque.x10host.com/>

# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>

# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>

pkgname=py3-flake8-copyright

\_pkgname=flake8-copyright

pkgver=0.2.4

pkgrel=1

pkgdesc="Extension for flake8 which checks for copyrights"

options="!check" # No testsuite

url="https://github.com/savoirfairelinux/flake8-copyright"

arch="noarch"

license="MIT"

depends="py3-flake8 py3-setuptools"

subpackages="\$pkgname-pyc"

source="https://files.pythonhosted.org/packages/source/\${\_pkgname:0:1}/\${\_pkgname}/\${\_pkgname}-\${pkgver}.tar.gz"

builddir="\$srcdir"/\$\_pkgname-\$pkgver

replaces="py-flake8-copyright" # Backwards compatibility

provides="py-flake8-copyright=\${pkgver}-r\${pkgrel}" # Backwards compatibility

```
build() {
 python3 setup.py build
}
```

```
package() {
 python3 setup.py install --skip-build --root="$pkgdir"
}
```

sha512sums="

a6ab47e1bb715618f075c51f398e18180404871b3b0faf1c2d30701d5203db6bc23771bf22ffb5bafcd8ee856b9b64237

b316bd503ae7dceed6ca284ccd5a74d flake8-copyright-0.2.4.tar.gz

"

mini\_sendmail - accept email on behalf of real sendmail

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```
Maintainer: Natanael Copa <ncopa@alpinelinux.org>
pkgname=libart-igpl
pkgver=2.3.21
pkgrel=8
pkgdesc="A library for high-performance 2D graphics"
url="https://www.levien.com/libart/"
arch="all"
options="!check" # No test suite.
license="LGPL-2.0-or-later"
subpackages="$pkgname-dev"
source="https://download.gnome.org/sources/libart_igpl/2.3/libart_igpl-$pkgver.tar.bz2"
"
```

```
builddir="$srcdir"/libart_igpl-$pkgver
```

```
prepare() {
 update_config_sub
 default_prepare
}
```

```
build() {
 ./configure \
 --build=$CBUILD \
 --host=$CHOST \
 --prefix=/usr
 make
}
```

```
package() {
 make DESTDIR="$pkgdir" install
}
```

}

sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e76654309e001aee9bace727b5b4c8589405256a3c020 libart\_lgpl-2.3.21.tar.bz2"

# 1.311 openssl 1.1.1x

## 1.311.1 Available under license :

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```

/*****
* NCSA HTTPd Server
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* National Center for Supercomputing Applications
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* 605 E. Springfield, Champaign, IL 61820
* httpd@ncsa.uiuc.edu
*
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```
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This comes from X11R5 (mit/util/scripts/install.sh).
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#
```

For the test/zb.c component:

```
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=====
```

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Written by Adam Twiss (adam@zeus.co.uk). March 1996

Thanks to the following people for their input:

Mike Belshe (mbelshe@netscape.com)  
Michael Campanella (campanella@stevms.enet.dec.com)

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```
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under certain conditions; type `show c'
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```
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```

```
<signature of Ty Coon>, 1 April 1989
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//curl

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```
*/
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

```
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en"><head><!--
XX
X
```

This file is generated from xml source: DO NOT EDIT

```
XX
X
-->
```

```
<title>The Apache License, Version 2.0 - Apache HTTP Server Version 2.4</title>
<link href="/style/css/manual.css" rel="stylesheet" media="all" type="text/css" title="Main stylesheet" />
<link href="/style/css/manual-loose-100pc.css" rel="alternate stylesheet" media="all" type="text/css" title="No
Sidebar - Default font size" />
<link href="/style/css/manual-print.css" rel="stylesheet" media="print" type="text/css" /><link rel="stylesheet"
type="text/css" href="/style/css/prettify.css" />
<script src="/style/scripts/prettify.min.js" type="text/javascript">
</script>
```

```
<link
href="/images/favicon.ico" rel="shortcut icon" /></head>
<body id="manual-page" class="no-sidebar"><div id="page-header">
<p class="menu">Modules | Directives | FAQ | Glossary | Sitemap</p>
<p class="apache">Apache HTTP Server Version 2.4</p>
</div>
<div class="up"></div>
<div id="path">
Apache > HTTP Server > Documentation > Version 2.4</div><div id="page-
content"><div id="preamble"><h1>The Apache License, Version 2.0</h1>
```

<div class="toplang">  
<p><span>Available Languages: </span><a href="/en/license.html" title="English">&nbsp;en&nbsp;</a></p>  
</div>

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<div class="bottomlang">

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</div><div class="top"><a href="#page-header"></a></div><div

class="section"><h2><a id="comments\_section" name="comments\_section">Comments</a></h2><div

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<script type="text/javascript"><!--><![CDATA[//><!--

var comments\_shortname = 'httpd';

var comments\_identifier = 'http://httpd.apache.org/docs/2.4/license.html';

(function(w, d) {

if (w.location.hostname.toLowerCase() == "httpd.apache.org") {

d.write('<div id="comments\_thread"></div>');

var s = d.createElement('script');



```

s.type = 'text/javascript';
s.async = true;
s.src = 'https://comments.apache.org/show_comments.lua?site=' + comments_shortname + '&page=' +
comments_identifier;
(d.getElementsByTagName('head')[0] || d.getElementsByTagName('body')[0]).appendChild(s);
}
else {
d.write('<div id="comments_thread">Comments are disabled for this page at the moment.</div>');
}
})(window, document);
!--><![></script></div><div id="footer">
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<p class="menu">Modules | Directives | FAQ | Glossary | Sitemap</p></div><script type="text/javascript"><!--><![CDATA[</><!--
if (typeof(prettyPrint) !== 'undefined') {
prettyPrint();
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--><![></script>
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# 1.312 jetty 11.0.20

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\* org.apache.tomcat:tomcat-api  
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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library.  
It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has  
been in development since 2007.  
It is currently developed by a community of developers.

## Copyright

Copyright 2007-, Tatu Saloranta (tatu.saloranta@iki.fi)

## Licensing

Jackson 2.x core and extension components are licensed under Apache License 2.0  
To find the details that apply to this artifact see the accompanying LICENSE file.

## Credits

A list of contributors may be found from CREDITS(-2.x) file, which is included  
in some artifacts (usually source distributions); but is always available  
from the source code management (SCM) system project uses.

## 1.318 jackson-dataformat-yaml 2.15.4

### 1.318.1 Available under license :

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# Jackson JSON processor

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## ## Licensing

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## ## Credits

A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.

# 1.319 ca-certificates 20240226-r0

## 1.319.1 Available under license :

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

```
/* c_rehash.c - Create hash symlinks for certificates
 * C implementation based on the original Perl and shell versions
 *
 * Copyright (c) 2013-2014 Timo Teräs <timo.teras@iki.fi>
 * All rights reserved.
 *
 * This software is licensed under the MIT License.
 * Full license available at: http://opensource.org/licenses/MIT
 */
```

Found in path(s):

```
* /opt/cola/permits/1919538345_1710807720.5754924/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c_rehash.c
```

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

```
#
This Source Code Form is subject to the terms of the Mozilla Public
License, v. 2.0. If a copy of the MPL was not distributed with this
file, You can obtain one at http://mozilla.org/MPL/2.0/.
```

```
#
certdata.txt
#
This file contains the object definitions for the certs and other
information "built into" NSS.
#
Object definitions:
#
Certificates
#
-- Attribute -- -- type -- -- value --
```

```

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT DER+base64 (varies)
CKA_ID byte array (varies)
#
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_VALUE DER+base64 (varies)
CKA_NSS_EMAIL ASCII7 (unused here)
CKA_NSS_SERVER_DISTRUST_AFTER DER+base64 (varies)
CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64 (varies)
#
Trust
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_CERT_HASH binary+base64 (varies)
CKA_EXPIRES CK_DATE
#
(not used here)
CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST (varies)
CKA_TRUST_NON_REPUDIATION CK_TRUST (varies)
CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_KEY_AGREEMENT CK_TRUST (varies)
CKA_TRUST_KEY_CERT_SIGN CK_TRUST (varies)
CKA_TRUST_CRL_SIGN CK_TRUST (varies)
CKA_TRUST_SERVER_AUTH CK_TRUST (varies)
CKA_TRUST_CLIENT_AUTH CK_TRUST (varies)
CKA_TRUST_CODE_SIGNING CK_TRUST (varies)
CKA_TRUST_EMAIL_PROTECTION CK_TRUST (varies)
CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST (varies)
CKA_TRUST_IPSEC_TUNNEL CK_TRUST (varies)
CKA_TRUST_IPSEC_USER CK_TRUST (varies)
CKA_TRUST_TIME_STAMPING CK_TRUST (varies)
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL (varies)
(other
trust attributes can be defined)
#

```

```

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

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

```

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004  
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006  
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004  
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166  
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022  
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040  
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060  
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060  
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016  
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033  
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231  
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037  
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034  
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052  
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106  
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064  
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320  
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054  
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263  
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362  
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240  
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004

```
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146
\125\342\374\110\311\051\046\151\340
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA"

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

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

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

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

#

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\013\004\000\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```



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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
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\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
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\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
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\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262  
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370  
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201  
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151  
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\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361  
\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354  
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\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170  
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043  
\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243  
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END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign,

```
Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Not Valid Before: Fri Oct 01 00:00:00 1999
Not Valid After : Wed Jul 16 23:59:59 2036
Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
CKA_ISSUER
MULTILINE_OCTAL
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\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
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\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
END
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CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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Certificate "Verisign Class 2 Public Primary Certification Authority - G3"
#
Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
Not Valid Before: Fri Oct 01 00:00:00 1999
Not Valid After : Wed Jul 16 23:59:59 2036
Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"

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

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

#

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

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

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

# Fingerprint (SHA-256):

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

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

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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust.net Premium 2048 Secure Server CA"
#
Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)
Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Not Valid Before: Fri Dec 24 17:50:51 1999
Not Valid After : Tue Jul 24 14:15:12 2029

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```
Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
 UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_SERIAL_NUMBER
 MULTILINE_OCTAL
\002\004\070\143\336\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006
```



\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151  
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050  
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060  
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071  
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155  
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105  
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061  
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067  
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022  
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123  
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151  
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056  
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223  
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167  
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271  
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233  
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225

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\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053
\174\136\232\166\351\131\220\305\174\203\065\021\145\121
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"

# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Serial Number: 946069240 (0x3863def8)

# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

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

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Baltimore CyberTrust Root"

#

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

# Serial Number: 33554617 (0x20000b9)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

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\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374
\347\201\035\031\303\044\102\352\143\071\251
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Baltimore CyberTrust Root"

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

# Serial Number: 33554617

(0x20000b9)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
```

END

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority"

#

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

# Serial Number: 1164660820 (0x456b5054)

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

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

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

# Fingerprint (SHA-256):

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

#

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164

```
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\105\153\120\124
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125
```

\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306  
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150  
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056  
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213  
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370  
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142  
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333  
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375  
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134  
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150  
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210  
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350  
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177  
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342  
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056  
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330  
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201  
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042  
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062  
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064  
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150  
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373  
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220  
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204  
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004  
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004  
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143  
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320  
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155  
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221  
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264  
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232  
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311  
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342  
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317  
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332  
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354  
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377  
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231  
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140  
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146



\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376  
\036\177\132\264\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority"

# Issuer: CN=Entrust

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

# Serial Number: 1164660820 (0x456b5054)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324  
\147\111\122\371

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER

MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```

\002\004\105\153\120\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Root CA"
#
Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
Serial Number: 65568 (0x10020)
Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
Not Valid Before: Tue Jun 11 10:46:39 2002
Not Valid After : Fri Jun 11 10:46:39 2027
Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060

```

\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103  
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063  
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071  
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145  
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060  
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304  
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261  
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215  
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250  
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234  
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304  
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210  
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153  
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117  
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156  
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123  
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225  
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040  
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042  
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110  
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073  
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076  
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201  
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032  
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246  
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343  
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340  
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230  
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251  
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152  
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171  
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323  
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161  
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122  
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151  
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054  
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Root CA"

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

# Serial Number: 65568 (0x10020)

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

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

# Not Valid After : Fri Jun 11

10:46:39 2027

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102

\121\261\201\030

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

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

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

\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\001\000\040

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Comodo AAA Services root"

#

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

# Serial Number: 1 (0x1)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo AAA Services root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006

\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204  
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121  
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162  
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062  
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155  
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151  
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372  
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274  
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120  
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277  
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112  
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363  
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302  
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067  
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366  
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003

```
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237
\225\351\066\226\230\156
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Comodo AAA Services root"

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

# Serial Number: 1 (0x1)

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

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

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

# Fingerprint

(SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo AAA Services root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

```

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

#
Certificate "QuoVadis Root CA 2"
#
Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Serial Number: 1289 (0x509)
Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 18:27:00 2006
Not Valid After : Mon Nov 24 18:23:33 2031
Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003

```



\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062  
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064  
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232  
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256  
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036  
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140  
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346  
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012  
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111  
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302  
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307  
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301  
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224  
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306  
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351  
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315  
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263  
\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365  
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161  
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174  
\255\353\257\367\026\313\333\315\045\053\345\037\373\232\237\342  
\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021  
\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247  
\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263  
\076\321\250\374\243\332\035\260\321\261\043\124\337\104\166\155  
\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052  
\061\344\055\365\345\345\333\310\340\377\345\200\327\013\143\240  
\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362  
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227  
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007  
\243\047\021\356\026\020\173\274\105\112\114\262\004\322\253\357  
\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134  
\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210  
\311\136\373\314\141\334\213\063\167\323\104\062\065\011\142\004  
\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002  
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125  
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366  
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147  
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2"

# Issuer: CN=QuoVadis Root

```

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

#
Certificate "QuoVadis Root CA 3"
#
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)
Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 19:11:23 2006
Not Valid After : Mon Nov 24 19:06:44 2031
Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
 UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311
```

\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335  
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014  
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036  
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057  
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313  
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173  
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323  
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245  
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314  
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136  
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125  
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236  
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210  
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305  
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355  
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111  
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246  
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331  
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322  
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155  
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100  
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327  
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002  
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341  
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011  
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006  
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101  
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103  
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164  
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143  
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151  
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164  
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120  
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156  
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041  
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141  
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160  
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076  
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006  
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103  
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111  
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031

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

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 3"

# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM

# Serial Number: 1478 (0x5c6)

# Subject:

CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM

# Not Valid Before: Fri Nov 24 19:11:23 2006

```

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

#
Certificate "Security Communication Root CA"
#
Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Not Valid Before: Tue Sep 30 04:20:49 2003
Not Valid After : Sat Sep 30 04:20:49 2023
Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication

```

Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040  
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125  
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155  
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103  
\101\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040  
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125  
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155  
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103  
\101\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

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



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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication Root CA"

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

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

```

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047  
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145  
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070  
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013  
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141  
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040  
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040  
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164  
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063  
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132  
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001

\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374  
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133  
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304  
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043  
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035  
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066  
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075  
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052  
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121  
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064  
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167  
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006  
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001  
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057  
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143  
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143  
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060  
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351  
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021  
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000  
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150  
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142  
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162  
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056  
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115  
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060  
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164  
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163  
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155  
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321  
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226  
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135  
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272  
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216  
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042  
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236  
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354  
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034  
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331

```
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370
\334
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

```
\062\061\060\063\060\061\060\060\060\060\060\060\132
```

END

# Trust for "Camerfirma Chambers of Commerce Root"

# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Serial Number: 0 (0x0)

# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Not Valid Before: Tue Sep 30 16:13:43 2003

# Not Valid After : Wed Sep 30 16:13:44 2037

# Fingerprint (SHA-256):

```
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
```

# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "Camerfirma Chambers of Commerce Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
```

END

CKA\_ISSUER MULTILINE\_OCTAL

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

```

\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "XRamp Global CA Root"
#
Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Not Valid Before: Mon Nov 01 17:14:04 2004
Not Valid After : Mon Jan 01 05:37:19 2035
Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155

```

\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120  
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036  
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141  
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044  
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123  
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163  
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130  
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061  
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067  
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167  
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122  
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162  
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125  
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041  
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246  
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320  
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141  
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070  
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "XRamp Global CA Root"

# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services  
Inc,OU=www.xrampsecurity.com,C=US

# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

# Subject: CN=XRamp

Global Certification Authority,O=XRamp Security Services Inc,OU=www.xrampsecurity.com,C=US

# Not Valid Before: Mon Nov 01 17:14:04 2004

# Not Valid After : Mon Jan 01 05:37:19 2035

# Fingerprint (SHA-256):



```

CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Go Daddy Class 2 CA"
#
Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
Serial Number: 0 (0x0)
Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
Not Valid Before: Tue Jun 29 17:06:20 2004
Not Valid After : Thu Jun
29 17:06:20 2034
Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030
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\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342  
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142  
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030  
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244  
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171  
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377  
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304  
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202  
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241  
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125  
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171  
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057  
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007  
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012  
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162  
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327  
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105  
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317  
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345  
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156  
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020  
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370  
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274  
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021  
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002  
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245  
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237  
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035  
\177\333\275\237

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Class 2 CA"
Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
Serial Number: 0 (0x0)
Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
Not Valid Before: Tue
Jun 29 17:06:20 2004
Not Valid After : Thu Jun 29 17:06:20 2034
Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```

```
Serial Number: 0 (0x0)
Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
Not Valid Before: Tue Jun 29 17:39:16 2004
Not Valid After : Thu Jun 29 17:39:16 2034
Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066
```

\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151  
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002  
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021  
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237  
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360  
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115  
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045  
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052  
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064  
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072  
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121  
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232  
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270  
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144  
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300  
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006  
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206  
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006  
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157  
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003  
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103  
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363  
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145  
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101

```
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057
\037\027\224
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Class 2 CA"

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

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

#

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Class 2 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

```

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

#
Certificate "DigiCert Assured ID Root CA"
#
Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_VALUE

```



MULTILINE\_OCTAL

\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014  
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076  
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170  
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root CA"

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER

MULTILINE\_OCTAL

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

```

\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```

\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077  
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352  
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105  
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140  
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105  
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154  
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025  
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167  
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044  
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230  
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225  
\225\155\336

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root CA"

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

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

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

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

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

# Fingerprint (SHA-256):

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

#

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057

\261\234\124\066

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert High Assurance EV Root CA"

#

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert High Assurance EV Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040  
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001  
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357  
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200  
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002  
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234  
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277  
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372  
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263  
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232  
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043  
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305  
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313  
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014  
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066  
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214  
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052  
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236  
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134  
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143  
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251  
\370\351\056\023\243\167\350\037\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert High Assurance EV Root CA"

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert High Assurance EV Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL



\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032

\141\307\334\045

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023

\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157

\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151

\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141

\156\143\145\040\105\126\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

\045\167

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SwissSign Gold CA - G2"

#

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Gold CA - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

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

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

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

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023  
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040  
\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000  
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125  
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023  
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060  
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147  
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036  
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027  
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060  
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147  
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123  
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101  
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251  
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052  
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374  
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130  
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176  
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333  
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330  
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234  
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275  
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340  
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204  
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120  
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250  
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135  
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305  
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053  
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155  
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313

\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014  
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262  
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227  
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274  
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162  
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142  
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203  
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342  
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256  
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266  
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114  
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124  
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031  
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201  
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173  
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360  
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045  
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347  
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006  
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010  
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057  
\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163  
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272  
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203  
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374  
\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316  
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144  
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270  
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271  
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000  
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042  
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202  
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236  
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267  
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257  
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164  
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113  
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332  
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044  
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125  
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202  
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352  
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126  
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167  
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053

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\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362
\111\044\133\311\260\320\127\301\372\076\172\341\227\311
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Gold CA - G2"

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

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

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

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

# Not Valid

After : Sat Oct 25 08:30:35 2036

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Gold CA - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

```

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

#
Certificate "SwissSign Silver CA - G2"
#
Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Serial Number:4f:1b:d4:2f:54:bb:2f:4b
Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Not Valid Before: Wed Oct 25 08:32:46 2006
Not Valid After : Sat Oct 25 08:32:46 2036
Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037

```

\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156  
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060  
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132  
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060  
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025  
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151  
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030  
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162  
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061  
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272  
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057  
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054  
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004  
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353  
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133  
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117  
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205  
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350  
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066  
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007  
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144  
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346  
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155  
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013  
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276  
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177  
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204  
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311  
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011  
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020  
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074  
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107  
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173  
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361  
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337  
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330  
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013  
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372  
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105  
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103  
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201  
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302  
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200

\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034  
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075  
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060  
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164  
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163  
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177  
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135  
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151  
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037  
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205  
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075  
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143  
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135  
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220  
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072  
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156  
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231  
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365  
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133  
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274  
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325  
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363  
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227  
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170  
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275  
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021  
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133  
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215  
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077  
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005  
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223  
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076  
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345  
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353  
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362  
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152  
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056  
\156

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Silver CA - G2"

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

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

#
Certificate "SecureTrust CA"
#
Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:31:18 2006
Not Valid After : Mon Dec 31 19:40:55 2029
Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```



```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365
```

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

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureTrust CA"

#

Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

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

#
Certificate "Secure Global CA"
#
Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:42:28 2006
Not Valid After : Mon Dec 31 19:52:06 2029
Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS
```

```
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032
```

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

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Secure Global CA"

# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US

# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5

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

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

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

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



```
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001
\145
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO Certification Authority"

# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d

# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

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

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

# Fingerprint (SHA-256):

0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66

# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```

\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST
CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```

\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

```
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346
\334\335\363\377\035\054\072\026\127\331\222\071\326
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO ECC Certification Authority"

# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a

# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Mar 06 00:00:00 2008

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7

# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

```

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

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

```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101  
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020  
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171  
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162  
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060  
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157  
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145  
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124  
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154  
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060  
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067  
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013  
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006  
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060  
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150  
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003  
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144  
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050  
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127  
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157  
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066  
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172  
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121

```
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311
\374\276\337\012\015
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GA CA"

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

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

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

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

# Not Valid After : Fri

Dec 11 16:09:51 2037

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISEKey Global Root GA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260

```

\104\033\017\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certigna"
#
Issuer: CN=Certigna,O=Dhimyotis,C=FR
Serial Number:00:fe:dc:e3:01:0f:c9:48:ff
Subject: CN=Certigna,O=Dhimyotis,C=FR
Not Valid Before: Fri Jun 29 15:13:05 2007
Not Valid After : Tue Jun 29 15:13:05 2027
Fingerprint (SHA-256):
E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D
Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145

```



\162\164\151\147\156\141

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023  
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150  
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003  
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343  
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102  
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222  
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332  
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041  
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023  
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060  
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334  
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226  
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024  
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256  
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006  
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347  
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260  
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004  
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043  
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060  
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225  
\300\226\130\057\352\273\106\327\273\344\331\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna"

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

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

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

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

#

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304

\254\375\224\227

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
END
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ePKI Root Certification Authority"
#
Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Mon Dec 20 02:31:27 2004
Not Valid After : Wed Dec 20 02:31:27 2034
Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061

```

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

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025  
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036  
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027  
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341  
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155  
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007  
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217  
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376  
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041  
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225  
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364  
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367  
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020  
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065  
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047  
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330  
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111  
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221  
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162  
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300  
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243

\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024  
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224  
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076  
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101  
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322  
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172  
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052  
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107  
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203  
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215  
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251  
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132  
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215  
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002  
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004  
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125  
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060  
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005  
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307  
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201  
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000  
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312  
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066  
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017  
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122  
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227  
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277  
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322  
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323  
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066  
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245  
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355  
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272  
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224  
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115  
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001  
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217  
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341  
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122  
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200  
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211  
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263  
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342

```
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352
\201\370\021\234
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ePKI Root Certification Authority"

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ePKI Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
\075\151\306\360
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "certSIGN ROOT CA"

#

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

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

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

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

2006

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "certSIGN ROOT CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111  
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162  
\164\123\111\107\116\040\122\117\117\124\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111  
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162  
\164\123\111\107\116\040\122\117\117\124\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\006\040\006\005\026\160\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040  
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023  
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145  
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023  
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103  
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060

\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064  
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117  
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123  
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145  
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202  
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267  
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350  
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127  
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135  
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020  
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272  
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263  
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135  
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001  
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200  
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020  
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320  
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045  
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057  
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211  
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327  
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044  
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030  
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124  
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223  
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031  
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133  
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367  
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210  
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240  
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240  
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160  
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302  
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210  
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115  
\366\356\260\132\116\111\104\124\130\137\102\203

END

CKA\_NSS\_MOZILLA\_CA\_POLICY



```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "certSIGN ROOT CA"
Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
Serial Number:20:06:05:16:70:02
Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
Not Valid Before: Tue Jul 04 17:20:04 2006
Not Valid After : Fri Jul 04 17:20:04 2031
Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
#
Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Serial Number:49:41:2c:e4:00:10
Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification

```

```
Services),O=NetLock Kft.,L=Budapest,C=HU
Not Valid Before: Thu Dec 11 15:08:21 2008
Not Valid After : Wed Dec 06 15:08:21 2028
Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006
```

\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102  
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012  
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067  
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303  
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003  
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040  
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221  
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036  
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027  
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201  
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163  
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114  
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004  
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156  
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163  
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114  
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163  
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163  
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245  
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071  
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141

```
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233
\330\316\304\143\165\077\131\107\261
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"

# Issuer:

CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Serial Number:49:41:2c:e4:00:10

# Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Not Valid Before: Thu Dec 11 15:08:21 2008

# Not Valid After : Wed Dec 06 15:08:21 2028

# Fingerprint (SHA-256):

6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98

# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
```

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "Hongkong Post Root CA 1"

#

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

# Serial Number: 1000 (0x3e8)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\003\350

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003  
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060  
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065  
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006  
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004  
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164  
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153  
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101  
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220  
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042  
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320  
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151  
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037  
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047  
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174  
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363  
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341  
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067

```
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342
\002\153\331\132
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA

1"

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

# Serial Number: 1000 (0x3e8)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SecureSign RootCA11"
#
Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Serial Number: 1 (0x1)
Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Not Valid Before: Wed Apr 08 04:56:47 2009
Not Valid After : Sun Apr 08 04:56:47 2029
Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END

```



CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053  
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162  
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006  
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156  
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060  
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064  
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006  
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004  
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054  
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023  
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103  
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063  
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027  
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224  
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074  
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072  
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266  
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225  
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203  
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362  
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175  
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330  
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213  
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342  
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305  
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053  
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002  
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324  
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355  
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241  
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146  
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257  
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073  
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120  
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255  
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102

```
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003
\362
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureSign RootCA11"

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

# Serial Number: 1 (0x1)

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

#

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SecureSign RootCA11"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

```

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

#
Certificate "Microsec e-Szigno Root CA 2009"
#
Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:00:c2:7e:43:04:4e:47:3f:19
Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Jun 16 11:30:18 2009
Not Valid After : Sun Dec 30 11:30:18 2029
Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER

```

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000  
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003  
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007  
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003  
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164  
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143  
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122  
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006  
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157  
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015  
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062  
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061  
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017  
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061  
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163  
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003  
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151  
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071  
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317  
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175  
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165  
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134  
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330  
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034  
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024  
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116  
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002  
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373  
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032  
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247  
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302  
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044  
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203  
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265  
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075  
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsec e-Szigno Root CA 2009"

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

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

# Subject: E=info@e-szigno.hu,CN=Microsec

e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Microsec e-Szigno Root CA 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
```

```

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

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

```

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R3"

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

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

#

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157



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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"

#

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\123\354\073\356\373\262\110\137

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123  
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004  
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060  
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062  
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
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\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
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\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001  
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\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
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\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003  
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\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305  
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\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341  
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345  
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365  
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341  
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113  
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065  
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227  
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246  
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022  
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160  
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322  
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144  
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242  
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100  
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205  
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347  
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175  
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114  
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254  
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332  
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040

```
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

#

Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
\267\367\266\372
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\123\354\073\356\373\262\110\137
```

END

CKA\_TRUST\_SERVER\_AUTH

```

CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Izenpe.com"
#
Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Not Valid Before: Thu Dec 13 13:08:28 2007
Not Valid After : Sun Dec 13 08:27:25 2037
Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062

```

\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061  
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003  
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012  
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060  
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143  
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152  
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171  
\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244  
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216  
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231  
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014  
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\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127  
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074  
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174  
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003  
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341  
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340  
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376  
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204  
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046  
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020  
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265  
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251  
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215  
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\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353  
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013  
\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360  
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044  
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001  
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114  
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215  
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\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354  
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201  
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156  
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221  
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132  
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040  
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\124\061\060\065\065\040\106\066\062\040\123\070\061\103\060\101  
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\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\035\034\145  
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\016\245\026\175\237\271\110\137\030\217\015\142\066\366\315\031  
\153\254\253\325\366\221\175\256\161\363\077\263\016\170\205\233  
\225\244\047\041\107\102\112\174\110\072\365\105\174\263\014\216  
\121\170\254\225\023\336\306\375\175\270\032\220\114\253\222\003  
\307\355\102\001\316\017\330\261\372\242\222\341\140\155\256\172  
\153\011\252\306\051\356\150\111\147\060\200\044\172\061\026\071  
\133\176\361\034\056\335\154\011\255\362\061\301\202\116\271\273  
\371\276\277\052\205\077\300\100\243\072\131\374\131\113\074\050  
\044\333\264\025\165\256\015\210\272\056\163\300\275\130\207\345  
\102\362\353\136\356\036\060\042\231\313\067\321\304\041\154\201  
\354\276\155\046\346\034\344\102\040\236\107\260\254\203\131\160  
\054\065\326\257\066\064\264\315\073\370\062\250\357\343\170\211  
\373\215\105\054\332\234\270\176\100\034\141\347\076\242\222\054  
\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223  
\127\053\336\205\003\371\151\067\313\236\170\152\005\264\305\061  
\170\211\354\172\247\205\341\271\173\074\336\276\036\171\204\316  
\237\160\016\131\302\065\056\220\052\061\331\344\105\172\101\244  
\056\023\233\064\016\146\173\111\253\144\227\320\106\303\171\235  
\162\120\143\246\230\133\006\275\110\155\330\071\203\160\350\065  
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\122\065\256\230\072\255\272\065\223\043\247\037\110\335\065\106  
\230\262\020\150\344\245\061\302\012\130\056\031\201\020\311\120  
\165\374\352\132\026\316\021\327\356\357\120\210\055\141\377\077  
\102\163\005\224\103\325\216\074\116\001\072\031\245\037\106\116  
\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326  
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076  
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006  
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041  
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154  
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124  
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154  
\333\374\046\210\307

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Izenpe.com"

```

#
Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Not Valid Before: Thu Dec 13 13:08:28 2007
Not Valid After : Sun Dec 13 08:27:25 2037
Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Chambers of Commerce Root - 2008"
#
Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Serial Number:00:a3:da:42:7e:a4:b1:ae:da
Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:29:50 2008
Not Valid After : Sat Jul 31 12:29:50 2038
Fingerprint (SHA-256):

```



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

#

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Chambers of Commerce Root - 2008"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000  
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\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165

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

\027\031\012\157\277\014\220\323\011\137\331\343\212\065\314\171  
\132\115\031\067\222\267\304\301\255\257\364\171\044\232\262\001  
\013\261\257\134\226\363\200\062\373\134\075\230\361\240\077\112  
\336\276\257\224\056\331\125\232\027\156\140\235\143\154\270\143  
\311\256\201\134\030\065\340\220\273\276\074\117\067\042\271\176  
\353\317\236\167\041\246\075\070\201\373\110\332\061\075\053\343  
\211\365\320\265\275\176\340\120\304\022\211\263\043\232\020\061  
\205\333\256\157\357\070\063\030\166\021\002\003\001\000\001\243  
\202\001\154\060\202\001\150\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\014\060\035\006\003\125  
\035\016\004\026\004\024\371\044\254\017\262\265\370\171\300\372  
\140\210\033\304\331\115\002\236\027\031\060\201\343\006\003\125  
\035\043\004\201\333\060\201\330\200\024\371\044\254\017\262\265  
\370\171\300\372\140\210\033\304\331\115\002\236\027\031\241\201  
\264\244\201\261\060\201\256\061\013\060\011\006\003\125\004\006  
\023\002\105\125\061\103\060\101\006\003\125\004\007\023\072\115  
\141\144\162\151\144\040\050\163\145\145\040\143\165\162\162\145  
\156\164\040\141\144\144\162\145\163\163\040\141\164\040\167\167  
\167\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155  
\057\141\144\144\162\145\163\163\051\061\022\060\020\006\003\125  
\004\005\023\011\101\070\062\067\064\063\062\070\067\061\033\060  
\031\006\003\125\004\012\023\022\101\103\040\103\141\155\145\162  
\146\151\162\155\141\040\123\056\101\056\061\051\060\047\006\003  
\125\004\003\023\040\103\150\141\155\142\145\162\163\040\157\146  
\040\103\157\155\155\145\162\143\145\040\122\157\157\164\040\055  
\040\062\060\060\070\202\011\000\243\332\102\176\244\261\256\332  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\075\006\003\125\035\040\004\066\060\064\060\062\006\004\125  
\035\040\000\060\052\060\050\006\010\053\006\001\005\005\007\002  
\001\026\034\150\164\164\160\072\057\057\160\157\154\151\143\171  
\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\002\001\000\220\022\257\042\065\302\243\071\360\056\336\351\265  
\351\170\174\110\276\077\175\105\222\136\351\332\261\031\374\026  
\074\237\264\133\146\236\152\347\303\271\135\210\350\017\255\317  
\043\017\336\045\072\136\314\117\245\301\265\055\254\044\322\130  
\007\336\242\317\151\204\140\063\350\020\015\023\251\043\320\205  
\345\216\173\246\236\075\162\023\162\063\365\252\175\306\143\037  
\010\364\376\001\177\044\317\053\054\124\011\336\342\053\155\222  
\306\071\117\026\352\074\176\172\106\324\105\152\106\250\353\165  
\202\126\247\253\240\174\150\023\063\366\235\060\360\157\047\071  
\044\043\052\220\375\220\051\065\362\223\337\064\245\306\367\370  
\357\214\017\142\112\174\256\323\365\124\370\215\266\232\126\207  
\026\202\072\063\253\132\042\010\367\202\272\352\056\340\107\232  
\264\265\105\243\005\073\331\334\056\105\100\073\352\334\177\350  
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\245\040\173\371\036\112\005\142\001\246\050\165\140\227\222\015  
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\032\074\137\212\062\063\133\060\307\211\057\107\230\017\243\003  
\306\366\361\254\337\062\360\331\201\032\344\234\275\366\200\024  
\360\321\054\271\205\365\330\243\261\310\245\041\345\034\023\227  
\356\016\275\337\051\251\357\064\123\133\323\344\152\023\204\006  
\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360  
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022  
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\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311  
\376\230\047\102\306\253\306\236\260\320\133\070\245\233\120\336  
\176\030\230\265\105\073\366\171\264\350\367\032\173\006\203\373  
\320\213\332\273\307\275\030\253\010\157\074\200\153\100\077\031  
\031\272\145\212\346\276\325\134\323\066\327\357\100\122\044\140  
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\167\110\320

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Chambers of Commerce Root - 2008"

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

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

#

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Chambers of Commerce Root - 2008"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Global Chambersign Root - 2008"

#

# Issuer: CN=Global Chambersign

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Global Chambersign Root - 2008"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\311\315\323\351\325\175\043\316

END

CKA\_VALUE MULTILINE\_OCTAL

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Trust for "Global Chambersign Root - 2008"
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Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:31:40 2008
Not Valid After : Sat Jul 31 12:31:40 2038
Fingerprint (SHA-256):
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Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
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CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Go Daddy Root Certificate Authority - G2"

#

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

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CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

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\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210
\342\342\104\276\134\367\352\034\365
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Root Certificate Authority - G2"

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint

(SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
```

```
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Starfield Root Certificate Authority - G2"

#

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Root Certificate Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

```
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334
```

\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133  
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165  
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161  
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363  
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315  
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202  
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373  
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115  
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244  
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134  
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164  
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303  
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060  
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001  
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071  
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324  
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321  
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147  
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267  
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323  
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175  
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340  
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040  
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316  
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312  
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011  
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042  
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365  
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045  
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151  
\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Root Certificate Authority - G2"

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

# Serial Number: 0 (0x0)

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

#

```
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Services Root Certificate Authority - G2"
#
Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before:
```



Tue Sep 01 00:00:00 2009

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156

\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060  
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154  
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150  
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071  
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061  
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003  
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021  
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154  
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162  
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151  
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004  
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162  
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276  
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051  
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136  
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033  
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266  
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035  
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203  
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112  
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256  
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314  
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336  
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015  
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105  
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144  
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237  
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205  
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252  
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010  
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055  
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336  
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301  
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052  
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056  
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163  
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320

```
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215
\261\050\272
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Services Root Certificate Authority - G2"

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Services Root  
Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
```

END

CKA\_ISSUER MULTILINE\_OCTAL

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

```

\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Commercial"
#
Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
Serial Number:77:77:06:27:26:a9:b1:7c
Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:06:06 2010
Not Valid After : Tue Dec 31 14:06:06 2030
Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167  
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015  
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063  
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037  
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303  
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217  
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065  
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137  
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053  
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107  
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326  
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013  
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005  
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002  
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265  
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201  
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120  
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253  
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334  
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077  
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000  
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051  
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006  
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052  
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324  
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143  
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045  
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073  
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355  
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362  
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302

```
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Commercial"

# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Serial Number:77:77:06:27:26:a9:b1:7c

# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:06:06 2010

# Not Valid After : Tue Dec 31 14:06:06 2030

# Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Commercial"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054
```

```
\307\262\170\267
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
```

```
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
```

```
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
```

```
\145\162\143\151\141\154
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\167\167\006\047\046\251\261\174
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```
#
Certificate "AffirmTrust Networking"
#
Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
Serial Number:7c:4f:04:39:1c:d4:99:2d
Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:08:24 2010
Not Valid After : Tue Dec
31 14:08:24 2030
Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013
```

\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151  
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240  
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217  
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362  
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063  
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241  
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232  
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253  
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324  
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113  
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374  
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275  
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051  
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024  
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012  
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106  
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026  
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242  
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264  
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316  
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116  
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321  
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356  
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144  
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145  
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131  
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025  
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110  
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056  
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313  
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221  
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074  
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064  
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Networking"

# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Serial Number:7c:4f:04:39:1c:d4:99:2d

# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan

29 14:08:24 2010

# Not Valid After : Tue Dec 31 14:08:24 2030

# Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Networking"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220

\237\105\000\057

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026

\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167

\157\162\153\151\156\147

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\174\117\004\071\034\324\231\055

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Premium"

#

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

```
Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221
```

\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013  
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331  
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047  
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055  
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322  
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373  
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273  
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271  
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167  
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265  
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173  
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050  
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076  
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206  
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043  
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003  
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222  
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270  
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225  
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322  
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000  
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013  
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032  
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173  
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270  
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327  
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273  
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021  
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116  
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166  
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104  
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101  
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040  
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254  
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365  
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101  
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142  
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262  
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320  
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070  
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010  
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234  
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000

```
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236
\051\340\266\270\011\150\031\034\030\103
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium"

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

# Fingerprint (SHA-256):

70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A

# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\155\214\024\106\261\246\012\356
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Premium ECC"

#

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

#

Not Valid Before: Fri Jan 29 14:20:24 2010

# Not Valid After : Mon Dec 31 14:20:24 2040

# Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\164\227\045\212\307\077\172\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164  
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075  
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146  
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004  
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120  
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060  
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061  
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125  
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061  
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155  
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103  
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003  
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234  
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350  
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275  
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117  
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170  
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065  
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060  
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154  
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306  
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161  
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210  
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131  
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002  
\214\171

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium ECC"

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:20:24 2010

```

Not Valid After : Mon Dec 31 14:20:24 2040
Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA"
#
Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number: 279744 (0x444c0)
Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before: Wed Oct 22 12:07:37 2008
Not Valid After : Mon Dec 31 12:07:37 2029
Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
```



\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001  
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307  
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227  
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074  
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314  
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253  
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060  
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124  
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256  
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121  
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314  
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227  
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333  
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061  
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151  
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251  
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305  
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246  
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162  
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271  
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067  
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313  
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201  
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055  
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274  
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061  
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076  
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230  
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132  
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130  
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110  
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232  
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106  
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

```

CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum Trusted Network CA"
Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number: 279744 (0x444c0)
Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before: Wed Oct 22 12:07:37 2008
Not Valid After : Mon Dec 31 12:07:37 2029
Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
END
CKA_ISSUER
MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TWCA Root Certification Authority"
#

```

```
Issuer: CN=TWCA Root Certification Authority,OU=Root
CA,O=TAIWAN-CA,C=TW
Serial Number: 1 (0x1)
Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Thu Aug 28 07:24:33 2008
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
```

\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132  
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157  
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041  
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112  
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325  
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104  
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157  
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021  
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307  
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242  
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122  
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227  
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370  
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124  
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363  
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135  
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375  
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061  
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033  
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362  
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074  
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276  
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202  
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345  
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314  
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154  
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254  
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101  
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203  
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036  
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106  
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347  
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066  
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332  
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031  
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316  
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TWCA Root Certification Authority"
Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
Serial Number: 1 (0x1)
Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Thu Aug 28 07:24:33 2008
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
#
Certificate "Explicitly Distrust DigiNotar Root CA"
#

```

```
Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Not Valid Before: Fri Jul 27 17:19:37 2007
Not Valid After : Mon Mar 31 18:19:22 2025
Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132
```

\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060  
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022  
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164  
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147  
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040  
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151  
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126  
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201  
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300  
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177  
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330  
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213  
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337  
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045  
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123  
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007  
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043  
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042  
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041  
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313  
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110  
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114  
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376  
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344  
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357  
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314  
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351  
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154  
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262  
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042  
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077  
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102  
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323  
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176  
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147  
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002  
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004

\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257  
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362  
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203  
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302  
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013  
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075  
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114  
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313  
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273  
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235  
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160  
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007  
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351  
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134  
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045  
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113  
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174  
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304  
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012  
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330  
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

#

Trust for Certificate "Explicitly Distrust DigiNotar Root CA"

# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff

# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Not Valid Before: Fri Jul 27 17:19:37 2007

# Not Valid After : Mon Mar 31 18:19:22 2025

# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E

# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"



```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260
\316\272\041\057
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST
CKT_NSS_NOT_TRUSTED
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication RootCA2"
#
Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Fri May 29 05:00:39 2009
Not Valid After : Tue May 29 05:00:39 2029
Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023

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\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074
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\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375  
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260  
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003  
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054  
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254  
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131  
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105  
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237  
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051  
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334  
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004  
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274  
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174  
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001  
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164  
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162  
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354  
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051  
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077  
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136  
\201\050\174\247\175\047\353\000\256\215\067

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA2"

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Fri May 29 05:00:39 2009

# Not Valid After : Tue May 29 05:00:39 2029

# Fingerprint (SHA-256):

51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

#

Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163

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\064\271\307\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Actalis Authentication Root CA"
#
Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Serial Number:57:0a:11:97:42:c4:e3:cc
Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Not Valid Before: Thu Sep 22 11:22:02 2011
Not Valid After : Sun Sep 22 11:22:02 2030
Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101

```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061  
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061  
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151  
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062  
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101  
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143  
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\127\012\021\227\102\304\343\314

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127  
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004  
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005  
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032  
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060  
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003  
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164  
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164  
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062  
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062  
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002  
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154  
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164  
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065  
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003  
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156  
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157  
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221  
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240  
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327  
\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157  
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105  
\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375  
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051  
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322  
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077  
\200\047\063\133\016\267\212\014\135\007\067\010\313\154\322\172  
\107\042\104\065\305\314\314\056\216\335\052\355\267\175\146\015

\137\141\121\042\125\033\343\106\343\343\075\320\065\142\232\333  
\257\024\310\133\241\314\211\033\341\060\046\374\240\233\037\201  
\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117  
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020  
\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223  
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343  
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205  
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020  
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132  
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136  
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132  
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041  
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005  
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164  
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224  
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347  
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060  
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136  
\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073  
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237  
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363  
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355  
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013  
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144  
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061  
\310\201\076\152\325\335\073\032\062\356\220\075\021\322\056\364  
\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252  
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152  
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363  
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115  
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254  
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025  
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267  
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272  
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143  
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331  
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300  
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227  
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070  
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160  
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244  
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033  
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300

```
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Actalis Authentication Root CA"

# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Serial Number:57:0a:11:97:42:c4:e3:cc

# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Not Valid Before: Thu Sep 22 11:22:02 2011

# Not Valid After : Sun Sep 22 11:22:02 2030

# Fingerprint (SHA-256):

55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66

# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Actalis Authentication Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Buypass Class 2 Root
CA"
#
Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:38:03 2010
Not Valid After : Fri Oct 26 08:38:03 2040
Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002

```



\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132  
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344  
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353  
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352  
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052  
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325  
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164  
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307  
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165  
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377  
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224  
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361  
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134  
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350  
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031  
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257  
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347  
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001  
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075  
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000  
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153  
\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004  
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033  
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342  
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135  
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362  
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122  
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150  
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306  
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015  
\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143  
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326  
\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023

\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363  
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041  
\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357  
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025  
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254  
\003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377  
\112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326  
\107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355  
\072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117  
\266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136  
\203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350  
\371\373\042\161\331\175\263\075\106\277\264\204\257\220\034\017  
\217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376  
\254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373  
\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265  
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312  
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266  
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022  
\313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021  
\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054  
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272  
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110  
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320  
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331  
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011  
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273  
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314  
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040  
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141  
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011  
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314  
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363  
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277  
\327\201\011\361\311\307\046\015\254\230\026\126\240

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Bypass Class 2 Root CA"

# Issuer: CN=Bypass Class 2 Root CA,O=Bypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Bypass Class 2 Root CA,O=Bypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:38:03 2010

```

Not Valid After : Fri Oct 26 08:38:03 2040
Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Buypass Class 3 Root CA"
#
Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:28:58 2010
Not Valid After : Fri Oct 26 08:28:58
2040
Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Bypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034
```

|127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327  
|320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071  
|000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023  
|144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134  
|377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113  
|151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064  
|007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027  
|052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156  
|004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246  
|153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330  
|314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013  
|221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110  
|273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322  
|073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016  
|124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132  
|067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303  
|337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303  
|304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237  
|240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017  
|053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142  
|335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262  
|204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267  
|002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
|001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
|016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057  
|116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017  
|001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
|206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043  
|101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342  
|064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302  
|362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125  
|161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137  
|237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200  
|273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322  
|040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245  
|074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101  
|241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066  
|034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033  
|106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163  
|241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032  
|073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172  
|103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221  
|123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157  
|323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325  
|242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206  
|034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256  
|166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326  
|217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071

```
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351
\061\356\006\274\163\277\023\142\012\237\307\271\227
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 3 Root CA"

#

Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:28:58 2010

# Not Valid After : Fri Oct 26 08:28:58 2040

# Fingerprint (SHA-256):

ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D

# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 3 Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER

```

MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 3"
#
Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:29:56 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
Fingerprint (SHA1):
55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123

```

\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\001\001  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\001\003\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060  
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042  
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315  
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366  
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053  
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077  
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104  
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373  
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270  
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042  
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206  
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271  
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221  
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223  
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114  
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067  
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137  
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060



```
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051
\116\223\303\244\124\024\133
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 3"

# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:29:56 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "D-TRUST Root Class 3 CA 2 2009"

#

# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623603 (0x983f3)

# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:35:58 2009

# Not Valid After : Mon Nov 05 08:35:58 2029

# Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL

CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\011\203\363

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011  
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003  
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071  
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070  
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132  
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105  
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067  
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126  
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125  
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066  
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100  
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121  
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121  
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051  
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234  
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014  
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070  
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340  
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151  
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145  
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305  
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336  
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323

\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176  
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143  
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164  
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157  
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062  
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117  
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054  
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145  
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103  
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167  
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154  
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154  
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175  
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262  
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342  
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204  
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330  
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164  
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241  
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151  
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012  
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031  
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133  
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274  
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227  
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366  
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330  
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136  
\164\145\327\134\376\243\342

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623603 (0x983f3)

# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:35:58 2009

# Not Valid After : Mon Nov 05 08:35:58 2029

# Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA\_CLASS

```

CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Serial Number: 623604 (0x983f4)
Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:50:46 2009
Not Valid After : Mon Nov 05 08:50:46 2029
Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163

```

\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014  
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060  
\060\071

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014  
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060  
\060\071

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\011\203\364

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011  
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003  
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062  
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065  
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060  
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002  
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124  
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125  
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164  
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126  
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240  
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147  
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005  
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326  
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064  
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342  
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262  
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231  
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355  
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034  
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121  
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072  
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160

\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374  
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225  
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355  
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060  
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323  
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232  
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201  
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160  
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164  
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122  
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141  
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045  
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055  
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104  
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166  
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240  
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055  
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055  
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163  
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357  
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051  
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316  
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111  
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071  
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262  
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110  
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105  
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042  
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104  
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332  
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046  
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063  
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227  
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327  
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041  
\352\237\026\361\054\124\265

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 EV 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

```
Serial Number: 623604 (0x983f4)
Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:50:46 2009
Not Valid After : Mon Nov 05 08:50:46 2029
Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140
\372\271\026\203
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "CA Disig Root R2"
#
Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
Serial Number:00:92:b8:88:db:b0:8a:c1:63
Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
Not Valid Before: Thu
Jul 19 09:15:30 2012
Not Valid After : Sat Jul 19 09:15:30 2042
Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
```



```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101
```

\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107  
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002  
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243  
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310  
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003  
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322  
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336  
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307  
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304  
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321  
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053  
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052  
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316  
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212  
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005  
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166  
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207  
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015  
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211  
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161  
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261  
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003  
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100  
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232  
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154  
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321  
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012  
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365  
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035  
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012  
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136  
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001  
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114  
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047  
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250  
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237  
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126  
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274  
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033  
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323  
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321  
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232  
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213  
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074

\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245  
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322  
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016  
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042  
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356  
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021  
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067  
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350  
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161  
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353  
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263  
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007  
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254  
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123  
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302  
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061  
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146  
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375  
\363\154\033\165\106\243\345\112\027\351\244\327\013

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CA Disig Root R2"

# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Serial Number:00:92:b8:88:db:b0:8a:c1:63

# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Not Valid Before: Thu Jul 19 09:15:30 2012

# Not Valid After : Sat Jul 19 09:15:30 2042

# Fingerprint (SHA-256):

E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03

# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CA Disig Root R2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302  
\064\307\331\161

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003

END

CKA\_ISSUER

```

MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ACCVRAIZ1"
#
Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Serial Number:5e:c3:b7:a6:43:7f:a4:e0
Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
Not Valid Before: Thu May 05 09:37:37 2011
Not Valid After : Tue Dec 31 09:37:37 2030
Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
#
Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123

```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\136\303\267\246\103\177\244\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136  
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004  
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016  
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015  
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060  
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061  
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061  
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020  
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061  
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103  
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103  
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233  
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226  
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336  
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030  
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134  
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333  
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250  
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076  
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114  
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100  
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151  
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241  
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153  
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055  
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263  
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377  
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370  
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240  
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207  
\223\247\306\212\212\063\227\140\067\020\076\227\076\156\051\025  
\326\241\017\321\210\054\022\237\157\252\244\306\102\353\101\242  
\343\225\103\323\001\205\155\216\273\073\363\043\066\307\376\073  
\340\241\045\007\110\253\311\211\164\377\010\217\200\277\300\226  
\145\363\356\354\113\150\275\235\210\303\061\263\100\361\350\317  
\366\070\273\234\344\321\177\324\345\130\233\174\372\324\363\016  
\233\165\221\344\272\122\056\031\176\321\365\315\132\031\374\272  
\006\366\373\122\250\113\231\004\335\370\371\264\213\120\243\116  
\142\211\360\207\044\372\203\102\301\207\372\325\055\051\052\132

\161\172\144\152\327\047\140\143\015\333\316\111\365\215\037\220  
\211\062\027\370\163\103\270\322\132\223\206\141\326\341\165\012  
\352\171\146\166\210\117\161\353\004\045\326\012\132\172\223\345  
\271\113\027\100\017\261\266\271\365\336\117\334\340\263\254\073  
\021\160\140\204\112\103\156\231\040\300\051\161\012\300\145\002  
\003\001\000\001\243\202\002\313\060\202\002\307\060\175\006\010  
\053\006\001\005\005\007\001\001\004\161\060\157\060\114\006\010  
\053\006\001\005\005\007\060\002\206\100\150\164\164\160\072\057  
\057\167\167\167\056\141\143\143\166\056\145\163\057\146\151\154  
\145\141\144\155\151\156\057\101\162\143\150\151\166\157\163\057  
\143\145\162\164\151\146\151\143\141\144\157\163\057\162\141\151  
\172\141\143\143\166\061\056\143\162\164\060\037\006\010\053\006  
\001\005\005\007\060\001\206\023\150\164\164\160\072\057\057\157  
\143\163\160\056\141\143\143\166\056\145\163\060\035\006\003\125  
\035\016\004\026\004\024\322\207\264\343\337\067\047\223\125\366  
\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\322\207\264\343\337\067\047\223  
\125\366\126\352\201\345\066\314\214\036\077\275\060\202\001\163  
\006\003\125\035\040\004\202\001\152\060\202\001\146\060\202\001  
\142\006\004\125\035\040\000\060\202\001\130\060\202\001\042\006  
\010\053\006\001\005\005\007\002\002\060\202\001\024\036\202\001  
\020\000\101\000\165\000\164\000\157\000\162\000\151\000\144\000  
\141\000\144\000\040\000\144\000\145\000\040\000\103\000\145\000  
\162\000\164\000\151\000\146\000\151\000\143\000\141\000\143\000  
\151\000\363\000\156\000\040\000\122\000\141\000\355\000\172\000  
\040\000\144\000\145\000\040\000\154\000\141\000\040\000\101\000  
\103\000\103\000\126\000\040\000\050\000\101\000\147\000\145\000  
\156\000\143\000\151\000\141\000\040\000\144\000\145\000\040\000  
\124\000\145\000\143\000\156\000\157\000\154\000\157\000\147\000  
\355\000\141\000\040\000\171\000\040\000\103\000\145\000\162\000  
\164\000\151\000\146\000\151\000\143\000\141\000\143\000\151\000  
\363\000\156\000\040\000\105\000\154\000\145\000\143\000\164\000  
\162\000\363\000\156\000\151\000\143\000\141\000\054\000\040\000  
\103\000\111\000\106\000\040\000\121\000\064\000\066\000\060\000  
\061\000\061\000\065\000\066\000\105\000\051\000\056\000\040\000  
\103\000\120\000\123\000\040\000\145\000\156\000\040\000\150\000  
\164\000\164\000\160\000\072\000\057\000\057\000\167\000\167\000  
\167\000\056\000\141\000\143\000\143\000\166\000\056\000\145\000  
\163\060\060\006\010\053\006\001\005\005\007\002\001\026\044\150  
\164\164\160\072\057\057\167\167\167\056\141\143\143\166\056\145  
\163\057\154\145\147\151\163\154\141\143\151\157\156\137\143\056  
\150\164\155\060\125\006\003\125\035\037\004\116\060\114\060\112  
\240\110\240\106\206\104\150\164\164\160\072\057\057\167\167\167  
\056\141\143\143\166\056\145\163\057\146\151\154\145\141\144\155  
\151\156\057\101\162\143\150\151\166\157\163\057\143\145\162\164  
\151\146\151\143\141\144\157\163\057\162\141\151\172\141\143\143  
\166\061\137\144\145\162\056\143\162\154\060\016\006\003\125\035

\017\001\001\377\004\004\003\002\001\006\060\027\006\003\125\035  
\021\004\020\060\016\201\014\141\143\143\166\100\141\143\143\166  
\056\145\163\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\202\002\001\000\227\061\002\237\347\375\103\147\110  
\104\024\344\051\207\355\114\050\146\320\217\065\332\115\141\267  
\112\227\115\265\333\220\340\005\056\016\306\171\320\362\227\151  
\017\275\004\107\331\276\333\265\051\332\233\331\256\251\231\325  
\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225  
\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024  
\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111  
\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201  
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246  
\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033  
\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275  
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103  
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047  
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057  
\261\046\133\047\165\000\011\304\142\167\051\010\137\236\131\254  
\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012  
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336  
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207  
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126  
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276  
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141  
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301  
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352  
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300  
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135  
\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337  
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105  
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226  
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217  
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207  
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311  
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113  
\125\064\106\052\213\206\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ACCVRAIZ1"

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

```

Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8
"ACCVRAIZ1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
\274\123\144\027
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TWCA Global Root CA"
#
Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Serial Number: 3262 (0xcbe)
Subject: CN=TWCA Global
Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Wed Jun 27 06:28:33 2012
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"

```



CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\002\014\276

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014  
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062  
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071  
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002  
\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111  
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023  
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004  
\003\023\023\124\127\103\101\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212  
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305  
\327\114\116\105\111\313\100\102\265\022\064\154\031\302\164\244  
\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270  
\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263  
\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062  
\071\065\122\072\050\203\370\173\026\306\030\270\142\326\107\045  
\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241  
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103

\217\372\312\326\020\047\111\114\357\335\301\361\205\160\233\312  
\352\250\132\103\374\155\206\157\163\351\067\105\251\360\066\307  
\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161  
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367  
\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334  
\343\242\250\221\152\037\302\221\105\210\134\345\230\270\161\245  
\025\031\311\174\165\021\314\160\164\117\055\233\035\221\104\375  
\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166  
\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202  
\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000  
\046\143\141\066\116\243\106\267\077\175\263\055\254\155\220\242  
\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051  
\176\246\070\276\216\051\112\041\146\171\037\263\303\265\011\147  
\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017  
\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157  
\336\011\224\001\203\327\064\033\314\100\245\360\270\233\147\325  
\230\221\073\247\204\170\225\046\244\132\010\370\053\164\264\000  
\004\074\337\270\024\216\350\337\251\215\154\147\222\063\035\300  
\267\322\354\222\310\276\011\277\054\051\005\157\002\153\236\357  
\274\277\052\274\133\300\120\217\101\160\161\207\262\115\267\004  
\251\204\243\062\257\256\356\153\027\213\262\261\376\154\341\220  
\214\210\250\227\110\316\310\115\313\363\006\317\137\152\012\102  
\261\036\036\167\057\216\240\346\222\016\006\374\005\042\322\046  
\341\061\121\175\062\334\017\002\003\001\000\001\243\043\060\041  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\002\001\000\137\064\201\166\357\226\035\325\345\265\331  
\002\143\204\026\301\256\240\160\121\247\367\114\107\065\310\013  
\327\050\075\211\161\331\252\063\101\352\024\033\154\041\000\300  
\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227  
\113\215\260\350\254\310\356\245\151\004\231\012\222\246\253\047  
\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063  
\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064  
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205  
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367  
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145  
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150  
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142  
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054  
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376  
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103  
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217  
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241  
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114  
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243  
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226  
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351

```
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262
\053\006\320\004\315
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "TWCA Global Root CA"

# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 3262 (0xcbe)

# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Wed Jun 27 06:28:33 2012

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TWCA Global Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\014\276
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TeliaSonera Root CA v1"
#
Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
Not Valid Before: Thu Oct 18 12:00:50 2007
Not Valid After : Mon Oct 18 12:00:50 2032
Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060

```

\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151  
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003  
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157  
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060  
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061  
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003  
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141  
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141  
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305  
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143  
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345  
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165  
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043  
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261  
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227  
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110  
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006  
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176  
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135  
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324  
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254  
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260  
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213  
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046  
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367  
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213  
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336  
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225  
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211  
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056  
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076  
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040  
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170  
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260  
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172  
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354  
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022  
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235  
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220  
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170  
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016  
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325  
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206

\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142  
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104  
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345  
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135  
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116  
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261  
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343  
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203  
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343  
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304  
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200  
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235  
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107  
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307  
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173  
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001  
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045  
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210  
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372  
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114  
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273  
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245  
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013  
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226  
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162  
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026  
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047  
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206  
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077  
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161  
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131  
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211  
\245\240\314\277\323\366\165\244\165\226\155\126

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TeliaSonera Root CA v1"

# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96

# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Not Valid Before: Thu Oct 18 12:00:50 2007

# Not Valid After : Mon Oct 18 12:00:50 2032

# Fingerprint (SHA-256):

DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89

# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37

```

CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
END
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "E-Tugra Certification Authority"
#
Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Serial Number:6a:68:3e:9c:51:9b:cb:53
Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Certification Authority"

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im

```
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Serial Number:6a:68:3e:9c:51:9b:cb:53
Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS
CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
END
CKA_ISSUER MULTILINE_OCTAL
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\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
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\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 2"
#
```

```
Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:40:14 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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MULTILINE_OCTAL
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 2"

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:40:14 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

#

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
```

```

\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Atos TrustedRoot 2011"
#
Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Serial Number:5c:33:cb:62:2c:5f:b3:32
Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Not Valid Before: Thu Jul 07 14:58:30 2011
Not Valid After : Tue Dec 31 23:59:59 2030
Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134

```

\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004  
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122  
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004  
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006  
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064  
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065  
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014  
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157  
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014  
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002  
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051  
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274  
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251  
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314  
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266  
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003  
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276  
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015  
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230  
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020  
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034  
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160  
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013  
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326  
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234  
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042  
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003  
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356  
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011  
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006  
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004  
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224  
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270  
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043  
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206  
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001  
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017  
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130  
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354  
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134  
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302



```
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140
\035\362\376\011\021\260\360\207\173\247\235
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Atos TrustedRoot 2011"

# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Serial Number:5c:33:cb:62:2c:5f:b3:32

# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Not Valid Before: Thu Jul 07 14:58:30 2011

# Not Valid After : Tue Dec 31 23:59:59 2030

# Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Atos TrustedRoot 2011"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\134\063\313\142\054\137\263\062
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate
"QuoVadis Root CA 1 G3"
#
Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 17:27:44 2012
Not Valid After : Sun Jan 12 17:27:44 2042
Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015

```

\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064  
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100  
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125  
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075  
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217  
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236  
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250  
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265  
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065  
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076  
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043  
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041  
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004  
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220  
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351  
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246  
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157  
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250  
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313  
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232  
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134  
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075  
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017  
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306  
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265  
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112  
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255  
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074  
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161  
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216  
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231  
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102  
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255  
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363  
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312  
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025

\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202  
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317  
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141  
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166  
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145  
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057  
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015  
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277  
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002  
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271  
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330  
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111  
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057  
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124  
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137  
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066  
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206  
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360  
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344  
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205  
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204  
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143  
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121  
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112  
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151  
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025  
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264  
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155  
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326  
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207  
\063\140\345\303

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 1 G3"

# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93

# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 17:27:44 2012

# Not Valid After : Sun Jan 12 17:27:44 2042

# Fingerprint (SHA-256):

8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74

# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis
 Root CA 1 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 2 G3"
#
Issuer: CN=QuoVadis Root CA
 2 G3,O=QuoVadis Limited,C=BM
Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 18:59:32 2012
Not Valid After : Sun Jan 12 18:59:32 2042
Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144

```

```
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065
```

\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325  
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357  
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043  
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334  
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007  
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252  
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246  
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312  
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163  
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264  
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041  
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241  
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370  
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044  
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345  
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222  
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105  
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306  
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166  
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263  
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173  
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272  
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310  
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211  
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102  
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275  
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361  
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232  
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243  
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207  
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047  
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000  
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022  
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104  
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072  
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137  
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325  
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224  
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063  
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135  
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326  
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025  
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140

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\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2 G3"

# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 18:59:32 2012

# Not Valid After : Sun Jan 12 18:59:32 2042

# Fingerprint (SHA-256):

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
```

END



```

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

#
Certificate "QuoVadis Root CA 3 G3"
#
Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
#
Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 20:26:32 2012
Not Valid After : Sun Jan 12 20:26:32 2042
Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102

```

\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015  
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064  
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227  
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221  
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153  
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254  
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156  
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342  
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205  
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321  
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352  
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001  
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234  
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356  
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131  
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221  
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353  
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335  
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344  
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261  
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147  
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360  
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074  
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210  
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245  
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131  
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021  
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151  
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111  
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340  
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020  
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220  
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111  
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376  
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274

\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065  
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261  
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161  
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126  
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012  
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310  
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360  
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311  
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357  
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111  
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334  
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140  
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155  
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224  
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217  
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271  
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371  
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037  
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234  
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071  
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345  
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305  
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016  
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176  
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034  
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016  
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315  
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165  
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353  
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177  
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047  
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375  
\130\371\230\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 3 G3"

# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d

# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 20:26:32 2012

# Not Valid After : Sun Jan 12 20:26:32 2042

# Fingerprint (SHA-256):

```
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
Certificate "DigiCert Assured ID Root G2"
#
Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
Subject:
CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\062

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232  
\364\113

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013  
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061  
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050  
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200  
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317

\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063  
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034  
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154  
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114  
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351  
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171  
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335  
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100  
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161  
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323  
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056  
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171  
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372  
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001  
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026  
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275  
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310  
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170  
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245  
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110  
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321  
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175  
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342  
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033  
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302  
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375  
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015  
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127  
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257  
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336  
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067  
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050  
\042\023\163\154\317\046\365\212\051\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G2"

# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

```

Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
#
Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221
\223\121\135\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root G3"
#
Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "DigiCert Assured ID Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052
```



\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127  
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137  
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135  
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111  
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320  
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051  
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004  
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316  
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003  
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113  
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221  
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130  
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345  
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161  
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057  
\352\226\143\152\145\105\222\225\001\264

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G3"

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri

Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110  
\054\253\060\211

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Global Root G2"

#

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F

# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011  
\372\345

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003  
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060  
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220  
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210  
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254  
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124  
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261  
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335  
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266  
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220  
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127  
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343  
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263  
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125  
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014  
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020  
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207  
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305

\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225  
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030  
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137  
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354  
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370  
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044  
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015  
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106  
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212  
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021  
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165  
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020  
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016  
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336  
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236  
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137  
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345  
\062\266

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G2"

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F

# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314

\215\117\202\244

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
CKA_ISSUER
MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G3"
#
Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
Subject: CN=DigiCert Global
Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:DO
Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063

```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253  
\105\162

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005  
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060  
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003  
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156  
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056  
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036  
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040  
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036  
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027  
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013  
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352  
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106  
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056  
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235  
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316  
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035  
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305  
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061  
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163

```
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G3"

# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:DO

# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Trusted Root G4"

#

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert

Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Trusted Root G4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151  
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157  
\164\040\107\064

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151  
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157  
\164\040\107\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167  
\165\134

END

CKA\_VALUE MULTILINE\_OCTAL



\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005  
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145  
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040  
\107\064\060\036\027\015\061\063\060\070\060\061\061\065\061\062\060\060  
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060  
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151  
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004  
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056  
\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151  
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135  
\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362  
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033  
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035  
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037  
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223  
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337  
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325  
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233  
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100  
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216  
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117  
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221  
\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020  
\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253  
\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324  
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277  
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117  
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166  
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242  
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357  
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053  
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314  
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214  
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200  
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030  
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154  
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137  
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312

\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121  
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036  
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055  
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202  
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303  
\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232  
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066  
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351  
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374  
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235  
\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123  
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163  
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234  
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336  
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256  
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232  
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211  
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144  
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115  
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227  
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025  
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115  
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117  
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177  
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036  
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133  
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240  
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210  
\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344  
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117  
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065  
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301  
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350  
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246  
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344  
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274  
\317\363\146\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "DigiCert Trusted Root G4"
Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
#
Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO RSA Certification Authority"
#
Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater

```

```
Manchester,C=GB
Not Valid Before: Tue Jan 19 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
```

\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125  
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125  
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023  
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163  
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141  
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CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO RSA Certification Authority"

# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater

```

Manchester,C=GB
Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Tue Jan 19 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
CKA_ISSUER MULTILINE_OCTAL
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\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
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\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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MULTILINE_OCTAL
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\206\235
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust RSA Certification Authority"
#
Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

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Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon
Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
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\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
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UTF8 "0"
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\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201  
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217  
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135  
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306  
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220  
\250\375

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "USERTrust RSA Certification Authority"
Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust ECC Certification Authority"
#

```

```
Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060
```

\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006  
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171  
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145  
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023  
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023  
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006  
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164  
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040  
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162  
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122  
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150  
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321  
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005  
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340  
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177  
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137  
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302  
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060  
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001  
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035  
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115  
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326  
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304  
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135  
\127\152\030

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust ECC Certification Authority"

# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New

```

Jersey,C=US
Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R5"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

```

```
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
```

```
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R5"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24

# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign ECC Root CA - R5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
```



```

END
CKA_ISSUER
MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Staat der Nederlanden Root CA - G3"
#
Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
Serial Number: 10003001 (0x98a239)
Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
#
Not Valid Before: Thu Nov 14 11:28:42 2013
Not Valid After : Mon Nov 13 23:00:00 2028
Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061

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\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061  
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040  
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\000\230\242\071

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000  
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\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116  
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036  
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027  
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060  
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060  
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157  
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017  
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112  
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157  
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226  
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225  
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355  
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227  
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021  
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204  
\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162  
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222  
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276  
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321  
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124  
\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113  
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263  
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103  
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212  
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174  
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344

|160|263|337|162|157|132|067|100|211|330|205|244|327|361|013|336  
|103|031|324|112|130|054|214|212|071|236|277|204|207|361|026|073  
|066|014|351|323|264|312|154|031|101|122|011|241|035|260|152|277  
|202|357|160|121|041|062|334|005|166|214|313|367|144|344|003|120  
|257|214|221|147|253|305|362|356|130|330|336|276|367|347|061|317  
|154|311|073|161|301|325|210|265|145|274|300|350|027|027|007|022  
|265|134|322|253|040|223|264|346|202|203|160|066|305|315|243|215  
|255|213|354|243|301|103|207|346|103|342|064|276|225|213|065|355  
|007|071|332|250|035|172|237|066|236|022|260|014|145|022|220|025  
|140|331|046|100|104|343|126|140|245|020|324|152|074|375|101|334  
|016|132|107|266|357|227|141|165|117|331|376|307|262|035|324|355  
|135|111|263|251|152|313|146|204|023|325|134|240|334|337|156|167  
|006|321|161|165|310|127|157|257|017|167|133|002|003|001|000|001  
|243|102|060|100|060|017|006|003|125|035|023|001|001|377|004|005  
|060|003|001|001|377|060|016|006|003|125|035|017|001|001|377|004  
|004|003|002|001|006|060|035|006|003|125|035|016|004|026|004|024  
|124|255|372|307|222|127|256|312|065|234|056|022|373|344|272|135  
|040|334|224|127|060|015|006|011|052|206|110|206|367|015|001|001  
|013|005|000|003|202|002|001|000|060|231|235|005|062|310|136|016  
|073|230|001|072|212|244|347|007|367|172|370|347|232|337|120|103  
|123|227|052|075|312|074|107|230|056|341|025|173|361|222|363|141  
|332|220|045|026|145|300|237|124|135|016|003|073|133|167|002|234  
|204|266|015|230|137|064|335|073|143|302|303|050|201|302|234|051  
|056|051|342|310|303|001|362|063|352|052|252|314|011|010|367|145  
|147|306|315|337|323|266|053|247|275|314|321|016|160|137|270|043  
|321|313|221|116|012|364|310|172|345|331|143|066|301|324|337|374  
|042|227|367|140|135|352|051|057|130|262|275|130|275|215|226|117  
|020|165|277|110|173|075|121|207|241|074|164|042|302|374|007|177  
|200|334|304|254|376|152|301|160|060|260|351|216|151|342|054|151  
|201|224|011|272|335|376|115|300|203|214|224|130|300|106|040|257  
|234|037|002|370|065|125|111|057|106|324|300|360|240|226|002|017  
|063|305|161|363|236|043|175|224|267|375|072|323|011|203|006|041  
|375|140|075|256|062|300|322|356|215|246|360|347|264|202|174|012  
|314|160|311|171|200|370|376|114|367|065|204|031|212|061|373|012  
|331|327|177|233|360|242|232|153|303|005|112|355|101|140|024|060  
|321|252|021|102|156|323|043|002|004|013|306|145|335|335|122|167  
|332|201|153|262|250|372|001|070|271|226|352|052|154|147|227|211  
|224|236|274|341|124|325|344|152|170|357|112|275|053|232|075|100  
|176|306|300|165|322|156|373|150|060|354|354|213|235|371|111|065  
|232|032|054|331|263|225|071|325|036|222|367|246|271|145|057|345  
|075|155|072|110|114|010|334|344|050|022|050|276|175|065|134|352  
|340|026|176|023|033|152|327|076|327|236|374|055|165|262|301|024  
|325|043|003|333|133|157|013|076|170|057|015|336|063|215|026|267  
|110|347|203|232|201|017|173|301|103|115|125|004|027|070|112|121  
|325|131|242|211|164|323|237|276|036|113|327|306|155|267|210|044  
|157|140|221|244|202|205|133|126|101|274|320|104|253|152|023|276  
|321|054|130|267|022|063|130|262|067|143|334|023|365|224|035|077  
|100|121|365|117|365|072|355|310|305|353|302|036|035|026|225|172

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\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Staat der Nederlanden Root CA - G3"

# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Serial Number: 10003001 (0x98a239)

# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Not Valid Before: Thu Nov 14 11:28:42 2013

# Not Valid After : Mon Nov 13 23:00:00 2028

# Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\000\230\242\071
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

```

Certificate "IdenTrust Commercial Root CA 1"
#
Issuer: CN=IdenTrust Commercial Root CA
1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 18:12:23 2014
Not Valid After : Mon Jan 16 18:12:23 2034
Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011

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\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125  
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\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157  
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
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\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123  
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174  
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103  
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224  
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207  
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302  
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051  
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324  
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242  
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365  
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022  
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353  
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142  
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111  
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205  
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213  
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363  
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176  
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312  
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117  
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054  
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112  
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202  
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350  
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323  
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360  
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330  
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157  
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164  
\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303  
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115  
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300  
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141  
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256  
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007  
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255

\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270  
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055  
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075  
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216  
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167  
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372  
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353  
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067  
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202  
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200  
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112  
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371  
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023  
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123  
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240  
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324  
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352  
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151  
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225  
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106  
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140  
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315  
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331  
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147  
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161  
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200  
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253  
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030  
\272\204\156\207

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Commercial Root CA 1"

# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 18:12:23 2014

# Not Valid After : Mon Jan 16 18:12:23 2034

# Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "IdenTrust Public Sector Root CA 1"
#
Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
#
Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 17:53:32 2014
Not Valid After : Mon Jan 16 17:53:32 2034
Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123

```



\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER  
MULTILINE\_OCTAL  
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162  
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144  
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123  
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000  
\000\002  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012  
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156  
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143  
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027  
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015  
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020  
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164  
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124  
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164  
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224  
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073  
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204  
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175  
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262  
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000  
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354  
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122  
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255  
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015  
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105  
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114  
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200  
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321  
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246  
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252

\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360  
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066  
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131  
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362  
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353  
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166  
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125  
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001  
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045  
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331  
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146  
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034  
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025  
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000  
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303  
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003  
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223  
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021  
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214  
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043  
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156  
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162  
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325  
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016  
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276  
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075  
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077  
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130  
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006  
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270  
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237  
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026  
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050  
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027  
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337  
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254  
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062  
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371  
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172  
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136  
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211  
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005  
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022

```
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245
\267\254\266\255\267\312\076\001\357\234
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Public Sector Root CA 1"

# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02

# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 17:53:32 2014

# Not Valid After : Mon Jan 16 17:53:32 2034

# Fingerprint (SHA-256):

30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F

# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Public Sector Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
```

```
\155\115\105\375
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
```

```
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
```

```
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
```

```
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
```

```
\000\002
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority - G2"

#

# Issuer: CN=Entrust Root Certification Authority

- G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

# Not Valid After : Sat Dec 07 17:55:54 2030

# Fingerprint (SHA-256):

43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39

# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111

\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\112\123\214\050

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112  
\123\214\050\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003  
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164  
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164  
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050  
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054  
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163  
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062  
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065  
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156  
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006  
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156  
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055  
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060  
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165  
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351  
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162  
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323  
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152  
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150  
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215

\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107  
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156  
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126  
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233  
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237  
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365  
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352  
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123  
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364  
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215  
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036  
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003  
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377  
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124  
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151  
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031  
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232  
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074  
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257  
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277  
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306  
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021  
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207  
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130  
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207  
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005  
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213  
\105\366

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - G2"

# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

# Not Valid After : Sat Dec 07 17:55:54 2030

# Fingerprint (SHA-256):

```
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - EC1"
#
Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
```

# Not Valid After : Fri Dec 18 15:55:36 2037

# Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

#

Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA\_VALUE MULTILINE\_OCTAL



\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000  
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010  
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004  
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056  
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167  
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154  
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003  
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156  
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157  
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145  
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062  
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061  
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003  
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156  
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145  
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067  
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040  
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040  
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165  
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003  
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020  
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042  
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353  
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361  
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155  
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352  
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256  
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107  
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016  
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244  
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316  
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102  
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321  
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365  
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327  
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247  
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270  
\231\267\046\101\133\045\140\256\320\110\032\356\006

```

END
CKA_NSS_MOZILLA_CA_POLICY
 CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - EC1"
Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
Not Valid After : Fri Dec 18 15:55:36 2037
Fingerprint (SHA-256):
 02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER
 MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END

```

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "CFCA EV ROOT"

#

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

#

Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CFCA EV ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040  
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101  
\040\105\126\040\122\117\117\124

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040  
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101  
\040\105\126\040\122\117\117\124

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\030\112\314\326

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030  
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103

\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156  
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106  
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062  
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061  
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011  
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125  
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143  
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006  
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117  
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067  
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020  
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014  
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113  
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075  
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361  
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371  
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270  
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261  
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051  
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172  
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335  
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163  
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263  
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105  
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055  
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243  
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170  
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317  
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132  
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001  
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055  
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055  
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270  
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140  
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145  
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360  
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325  
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053  
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177  
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157  
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377  
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003  
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013

\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247  
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227  
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323  
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036  
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006  
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113  
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353  
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071  
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122  
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375  
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161  
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262  
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277  
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111  
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175  
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324  
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167  
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135  
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136  
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361  
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315  
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332  
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144  
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136  
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221  
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347  
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231  
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325  
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222  
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331  
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243  
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173  
\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CFCA EV ROOT"

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

```

Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
Not Valid Before: Wed Aug 08 03:07:01 2012
Not Valid After : Mon Dec 31 03:07:01 2029
Fingerprint (SHA-256):
5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD
Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "OISTE WISeKey Global Root GB CA"
#
Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
#
Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Mon Dec 01 15:00:32 2014
Not Valid After : Thu Dec 01 15:10:31 2039
Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141
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\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267  
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365  
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046  
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261  
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255  
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315  
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127  
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157  
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161  
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144  
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121  
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376  
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117  
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206  
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351  
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153  
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001  
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003  
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065  
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343  
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001  
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201  
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041  
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161  
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224  
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071  
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313  
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012  
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316  
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330  
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354  
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337  
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004  
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332  
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034  
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307  
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176  
\065\255\201\307\116\161\272\210\023

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE



```
Trust for "OISTE WISeKey Global Root GB CA"
Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
Subject:
 CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Mon Dec 01 15:00:32 2014
Not Valid After : Thu Dec 01 15:10:31 2039
Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SZAFIR ROOT CA2"
#
Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Not Valid Before: Mon Oct 19 07:43:30 2015
```

```
Not Valid After : Fri Oct 19 07:43:30 2035
Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
#
Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030
```

\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040  
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315  
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173  
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205  
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123  
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222  
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112  
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260  
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332  
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266  
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372  
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073  
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301  
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371  
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002  
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334  
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315  
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026  
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254  
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351  
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344  
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160  
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157  
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162  
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206  
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314  
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203  
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217  
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120  
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353  
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262  
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076  
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227  
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240  
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212  
\326\040\036\343\163\267

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

```
Trust for "SZAFIR ROOT CA2"
Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Not Valid Before: Mon Oct 19 07:43:30 2015
Not Valid After : Fri Oct 19 07:43:30 2035
Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA 2"
#
Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
```

S.A.,C=PL

# Not Valid Before:

Thu Oct 06 08:39:56 2011

# Not Valid After : Sat Oct 06 08:39:56 2046

# Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060  
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\040\062

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060  
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022  
\215\351

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041  
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060  
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201  
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042  
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157  
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056

\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006  
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040  
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063  
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070  
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031  
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125  
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162  
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167  
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200  
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357  
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113  
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047  
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302  
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334  
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101  
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111  
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215  
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104  
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300  
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002  
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204  
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167  
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150  
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146  
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061  
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150  
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242  
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032  
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165  
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226  
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272  
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274  
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263  
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113  
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054  
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022  
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276  
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375  
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147

\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125  
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241  
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072  
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005  
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325  
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020  
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157  
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024  
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337  
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130  
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204  
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275  
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024  
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343  
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046  
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311  
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111  
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377  
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333  
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326  
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333  
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210  
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264  
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052  
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047  
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045  
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250  
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026  
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015  
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343  
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304  
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022  
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317  
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030  
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336  
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342  
\016\265\271\276\044\217

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

#

```
Trust for "Certum Trusted Network CA 2"
Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before: Thu Oct 06 08:39:56 2011
Not Valid After : Sat Oct 06 08:39:56 2046
Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Hellenic Academic and Research Institutions RootCA 2015"
#
Issuer: CN=Hellenic
```



Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert.  
 Authority,L=Athens,C=GR  
 # Serial Number: 0 (0x0)  
 # Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
 Institutions Cert. Authority,L=Athens,C=GR  
 # Not Valid Before: Tue Jul 07 10:11:21 2015  
 # Not Valid After : Sat Jun 30 10:11:21 2040  
 # Fingerprint (SHA-256):  
 A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36  
 # Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6  
 CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
 CKA\_TOKEN CK\_BBOOL CK\_TRUE  
 CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
 CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
 CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"  
 CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
 CKA\_SUBJECT MULTILINE\_OCTAL  
 \060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122  
 \061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
 \163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
 \145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
 \144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
 \164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
 \164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003  
 \023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
 \155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
 \040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157  
 \157\164\103\101\040\062\060\061\065  
 END  
 CKA\_ID  
 UTF8 "0"  
 CKA\_ISSUER MULTILINE\_OCTAL  
 \060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122  
 \061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
 \163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
 \145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
 \144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
 \164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
 \164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003  
 \023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
 \155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
 \040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157  
 \157\164\103\101\040\062\060\061\065  
 END  
 CKA\_SERIAL\_NUMBER  
 MULTILINE\_OCTAL  
 \002\001\000  
 END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\013\060\202\003\363\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163  
\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164  
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023  
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155  
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040  
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157  
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067  
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063  
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125\004  
\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125  
\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143\141  
\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162  
\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040  
\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171\061  
\100\060\076\006\003\125\004\003\023\067\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\122\157\157\164\103\101\040\062\060\061  
\065\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\302\370\251\077\033\211\374\074\074\004\135\075\220\066  
\260\221\072\171\074\146\132\357\155\071\001\111\032\264\267\317  
\177\115\043\123\267\220\000\343\023\052\050\246\061\361\221\000  
\343\050\354\256\041\101\316\037\332\375\175\022\133\001\203\017  
\271\260\137\231\341\362\022\203\200\115\006\076\337\254\257\347  
\241\210\153\061\257\360\213\320\030\063\270\333\105\152\064\364  
\002\200\044\050\012\002\025\225\136\166\052\015\231\072\024\133  
\366\313\313\123\274\023\115\001\210\067\224\045\033\102\274\042  
\330\216\243\226\136\072\331\062\333\076\350\360\020\145\355\164  
\341\057\247\174\257\047\064\273\051\175\233\266\317\011\310\345  
\323\012\374\210\145\145\164\012\334\163\034\134\315\100\261\034  
\324\266\204\214\114\120\317\150\216\250\131\256\302\047\116\202  
\242\065\335\024\364\037\377\262\167\325\207\057\252\156\175\044  
\047\347\306\313\046\346\345\376\147\007\143\330\105\015\335\072  
\131\145\071\130\172\222\231\162\075\234\204\136\210\041\270\325  
\364\054\374\331\160\122\117\170\270\275\074\053\213\225\230\365  
\263\321\150\317\040\024\176\114\134\137\347\213\345\365\065\201  
\031\067\327\021\010\267\146\276\323\112\316\203\127\000\072\303  
\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352  
\172\110\101\375\105\031\006\255\047\231\116\301\160\107\335\265

\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172  
\143\226\113\051\060\116\204\116\142\031\136\074\316\227\220\245  
\177\001\353\235\340\370\213\211\335\045\230\075\222\266\176\357  
\331\361\121\121\175\055\046\310\151\131\141\340\254\152\270\052  
\066\021\004\172\120\275\062\204\276\057\334\162\325\327\035\026  
\107\344\107\146\040\077\364\226\305\257\216\001\172\245\017\172  
\144\365\015\030\207\331\256\210\325\372\204\301\072\300\151\050  
\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213  
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040  
\231\111\031\266\022\106\261\373\105\125\026\251\243\145\254\234  
\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333  
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027  
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135  
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165  
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010  
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265  
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144  
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010  
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126  
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041  
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055  
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343  
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164  
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225  
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142  
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117  
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232  
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026  
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214  
\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341  
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165  
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361  
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120  
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365  
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026  
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137  
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033  
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365  
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070  
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101  
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203  
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312  
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253  
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100

\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264

\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:11:21 2015

# Not Valid After : Sat Jun 30 10:11:21 2040

# Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352

\051\351\022\246

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122

\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156

\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154

\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156

\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151

\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165

\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003

\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145

\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150

\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157

\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

#

#

Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and  
Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003  
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003

\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000  
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061  
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015  
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060  
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162  
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145  
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040  
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163  
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157  
\157\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060  
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066  
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011  
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125  
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003  
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171  
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103  
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316  
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240  
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045  
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153  
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132  
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350  
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152  
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042  
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223  
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147

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\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

#

Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
```

```

\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ISRG Root X1"
#
Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
Not Valid Before: Thu Jun 04 11:04:38 2015
Not Valid After : Mon Jun 04 11:04:38 2035
Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
#
Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER

```



MULTILINE\_OCTAL

\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143  
\202\213\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000  
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051  
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145  
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141  
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125  
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061  
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070  
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034  
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165  
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104  
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176  
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232  
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255  
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224  
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157  
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003  
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026  
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173  
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023  
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207  
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064  
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320  
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002  
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016  
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326  
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057  
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254  
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335  
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247  
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121  
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163  
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347  
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060

\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272  
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360  
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152  
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367  
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210  
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063  
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001  
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125  
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051  
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113  
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140  
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340  
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220  
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357  
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372  
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212  
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211  
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267  
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071  
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206  
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211  
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053  
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025  
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327  
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102  
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114  
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123  
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134  
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171  
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055  
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152  
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055  
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334  
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300  
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044  
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172  
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335  
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006  
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137  
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X1"

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235

\103\051\245\350

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156

\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145

\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003

\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130

\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143

\202\213\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AC RAIZ FNMT-RCM"

#

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

```
Not Valid Before: Wed Oct 29 15:59:56 2008
Not Valid After : Tue Jan 01 00:00:00 2030
Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
#
Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222
```

\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037  
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301  
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076  
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063  
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243  
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012  
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105  
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217  
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005  
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231  
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136  
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034  
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002  
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120  
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171  
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013  
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356  
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161  
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173  
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123  
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302  
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222  
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143  
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354  
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166  
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007  
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313  
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255  
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257  
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203  
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367  
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207  
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063  
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005  
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167  
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160  
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303  
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376  
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023  
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165  
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367  
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133  
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014  
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047  
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346

\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137  
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372  
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212  
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215  
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031  
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040  
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346  
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274  
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353  
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351  
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233  
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301  
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351  
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371  
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147  
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101  
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346  
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125  
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044  
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360  
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004  
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057  
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121  
\072\117\110\366\213\266\263

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC RAIZ FNMT-RCM"

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

#

Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Not Valid Before: Wed Oct 29 15:59:56 2008

# Not Valid After : Tue Jan 01 00:00:00 2030

# Fingerprint (SHA-256):

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA

# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231

\054\114\054\040

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 1"
#
Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
Subject: CN=Amazon Root CA 1,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sun Jan 17 00:00:00 2038
Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

```

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103  
\346\226\066\133\312

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006  
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066  
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\132\027\015\063  
\070\060\061\061\067\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060  
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343  
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367  
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172  
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114  
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336  
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344  
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260  
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120  
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226  
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272  
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164  
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062  
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113  
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157  
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234  
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046  
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314  
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012  
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121  
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060  
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310  
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174



```
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 1"

# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US

# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca

# Subject: CN=Amazon Root CA 1,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sun Jan 17 00:00:00 2038

# Fingerprint (SHA-256):

8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E

# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon

Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103

\346\226\066\133\312

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Amazon Root CA 2"

#

# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

#

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370

\133\046\273\212\067

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006

\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273

\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005

\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\132\027\015\064  
\060\060\065\062\066\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112  
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374  
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204  
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331  
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222  
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015  
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340  
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232  
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277  
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112  
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000  
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112  
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153  
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354  
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117  
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236  
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053  
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001  
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321  
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063  
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263  
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143  
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313  
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236  
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063  
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003  
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011  
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072  
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201  
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010  
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010  
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225  
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360  
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146

\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315  
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366  
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131  
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240  
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030  
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003  
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317  
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022  
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030  
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047  
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045  
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034  
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123  
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046  
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155  
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257  
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345  
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233  
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015  
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176  
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230  
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157  
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267  
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060  
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041  
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204  
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264  
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357  
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007  
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045  
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321  
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323  
\340\373\011\140\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 2"

# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

#

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

```

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 3"
#
Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
Subject: CN=Amazon Root CA 3,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350  
\236\166\003\362\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006  
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003  
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002  
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051  
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245  
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163  
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150  
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253  
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031  
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003  
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053  
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170  
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234  
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214  
\143\044\110\034\337\060\175\325\150\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 3"
Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
Subject: CN=Amazon Root CA 3,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After
: Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 4"
#
Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
Subject: CN=Amazon Root CA 4,O=Amazon,C=US

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Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144
```



```
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265
\012\166\324\245\274\020
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 4"

# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

# Subject:

CN=Amazon Root CA 4,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164

```

\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320  
\363\230

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044  
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327  
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203  
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001  
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375  
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050  
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100  
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174  
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307  
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237  
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333

\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047  
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254  
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021  
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217  
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065  
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362  
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132  
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027  
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253  
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007  
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217  
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257  
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024  
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320  
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164  
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205  
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263  
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126  
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104  
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100  
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013  
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043  
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364  
\322\063\340\377\275\321\124\071\051\017

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug

31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Symantec Class 1 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9

# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 1 Public Primary Certification  
Authority - G6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303  
\314\123\155\144

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320  
\363\230

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Symantec Class 2 Public Primary Certification Authority - G6"

#

# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0  
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL  
CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261  
\377\101  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144  
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105

\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351  
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147  
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023  
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256  
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154  
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326  
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326  
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061  
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341  
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000  
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262  
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061  
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137  
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215  
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322  
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137  
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064  
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226  
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301  
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000  
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013  
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366  
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156  
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266  
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160  
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356

```
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376
\157\374\132\344\202\125\131\257\061\251
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

```
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

#

Trust for "Symantec Class 2 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US

# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

```
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
```

# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
```

```
\121\324\035\217
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
```

```
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
```

```
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
```

```
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
```

```
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
```



```

\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root CA 3 2013"
#
Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Serial Number: 1039788 (0xfddac)
Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Not Valid Before: Fri Sep 20 08:25:51 2013
Not Valid After : Wed Sep 20 08:25:51 2028
Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\103\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\103\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063

```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\017\335\254

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017  
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003  
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071  
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062  
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003  
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012  
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037  
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124  
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337  
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341  
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046  
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154  
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340  
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011  
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274  
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323  
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352  
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121  
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075  
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256  
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077  
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357  
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174  
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263  
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157  
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276  
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240  
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164  
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057  
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157  
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061  
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155  
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143

\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163  
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057  
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057  
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164  
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234  
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237  
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317  
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175  
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040  
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065  
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210  
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157  
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246  
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303  
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115  
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223  
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113  
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147  
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155  
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111  
\137\134

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root CA 3 2013"

# Issuer: CN=D-TRUST Root

CA 3 2013,O=D-Trust GmbH,C=DE

# Serial Number: 1039788 (0xfddac)

# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE

# Not Valid Before: Fri Sep 20 08:25:51 2013

# Not Valid After : Wed Sep 20 08:25:51 2028

# Fingerprint (SHA-256):

A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57

# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root CA 3 2013"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170  
\337\157\357\227

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Serial Number: 1 (0x1)
Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Not Valid Before: Mon Nov 25 08:25:55 2013
Not Valid After : Sun Oct 25 08:25:55 2043
Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
#
Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
```

\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153  
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060  
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040  
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040  
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165  
\162\165\155\040\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145  
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003  
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CKA\_SERIAL\_NUMBER

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CKA\_VALUE MULTILINE\_OCTAL

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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Serial Number: 1 (0x1)

# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Not Valid Before: Mon Nov 25 08:25:55 2013

# Not Valid After : Sun Oct 25 08:25:55 2043

# Fingerprint (SHA-256):

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16

# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
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END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

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END

CKA\_ISSUER MULTILINE\_OCTAL

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\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GDCA TrustAUTH R5 ROOT"

#

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374  
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061  
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352  
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373  
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053  
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236

```

\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER
CK_BBOOL CK_FALSE

Trust for "GDCA TrustAUTH R5 ROOT"
Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
Serial Number:7d:09:97:fe:f0:47:ea:7a
Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
Not Valid Before: Wed Nov 26 05:13:15 2014
Not Valid After : Mon Dec 31 15:59:59 2040
Fingerprint (SHA-256):
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TrustCor RootCert CA-1"

#

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000  
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003  
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010  
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060  
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162  
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036  
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027  
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201  
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017  
\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061  
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141  
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033  
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163  
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006  
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124  
\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164  
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063  
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173  
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235  
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034  
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265  
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325  
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044  
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264  
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236  
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220  
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330  
\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225  
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132  
\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020  
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326

\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334  
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077  
\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037  
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172  
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123  
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134  
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110  
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162  
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345  
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237  
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072  
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224  
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031  
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144  
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027  
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154  
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024  
\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167  
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115  
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074  
\132\171\054\031

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSt\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUSt\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-1"

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

#

Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072  
\105\133\303\012

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TrustCor RootCert CA-2"

#

# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor  
Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:25:a1:df:ca:33:cb:59:02

# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:23 2016

# Not Valid After : Sun Dec 31 17:26:39 2034

# Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\062

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\045\241\337\312\063\313\131\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\057\060\202\004\027\240\003\002\001\002\002\010\045  
\241\337\312\063\313\131\002\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003\125  
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014  
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007  
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060  
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162  
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122



\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162  
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060\035  
\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162\040  
\122\157\157\164\103\145\162\164\040\103\101\055\062\060\036\027  
\015\061\066\060\062\060\064\061\062\063\062\062\063\132\027\015  
\063\064\061\062\063\061\061\067\062\066\063\071\132\060\201\244  
\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017\060  
\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061\024  
\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141\040  
\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033\124  
\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163\040  
\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006\003  
\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103\145  
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162  
\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124\162  
\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164\040  
\103\101\055\062\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\247\040\156\302\052\242\142\044\225\220\166  
\310\070\176\200\322\253\301\233\145\005\224\364\301\012\020\325  
\002\254\355\237\223\307\207\310\260\047\053\102\014\075\012\076  
\101\132\236\165\335\215\312\340\233\354\150\062\244\151\222\150  
\214\013\201\016\126\240\076\032\335\054\045\024\202\057\227\323  
\144\106\364\124\251\334\072\124\055\061\053\231\202\362\331\052  
\327\357\161\000\270\061\244\276\172\044\007\303\102\040\362\212  
\324\222\004\033\145\126\114\154\324\373\266\141\132\107\043\264  
\330\151\264\267\072\320\164\074\014\165\241\214\116\166\241\351  
\333\052\245\073\372\316\260\377\176\152\050\375\047\034\310\261  
\351\051\361\127\156\144\264\320\301\025\155\016\276\056\016\106  
\310\136\364\121\376\357\016\143\072\073\161\272\317\157\131\312  
\014\343\233\135\111\270\114\342\127\261\230\212\102\127\234\166  
\357\357\275\321\150\250\322\364\011\273\167\065\276\045\202\010  
\304\026\054\104\040\126\251\104\021\167\357\135\264\035\252\136  
\153\076\213\062\366\007\057\127\004\222\312\365\376\235\302\351  
\350\263\216\114\113\002\061\331\344\074\110\202\047\367\030\202  
\166\110\072\161\261\023\241\071\325\056\305\064\302\035\142\205  
\337\003\376\115\364\257\075\337\134\133\215\372\160\341\245\176  
\047\307\206\056\152\217\022\306\204\136\103\121\120\234\031\233  
\170\346\374\366\355\107\176\173\075\146\357\023\023\210\137\074  
\241\143\373\371\254\207\065\237\363\202\236\244\077\012\234\061  
\151\213\231\244\210\112\216\156\146\115\357\026\304\017\171\050  
\041\140\015\205\026\175\327\124\070\361\222\126\375\265\063\114  
\203\334\327\020\237\113\375\306\370\102\275\272\174\163\002\340  
\377\175\315\133\341\324\254\141\173\127\325\112\173\133\324\205  
\130\047\135\277\370\053\140\254\240\046\256\024\041\047\306\167  
\232\063\200\074\136\106\077\367\303\261\243\206\063\306\350\136  
\015\271\065\054\252\106\301\205\002\165\200\240\353\044\373\025

\252\344\147\177\156\167\077\364\004\212\057\174\173\343\027\141  
\360\335\011\251\040\310\276\011\244\320\176\104\303\262\060\112  
\070\252\251\354\030\232\007\202\053\333\270\234\030\255\332\340  
\106\027\254\317\135\002\003\001\000\001\243\143\060\141\060\035  
\006\003\125\035\016\004\026\004\024\331\376\041\100\156\224\236  
\274\233\075\234\175\230\040\031\345\214\060\142\262\060\037\006  
\003\125\035\043\004\030\060\026\200\024\331\376\041\100\156\224  
\236\274\233\075\234\175\230\040\031\345\214\060\142\262\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\236\105\236\014\073\266\357\341\072\310\174\321\000  
\075\317\342\352\006\265\262\072\273\006\113\150\172\320\043\227  
\164\247\054\360\010\330\171\132\327\132\204\212\330\022\232\033  
\331\175\134\115\160\305\245\371\253\345\243\211\211\335\001\372  
\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376  
\061\147\024\151\130\220\012\252\013\356\067\043\307\120\121\264  
\365\176\236\343\173\367\344\314\102\062\055\111\014\313\377\111  
\014\233\036\064\375\156\156\226\212\171\003\266\157\333\011\313  
\375\137\145\024\067\341\070\365\363\141\026\130\344\265\155\015  
\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212  
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127  
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117  
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070  
\224\300\341\320\205\017\273\355\054\163\253\355\376\222\166\032  
\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074  
\205\300\317\343\220\250\203\167\372\333\346\305\214\150\147\020  
\147\245\122\055\360\304\231\217\177\277\321\153\342\265\107\326  
\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021  
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301  
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273  
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376  
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206  
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367  
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264  
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367  
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301  
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027  
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222  
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051  
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101  
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226  
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156  
\326\354\011

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-2"

# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:25:a1:df:ca:33:cb:59:02

# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:23 2016

# Not Valid After : Sun Dec 31 17:26:39 2034

# Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307

\224\262\034\300

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101

\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155

\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141

\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012

\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145

\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060

\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162

\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014

\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145

\162\164\040\103\101\055\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\010\045\241\337\312\063\313\131\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST
CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TrustCor ECA-1"
#
Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Serial Number:00:84:82:2c:5f:1c:62:d0:40
Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:33 2016
Not Valid After : Mon Dec 31 17:28:07 2029
Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
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\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014  
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000  
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003  
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010  
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060  
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162  
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064  
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061  
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125  
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014  
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007  
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060  
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162  
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122  
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162  
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025  
\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040  
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333  
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137  
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001  
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200  
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372  
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015  
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071  
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271  
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037  
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256  
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061  
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075

\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177  
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221  
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354  
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105  
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155  
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037  
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314  
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157  
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203  
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223  
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366  
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231  
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260  
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105  
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312  
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154  
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164  
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350  
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252  
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110  
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140  
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133  
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242  
\264\237\327\346

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00

2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# Trust for "TrustCor ECA-1"

# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama  
City,ST=Panama,C=PA

# Serial Number:00:84:82:2c:5f:1c:62:d0:40

# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama  
City,ST=Panama,C=PA

```
Not Valid Before: Thu Feb 04 12:32:33 2016
Not Valid After : Mon Dec 31 17:28:07 2029
Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204
\013\310\170\275
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority RSA"
#
Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number: 7b:2c:9b:d3:16:80:32:99
Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 17:39:39 2016
Not Valid After : Tue Feb 12 17:39:39 2041
Fingerprint (SHA-256):
```

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173  
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005  
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007  
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012  
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157  
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056  
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067  
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063  
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023



\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157  
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205  
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221  
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026  
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375  
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227  
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154  
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035  
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002  
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241  
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370  
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067  
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307  
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331  
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341  
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070  
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050  
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305  
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072  
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003  
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304  
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236  
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047  
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134  
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344  
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276  
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274  
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313  
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033  
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046  
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170  
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042  
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242  
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003  
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122  
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172  
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006

\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225  
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374  
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030  
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134  
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330  
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001  
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054  
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161  
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004  
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177  
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016  
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030  
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064  
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017  
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164  
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353  
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101  
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261  
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010  
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275  
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040  
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330  
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171  
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321  
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156  
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013  
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116  
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237  
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265  
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007  
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130  
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047  
\271

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority RSA"

# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:7b:2c:9b:d3:16:80:32:99

# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 17:39:39 2016

# Not Valid After : Tue Feb 12 17:39:39 2041

# Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

```

Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\173\054\233\323\026\200\062\231
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority ECC"
#
Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:75:e6:df:cb:c1:68:5b:a8
Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 18:14:03 2016
Not Valid After : Tue Feb 12 18:14:03 2041
Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060\060
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
```

```
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority ECC"

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

# Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216  
END

CKA\_ISSUER  
MULTILINE\_OCTAL  
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\105\103\103  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\010\165\346\337\313\301\150\133\250  
END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#  
# Certificate "SSL.com EV Root Certification Authority RSA R2"  
#  
# Issuer: CN=SSL.com EV Root  
Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US  
# Serial Number:56:b6:29:cd:34:bc:78:f6  
# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL  
Corporation,L=Houston,ST=Texas,C=US  
# Not Valid Before: Wed May 31 18:14:37 2017  
# Not Valid After : Fri May 30 18:14:37 2042  
# Fingerprint (SHA-256):  
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C  
# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065  
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105

```
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050
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\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237  
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235  
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242  
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132  
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253  
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124  
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175  
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322  
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136  
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021  
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212  
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041  
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000  
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354  
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107  
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220  
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125  
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354  
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025  
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002  
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201  
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016  
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156  
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354  
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256  
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071  
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304  
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230  
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365  
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366  
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003  
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270  
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126  
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121  
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377  
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371  
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305  
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125  
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040  
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214  
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327  
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014  
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150  
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342



```
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority RSA R2"

# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Wed May 31 18:14:37 2017

# Not Valid After : Fri May 30 18:14:37 2042

# Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065  
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105  
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\040\122\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\126\266\051\315\064\274\170\366

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com EV Root Certification Authority ECC"

#

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification

Authority ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006  
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164

\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103  
\103  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006  
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103  
\103  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\010\054\051\234\133\026\355\005\225  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054  
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075  
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170  
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165  
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123  
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064  
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155  
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070  
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061  
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157  
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107  
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006  
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000  
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336  
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134  
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056  
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060

```
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250
\371\007\340\142\232\214\134\112
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority ECC"

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
```

```
\307\106\102\155
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
```

```
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
```

```
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
```

```
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
```

```
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\054\051\234\133\026\355\005\225
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

#

Certificate "GlobalSign Root CA - R6"

#

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Not Valid Before: Wed Dec 10 00:00:00 2014

# Not Valid After : Sun Dec 10 00:00:00 2034

# Fingerprint (SHA-256):

```
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
```

# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R6"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105  
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006  
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040  
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064  
\061\062\061\060\060\060\060\060\060\060\132\027\015\063\064\061  
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036  
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023  
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123  
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154  
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371  
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110  
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052  
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024  
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144  
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170  
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032  
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103  
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276  
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143  
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160  
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377  
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112  
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260  
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220  
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030  
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127  
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340  
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104  
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066  
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026  
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355  
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341  
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300  
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165  
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047  
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060  
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323  
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130

\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214  
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204  
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036  
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143  
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154  
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147  
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256  
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310  
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315  
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350  
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267  
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255  
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170  
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243  
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265  
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035  
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332  
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343  
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106  
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171  
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337  
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173  
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257  
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163  
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250  
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002  
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151  
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353  
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154  
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354  
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226  
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005  
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257  
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241  
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342  
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321  
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146  
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104  
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270  
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012  
\147\203\005\132\311\244\020

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R6"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Not Valid Before: Wed Dec 10 00:00:00 2014

# Not Valid After : Sun Dec 10 00:00:00 2034

# Fingerprint (SHA-256):

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69

# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002  
\143\247\373\321

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121  
END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST

CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "OISTE WISeKey Global Root GC CA"

#

# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Tue May 09 09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042



# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GC CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055  
\072\352

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041  
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060  
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060  
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003  
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040  
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165  
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144  
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105  
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040  
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067  
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060  
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011  
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125

\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006  
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156  
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061  
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040  
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122  
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342  
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303  
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202  
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026  
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065  
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061  
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323  
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325  
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122  
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155  
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040  
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215  
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302  
\242\355\357\173\260\200\117\130\017\113\123\071\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GC CA"

# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Tue May 09

09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042

# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GC CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226  
\037\303\271\061

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055  
\072\352

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "UCA Global G2 Root"

#

# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 11 00:00:00 2016

# Not Valid After : Mon Dec 31 00:00:00 2040

# Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "UCA Global G2 Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003  
\220\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135  
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060  
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164  
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107  
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027  
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015  
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061  
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017  
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061  
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154  
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053  
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232  
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114  
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275  
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165  
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016  
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346  
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150  
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130  
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321  
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207  
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206  
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334  
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350  
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262  
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043  
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057  
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307  
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330  
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101  
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112

\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257  
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303  
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153  
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345  
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203  
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107  
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172  
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104  
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106  
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317  
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246  
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025  
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053  
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043  
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313  
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004  
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071  
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144  
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303  
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345  
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216  
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332  
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024  
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015  
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200  
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325  
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304  
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243  
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343  
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024  
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365  
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233  
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253  
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243  
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240  
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027  
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024  
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310  
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270  
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124  
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262  
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105  
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042

```

\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "UCA Global G2 Root"
Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 11 00:00:00 2016
Not Valid After : Mon Dec 31 00:00:00 2040
Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "UCA Extended Validation Root"

```

```
#
Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 13 00:00:00 2015
Not Valid After : Fri Dec 31 00:00:00 2038
Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Extended Validation Root"

# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 13 00:00:00 2015

# Not Valid After : Fri Dec 31 00:00:00 2038

# Fingerprint (SHA-256):

D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24

# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "UCA Extended Validation Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377  
\335\360\327\072

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101  
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043  
\160\140

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna Root CA"

#

# Issuer: CN=Certigna Root

CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013

# Not Valid After : Sat Oct 01 08:32:27 2033

# Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157  
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060  
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063  
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164  
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna Root CA"

# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013

# Not Valid After : Sat Oct 01 08:32:27 2033

# Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157  
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060  
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063  
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164  
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304  
\343\246\341

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign Root CA - G1"

#

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - G1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061  
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003  
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013  
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043  
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124  
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151  
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034  
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032  
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157  
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146  
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063  
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274  
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232  
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116  
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160  
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365  
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052  
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262  
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035  
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114  
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057  
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170  
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355  
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343  
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024  
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001

```
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - G1"

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies  
Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL



\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign ECC Root CA - G3"

#

# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074  
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110  
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006  
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125  
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150  
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144  
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060  
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111  
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151  
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023  
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154  
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060  
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105  
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363  
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064  
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124  
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316  
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222  
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062  
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201  
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276  
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057  
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201  
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002

```

\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004
\054\243
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign ECC Root CA - G3"
Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies
 Limited,OU=emSign PKI,C=IN
Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign Root CA - C1"

#

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

#

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003  
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164  
\040\103\101\040\055\040\103\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003  
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164  
\040\103\101\040\055\040\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000  
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004  
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060  
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040

\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231  
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117  
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171  
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331  
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257  
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163  
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107  
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070  
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137  
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307  
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316  
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026  
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234  
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064  
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211  
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265  
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241  
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252  
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242  
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154  
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073  
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370  
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360  
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170  
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047  
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350  
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306  
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124  
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056  
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023  
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226  
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000  
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250

\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341  
\361\337\312\276\203\015\102

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - C1"

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121  
\313\206\117\001

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003  
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164  
\040\103\101\040\055\040\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

```

Certificate "emSign ECC Root CA - C3"
#
Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
#
Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\173\161\266\202\126\270\022\174\234\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060

```

\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042  
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257  
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351  
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142  
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223  
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370  
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016  
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007  
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057  
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034  
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312  
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034  
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111  
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177  
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - C3"

# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

#

Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:60:15:0C:EE:48:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - C3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL



\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025

\014\356\110\146

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156

\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145

\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003

\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040

\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hongkong Post Root CA 3"

#

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

# Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL

CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061

\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113

\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157

\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012

\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061

\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157

\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040  
\063  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113  
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157  
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012  
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061  
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157  
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040  
\063  
END  
CKA\_SERIAL\_NUMBER  
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|365|144|321|140|016|263|211|111|270|212|057|005|322|204|105|050  
|174|217|150|120|022|170|374|013|265|123|313|302|230|034|204|243  
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|233|057|054|311|076|053|344|151|073|377|162|045|261|066|206|133  
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|264|316|077|045|060|177|062|175|242|003|224|320|334|172|241|122  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 3"

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

# Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

#

Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 3"

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\216\002\113\002
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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END

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority - G4"

#

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

#

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

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CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE

MULTILINE\_OCTAL

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\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240  
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052

\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022  
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045  
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363  
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322  
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364  
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211  
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253  
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377  
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344  
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177  
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056  
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234  
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210  
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216  
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207  
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360  
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307  
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136  
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176  
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330  
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002  
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244  
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166  
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062  
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245  
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072  
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101  
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244  
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273  
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061  
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230  
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332  
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# Trust for "Entrust Root Certification Authority - G4"

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

#

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88



```

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065
\051\272\226\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Microsoft ECC Root Certificate Authority 2017"
#
Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 23:06:45 2019
Not Valid After : Fri Jul 18 23:16:04 2042
Fingerprint (SHA-256):

```

```
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162
```

\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121  
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121  
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171  
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231  
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033  
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170  
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052  
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371  
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325  
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066  
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026  
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001  
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153  
\124\026\040\377\053\265\347\114\014\115\246\117\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft ECC Root Certificate Authority 2017"

# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 23:06:45 2019

# Not Valid After : Fri Jul 18 23:16:04 2042

# Fingerprint (SHA-256):

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

#

Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140

\356\304\303\305

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Microsoft RSA Root Certificate Authority 2017"
#
Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 22:51:22 2019
Not Valid After : Fri Jul 18 23:00:23 2042
Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177  
\105\263

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036  
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060  
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146  
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060  
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146  
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062  
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063  
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115  
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141  
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115  
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165  
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276  
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231  
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147  
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234  
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364  
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113  
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351  
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265  
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256  
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262  
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146  
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170

\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202  
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311  
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376  
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211  
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034  
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205  
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242  
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206  
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023  
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321  
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272  
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042  
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254  
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012  
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256  
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036  
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007  
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362  
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124  
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220  
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001  
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331  
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135  
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102  
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115  
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071  
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202  
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204  
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225  
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272  
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063  
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075  
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341  
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211  
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126  
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166  
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155  
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115  
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367  
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056  
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147  
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221  
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301

```
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft RSA Root Certificate Authority 2017"

# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 22:51:22 2019

# Not Valid After : Fri Jul 18 23:00:23 2042

# Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "e-Szigno Root CA 2017"
#
Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Aug 22 12:07:06 2017
Not Valid After : Fri Aug 22 12:07:06 2042
Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
```



```
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131
\371\347\334\061
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "e-Szigno Root CA 2017"

# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Aug 22 12:07:06 2017

# Not Valid After : Fri Aug 22 12:07:06 2042

# Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

#

Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "e-Szigno Root CA 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357

\313\174\037\321

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061

\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145

\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143

\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003

\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064

\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055

\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062

\060\061\067

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\001\124\110\357\041\375\227\131\015\365\004\012

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "certSIGN Root CA G2"

#

# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Serial Number:11:00:34:b6:4e:c6:36:2d:36

```
Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Not Valid Before: Mon Feb 06 09:27:35 2017
Not Valid After : Thu Feb 06 09:27:35 2042
Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026
```

\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257  
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060  
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030  
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122  
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331  
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347  
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357  
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151  
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301  
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143  
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254  
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127  
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315  
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226  
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121  
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012  
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117  
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310  
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337  
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205  
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146  
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201  
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361  
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067  
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117  
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062  
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132  
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240  
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202  
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270  
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003  
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011  
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347  
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352  
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344  
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036  
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002  
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113  
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144  
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045  
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365  
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041  
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364  
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013

\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206  
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234  
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315  
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045  
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344  
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071  
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202  
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016  
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230  
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003  
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343  
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106  
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161  
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144  
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247  
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121  
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204  
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320  
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026  
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027  
\101\020\135\047\163\140\205\127\111\042\007

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN Root CA G2"

# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Serial Number:11:00:34:b6:4e:c6:36:2d:36

# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Not Valid Before: Mon Feb 06 09:27:35 2017

# Not Valid After : Thu Feb 06 09:27:35 2042

# Fingerprint (SHA-256):

65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05

# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "certSIGN Root CA G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243  
\215\222\345\062

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global Certification Authority"
#
Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
#
Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:34:12 2017
Not Valid After : Sat Aug 23 19:34:12 2042
Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID

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UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\005\367\016\206\332\111\363\106\065\056\272\262

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005  
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003  
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060  
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061  
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167  
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165  
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061  
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071  
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010  
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004  
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003  
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110  
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060  
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166  
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315  
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076  
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347  
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030  
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321  
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156  
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334

\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200  
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374  
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363  
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234  
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226  
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064  
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307  
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117  
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033  
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051  
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145  
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024  
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116  
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360  
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014  
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246  
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164  
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343  
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330  
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234  
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254  
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006  
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147  
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370  
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066  
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
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\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332  
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163  
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226  
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075  
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344  
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336  
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053  
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365  
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020  
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341  
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124  
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101  
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040  
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121  
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304  
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271  
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217  
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323  
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321



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\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312
\311\340\266\234\351\316\161\161\336\154\077\026\244\171
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global Certification Authority"

# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2

# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:34:12 2017

# Not Valid After : Sat Aug 23 19:34:12 2042

# Fingerprint (SHA-256):

97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8

# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
```

END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
```

```
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Trustwave Global ECC P256 Certification Authority"

#

# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d

# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:35:10 2017

# Not Valid After : Sat Aug 23 19:35:10 2042

# Fingerprint (SHA-256):

94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015  
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052  
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062  
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206  
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343  
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122  
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015  
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344  
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017

```
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314
\234\341\164\173
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P256 Certification Authority"

# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d

# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:35:10 2017

# Not Valid After : Sat Aug 23 19:35:10 2042

# Fingerprint (SHA-256):

94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global  
ECC P256 Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
```

```

\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global ECC P384 Certification Authority"
#
Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:36:43 2017
Not Valid After : Sat Aug 23 19:36:43 2042
Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123

```

\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010  
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052  
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062  
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005  
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203  
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011  
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224  
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214  
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105  
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003  
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006

```
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156
\113
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P384 Certification Authority"

# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:36:43 2017

# Not Valid After : Sat Aug 23 19:36:43 2042

# Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
```

\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "NAVER Global Root Certification Authority"

#

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157



\156\040\101\165\164\150\157\162\151\164\171  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104  
\161\370\326\120\115\015  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001  
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326  
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113  
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105  
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106  
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125  
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027  
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015  
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061  
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044  
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123  
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103  
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116  
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100  
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326  
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173  
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207  
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372  
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313  
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104  
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001  
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367  
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263  
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161  
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105  
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017  
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270  
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014  
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052  
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065  
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367  
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337  
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217

\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101  
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206  
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224  
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361  
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250  
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072  
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031  
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332  
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112  
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026  
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212  
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002  
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102  
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210  
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140  
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322  
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015  
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226  
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073  
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143  
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023  
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003  
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246  
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025  
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332  
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213  
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341  
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034  
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036  
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042  
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154  
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373  
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177  
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370  
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174  
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343  
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151  
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321  
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252  
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167  
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027  
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231  
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366  
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216  
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216

```
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245
\365\165\336\211\367\162
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NAVER Global Root Certification Authority"

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

#

# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Not Valid Before: Thu Dec 20 09:37:33 2018

# Not Valid After : Sun Dec 20 09:37:33 2043

# Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8

"AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122  
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162  
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124  
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052  
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122  
\105\123\040\123\105\107\125\122\117\123

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122  
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162  
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124  
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052  
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122  
\105\123\040\123\105\107\125\122\117\123

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056  
\235\225

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142  
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060  
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003  
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060  
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060  
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062  
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003  
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122  
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105  
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060  
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071  
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106  
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013  
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141  
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064  
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122  
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122  
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066  
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307  
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307  
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054  
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257  
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012  
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362  
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256  
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032  
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027  
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002  
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053  
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321  
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162  
\277\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC

```

RAIZ FNMT-RCM SERVIDORES SEGUROS"
Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Not Valid Before: Thu Dec 20 09:37:33 2018
Not Valid After : Sun Dec 20 09:37:33 2043
Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
END
CKA_ISSUER
MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Secure Mail Root R45"
#
Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

```

#

Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root R45"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\122\064\065

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\122\064\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217  
\127\334

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166  
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122  
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060  
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151  
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004  
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145  
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122  
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060  
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060  
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142

\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046  
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147  
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157  
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340  
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133  
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333  
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073  
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132  
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225  
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372  
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363  
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047  
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235  
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230  
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367  
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270  
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335  
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206  
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362  
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122  
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366  
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335  
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012  
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120  
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306  
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151  
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316  
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153  
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237  
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017  
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174  
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216  
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077  
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201  
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205  
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050  
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266  
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146  
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276  
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300  
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254



\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043  
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265  
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343  
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336  
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124  
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201  
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017  
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176  
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141  
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007  
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320  
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172  
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237  
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246  
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262  
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031  
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072  
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256  
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252  
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157  
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136  
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201  
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016  
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172  
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241  
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102  
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362  
\263\301\366\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root R45"

# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

```

CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL
CK_FALSE

#
Certificate "GlobalSign Secure Mail Root E45"
#
Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Serial Number: 76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003

```

```
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\060\132\060
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
```

```
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root E45"

# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GlobalSign Root R46"

#

# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Serial Number: 11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not

Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root R46"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320  
\337\045\147\321

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021  
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147  
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154

\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063  
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062  
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003  
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012  
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055  
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211  
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211  
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023  
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143  
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006  
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154  
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027  
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235  
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332  
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063  
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050  
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021  
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130  
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204  
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075  
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173  
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205  
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370  
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043  
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004  
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155  
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073  
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215  
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106  
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346  
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354  
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154  
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061  
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232  
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252  
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375  
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002  
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246  
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206

\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170  
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242  
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116  
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140  
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314  
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166  
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142  
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115  
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241  
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044  
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076  
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351  
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105  
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265  
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156  
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355  
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366  
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263  
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244  
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102  
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323  
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371  
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127  
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150  
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317  
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224  
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242  
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072  
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014  
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110  
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067  
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256  
\045\131\314\177\065\137\010\367\100\105\061\170\052\172

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

#

Trust for "GlobalSign Root R46"

# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

```

Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
\167\303\242\220
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root E46"
#
Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
#
Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```



CKA\_SUBJECT MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204  
\035\230\350\103

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021  
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350  
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061  
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027  
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147  
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003  
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157  
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060  
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060  
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006  
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107  
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061  
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154  
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064  
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014  
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352  
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067  
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006  
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135  
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200  
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220

```
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root E46"

# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Serial Number: 11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL

CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root E46"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GLOBALTRUST  
2020"

#

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

# Not Valid After : Sun Jun 10 00:00:00 2040

# Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GLOBALTRUST 2020"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061  
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155  
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040  
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107  
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GLOBALTRUST 2020"

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

# Not Valid After : Sun Jun 10 00:00:00 2040

# Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

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CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ANF
Secure Server Root CA"
#
Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Not Valid Before: Wed Sep 04 10:00:38 2019
Not Valid After : Tue Aug 30 10:00:38 2039
Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
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CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

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CKA\_SUBJECT MULTILINE\_OCTAL

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CKA\_ISSUER MULTILINE\_OCTAL

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\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222  
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\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231  
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021  
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276  
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175  
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202  
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342  
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310  
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063  
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021  
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166  
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304  
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102  
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050  
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312  
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211  
\240\215\254

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ANF Secure Server Root CA"

# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de  
Certificacion,C=ES,serialNumber=G63287510

# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1

# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de  
Certificacion,C=ES,serialNumber=G63287510

# Not Valid Before: Wed Sep 04 10:00:38 2019

# Not Valid After : Tue Aug 30 10:00:38 2039

# Fingerprint (SHA-256):

FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99

# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74

CKA\_CLASS

```

CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum EC-384 CA"
#
Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Mon Mar 26 07:24:54 2018
Not Valid After : Thu Mar 26 07:24:54 2043
Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE

```

CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Certum EC-384 CA"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL  
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272  
\163\364

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170  
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060  
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060  
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003  
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141  
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060  
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023  
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103  
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065  
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064  
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143  
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027

```
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum EC-384 CA"

# Issuer: CN=Certum EC-384

CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum EC-384 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272  
\163\364

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum Trusted Root CA"

#

# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

# Subject: CN=Certum Trusted Root

CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Fri Mar 16 12:10:13 2018

# Not Valid After : Mon Mar 16 12:10:13 2043

# Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006  
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\122\157\157\164\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006  
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117  
\265\355

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036  
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060  
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172  
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060  
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104  
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056  
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165  
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125  
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164  
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070  
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060  
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011  
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125  
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040  
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045  
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026  
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067  
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231  
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176  
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301  
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352  
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317  
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024  
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052

\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147  
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067  
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105  
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357  
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031  
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167  
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152  
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126  
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232  
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327  
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377  
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242  
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214  
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147  
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205  
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077  
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007  
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017  
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041  
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066  
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120  
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201  
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200  
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072  
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165  
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003  
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265  
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271  
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170  
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023  
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206  
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350  
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252  
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027  
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121  
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106  
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204  
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020  
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037  
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372  
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137  
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013  
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372  
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252

```
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305
\303\270\070\333
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Root CA"

# Issuer: CN=Certum

Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Fri Mar 16 12:10:13 2018

# Not Valid After : Mon Mar 16 12:10:13 2043

# Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
```



```
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TunTrust Root CA"

#

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

#

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
```

\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143  
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004  
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273  
\273\262\153\076\374\023

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023  
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153  
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124  
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156  
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154  
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003  
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157  
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060  
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070  
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006  
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101  
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040  
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060  
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164  
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123  
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131  
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037  
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207  
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135  
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156  
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220  
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005  
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376  
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307  
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031  
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335  
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320  
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205  
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331  
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247  
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324  
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150  
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175

\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066  
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375  
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271  
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033  
\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275  
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246  
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240  
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315  
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041  
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001  
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041  
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160  
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226  
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143  
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233  
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104  
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006  
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264  
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263  
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227  
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135  
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056  
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113  
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175  
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370  
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147  
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042  
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007  
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373  
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107  
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117  
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011  
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327  
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347  
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110  
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325  
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271  
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026  
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317  
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333  
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060  
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367  
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020  
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371  
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146

```
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033
\000\361\025\255\203\053\232
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TunTrust Root CA"

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

#

Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040
\106\064\234\273
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
```

END

```

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

#
Certificate "HARICA TLS RSA Root CA 2021"
#
Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:55:38 2021
Not Valid After : Mon Feb 13 10:55:37 2045
Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
Fingerprint
(SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071  
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014  
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064  
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110  
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157  
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145  
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030  
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236  
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004  
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153  
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016  
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257  
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071  
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317  
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014  
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145  
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057  
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360  
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003  
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256  
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333  
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050  
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317  
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030  
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341  
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000  
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201  
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370  
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113  
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052  
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370  
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224  
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353

\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140  
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374  
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220  
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125  
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045  
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045  
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024  
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071  
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310  
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367  
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364  
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102  
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332  
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206  
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360  
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217  
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050  
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360  
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317  
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027  
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166  
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255  
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230  
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311  
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064  
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311  
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353  
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123  
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002  
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112  
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375  
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337  
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214  
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026  
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000  
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071  
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124  
\353\166\123\030\215\021\230\272

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "HARICA TLS RSA Root CA 2021"
Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:55:38 2021
Not Valid After : Mon Feb 13 10:55:37 2045
Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA TLS ECC Root CA 2021"
#
Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

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Not Valid Before: Fri Feb 19 11:01:10 2021
Not Valid After : Mon Feb 13 11:01:09 2045
Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root
CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062
```

\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004  
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144  
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143  
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103  
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111  
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040  
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070  
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073  
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113  
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064  
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130  
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020  
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311  
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225  
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003  
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360  
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160  
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100  
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201  
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015  
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111  
\105\346\354\267\023\341\072\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS ECC Root CA 2021"

# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce

# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic

Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:01:10 2021

# Not Valid After : Mon Feb 13 11:01:09 2045

# Fingerprint (SHA-256):

3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01

# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA TLS ECC Root CA 2021"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA Client RSA Root CA 2021"
#
Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:58:46 2021
Not Valid After : Mon Feb 13 10:58:45 2045
Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
#
Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040

```

\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002  
\050\076

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125  
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014  
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122  
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060  
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132  
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060  
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067  
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151  
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122  
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164  
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003  
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040  
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253  
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207  
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031  
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217

|124|151|277|366|324|010|117|046|160|376|030|101|143|032|263|062  
|213|100|370|007|253|127|061|360|306|026|166|147|232|264|335|057  
|362|321|153|305|320|222|204|221|161|156|017|056|143|351|037|123  
|244|335|122|023|314|011|203|051|201|014|305|123|165|104|261|016  
|147|123|030|320|303|037|210|113|237|224|044|264|051|274|273|350  
|116|375|157|322|025|035|111|334|215|160|362|021|032|040|121|125  
|021|272|210|157|304|367|120|171|326|252|061|342|204|075|136|062  
|310|167|052|120|161|345|013|057|351|266|352|357|253|012|063|071  
|016|375|217|245|147|103|202|216|230|151|011|011|033|100|315|070  
|147|107|352|311|354|227|161|022|336|044|365|162|074|321|367|103  
|114|046|367|220|262|211|351|105|113|125|075|061|005|172|101|342  
|225|272|103|300|027|305|266|205|075|031|215|144|160|363|133|254  
|315|237|323|051|165|207|113|225|147|152|246|370|321|335|274|220  
|206|211|103|051|251|067|133|365|135|260|046|132|123|102|166|220  
|053|317|236|126|154|053|124|317|134|232|145|337|133|213|110|140  
|070|174|373|305|013|317|166|004|143|002|063|052|175|365|203|147  
|347|372|306|103|375|053|017|324|046|057|167|244|062|301|044|352  
|144|235|277|263|070|161|061|104|362|107|270|242|146|101|241|373  
|233|173|274|307|106|152|165|277|132|242|214|350|152|104|301|270  
|226|265|300|062|010|055|173|164|065|163|262|312|306|376|257|021  
|162|030|366|347|310|302|317|245|052|352|173|326|131|350|174|240  
|262|152|100|011|151|016|245|226|333|321|000|271|361|210|156|066  
|360|210|262|235|361|122|362|303|174|277|060|211|074|012|151|371  
|042|244|145|341|233|340|164|306|261|205|227|226|054|256|224|217  
|120|246|071|022|037|276|107|362|201|170|323|165|066|236|175|132  
|040|227|342|122|256|231|237|306|174|233|146|363|376|330|317|356  
|275|227|006|035|055|205|334|076|066|123|226|173|040|272|350|310  
|341|255|226|142|076|021|174|263|000|204|236|247|114|161|253|112  
|067|002|003|001|000|001|243|102|060|100|060|017|006|003|125|035  
|023|001|001|377|004|005|060|003|001|001|377|060|035|006|003|125  
|035|016|004|026|004|024|240|326|007|075|136|044|367|173|240|104  
|056|044|122|015|031|252|053|004|221|247|060|016|006|003|125|035  
|017|001|001|377|004|004|003|002|001|206|060|015|006|011|052|206  
|110|206|367|015|001|001|013|005|000|003|202|002|001|000|015|107  
|371|011|146|061|122|354|171|356|302|250|362|150|076|355|226|105  
|313|072|246|230|143|077|352|053|115|116|003|320|034|202|341|313  
|323|345|326|253|133|147|050|274|235|376|014|231|012|200|125|247  
|316|033|043|141|015|260|127|360|376|340|312|276|346|220|333|203  
|054|276|203|216|364|171|266|376|320|015|102|247|130|037|151|352  
|201|365|005|245|376|106|150|353|154|170|311|340|352|347|346|336  
|061|305|322|325|054|202|143|050|235|135|250|032|176|210|346|347  
|053|361|054|325|320|005|236|334|055|275|067|146|324|004|242|247  
|255|277|072|302|250|073|255|377|215|235|063|340|271|232|204|241  
|207|037|166|364|202|164|327|016|371|060|110|076|133|210|076|252  
|134|153|326|057|014|350|216|163|302|030|221|203|071|266|146|132  
|320|037|140|047|135|115|343|366|072|015|146|120|234|170|173|253  
|363|023|020|256|017|057|253|350|144|263|030|040|235|106|065|144  
|045|163|352|233|020|134|130|065|211|261|106|110|247|364|254|324

```
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014
\151\317\054\253\073\204\140\063\031\122\375\151\024\063
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA Client RSA Root CA 2021"

# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:58:46 2021

# Not Valid After : Mon Feb 13 10:58:45 2045

# Fingerprint (SHA-256):

1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D

#

Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client RSA Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
```

```
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HARICA Client ECC Root CA 2021"

#

# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:03:34 2021

# Not Valid After : Mon Feb 13 11:03:33 2045

# Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020  
\175\360

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061  
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060  
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101  
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064  
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110  
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103  
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367  
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001  
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046  
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133  
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376  
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317  
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227  
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110  
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106  
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253



```
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA

Client ECC Root CA 2021"

# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:03:34 2021

# Not Valid After : Mon Feb 13 11:03:33 2045

# Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"

#

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:1b:70:e9:d2:ff:ae:6c:71

#

Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Tue Sep 23 15:22:07 2014

# Not Valid After : Mon May 05 15:22:07 2036

# Fingerprint (SHA-256):

57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A

# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\033\160\351\322\377\256\154\161

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033  
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004

\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060  
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065  
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004  
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034

\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146  
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266  
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010  
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105  
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323  
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337  
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311  
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201  
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211  
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117  
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256  
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042  
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104  
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361  
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033  
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225  
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054  
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041  
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255  
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246  
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220  
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121  
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025  
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325  
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260  
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102  
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330  
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375  
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343  
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363  
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112  
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160  
\006\137\244\274\372\040\174\125

END

```

CKA_NSS_Mozilla_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Autoridad de Certificacion
Firmaprofesional CIF A62634068"
Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Serial Number:1b:70:e9:d2:ff:ae:6c:71
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Tue Sep 23 15:22:07 2014
Not Valid After : Mon May 05 15:22:07 2036
Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "vTrus ECC Root CA"
#
Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

```

```
Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:26:44 2018
Not Valid After : Fri Jul 31 07:26:44 2043
Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
#
Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
```

```
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus ECC Root CA"

# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da

# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:26:44 2018

# Not Valid After : Fri Jul 31 07:26:44 2043

# Fingerprint (SHA-256):

30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3

# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus ECC Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
```

```
\160\332\303\341
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "vTrus Root CA"
#
Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:24:05 2018
Not Valid After : Fri Jul 31 07:24:05 2043
Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060

```



\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157  
\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065  
\375\157\274\005\215\105

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103  
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274  
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103  
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165  
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061  
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040  
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063  
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061  
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125  
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023  
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054  
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166  
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174  
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113  
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034  
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213  
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263  
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024  
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237  
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271  
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276  
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136  
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147  
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175  
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123  
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152  
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107  
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302  
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176  
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355  
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220  
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166  
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246  
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032  
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147  
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115  
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011

\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232  
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220  
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370  
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132  
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326  
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252  
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301  
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306  
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255  
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346  
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354  
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235  
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262  
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111  
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143  
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372  
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020  
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314  
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344  
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344  
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257  
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052  
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064  
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322  
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050  
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312  
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353  
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353  
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275  
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375  
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337  
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241  
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101  
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146  
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065  
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117  
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112  
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305  
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247  
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212  
\334\346\164\174\140\206\157\207\227\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "vTrus Root CA"
Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:24:05 2018
Not Valid After : Fri Jul 31 07:24:05 2043
Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ISRG Root X2"
#
Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
#

```

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US  
# Not Valid Before: Fri Sep 04 00:00:00 2020  
# Not Valid After : Mon Sep 17 16:00:00 2040  
# Fingerprint (SHA-256):  
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70  
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "ISRG Root X2"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\062  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER  
MULTILINE\_OCTAL  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\062  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057  
\207\122  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101  
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060  
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003  
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145  
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040  
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014  
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015  
\062\060\060\071\060\064\060\060\060\060\060\060\132\027\015\064  
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006  
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123  
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150

```
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X2"

# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

#

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Not Valid Before: Fri Sep 04 00:00:00 2020

# Not Valid After : Mon Sep 17 16:00:00 2040

# Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057  
\207\122

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HiPKI Root CA - G1"

#

# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Fri Feb 22 09:46:04 2019

# Not Valid After : Thu Dec 31 15:59:59 2037

# Fingerprint (SHA-256):

F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC

# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HiPKI Root CA - G1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110  
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061

\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110  
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152  
\136\140

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055  
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120  
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060  
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132  
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043  
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167  
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114  
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151  
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060  
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036  
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041  
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057  
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167  
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354  
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272  
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141  
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361  
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363  
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037  
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004  
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031  
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162  
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227  
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212  
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011  
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305  
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143

\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255  
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132  
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353  
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232  
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301  
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331  
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371  
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303  
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014  
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273  
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103  
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072  
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111  
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161  
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121  
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250  
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342  
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177  
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030  
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234  
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171  
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027  
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332  
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112  
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066  
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334  
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041  
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320  
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340  
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126  
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204  
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150  
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273  
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315  
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305  
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311  
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164  
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053  
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167  
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340  
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076  
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312  
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200  
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024



```
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253
\233\141\374\022\121\065\344\045\375\257\252\152\206\071
END
```

```
CKA_NSS_Mozilla_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
Trust for "HiPKI Root CA - G1"
```

```
Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
```

```
Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
```

```
#
```

```
Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
```

```
Not Valid Before: Fri Feb 22 09:46:04 2019
```

```
Not Valid After : Thu Dec 31 15:59:59 2037
```

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

```
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
```

```
Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HiPKI Root CA - G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226
```

```
\343\345\322\140
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
```

```
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
```

```
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
```

```
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
```

```
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
```

```
\061
```

```
END
```

```
CKA_SERIAL_NUMBER
```

```
MULTILINE_OCTAL
```

```
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
```

```
\136\140
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
Certificate "GlobalSign ECC Root CA - R4"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
```

\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062  
\061\061\061\063\060\060\060\060\060\060\060\132\027\015\063\070\060  
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042  
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157  
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003  
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023  
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075  
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237  
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261  
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377  
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161  
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177  
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052  
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117  
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073  
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040  
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256  
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046  
END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R4"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2

# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign ECC Root CA - R4"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL

\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364  
\275\157\013\050

END

CKA\_CERT\_MD5\_HASH

```

MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R1"
#
Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
Subject: CN=GTS Root R1,O=Google Trust
Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145

```

\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011  
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021  
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100  
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350  
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204  
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247  
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360  
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261  
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043  
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360  
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007  
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330  
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345  
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226  
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117  
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207  
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063  
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312  
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374  
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261  
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216  
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244  
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237  
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372  
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166

\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003  
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276  
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051  
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047  
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260  
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315  
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125  
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201  
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146  
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333  
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042  
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146  
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036  
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153  
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016  
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262  
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076  
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213  
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070  
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337  
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256  
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011  
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017  
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355  
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037  
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131  
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137  
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077  
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035  
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303  
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123  
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337  
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067  
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331  
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066  
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231  
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146  
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024  
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363  
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333  
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106  
\143\325\066\161\256\127\373\267\202\155\334

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER
CK_BBOOL CK_FALSE

Trust for "GTS Root R1"
Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R2"
#
Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

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```
Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
```



\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336  
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065  
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155  
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254  
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237  
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230  
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211  
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316  
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056  
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153  
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255  
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344  
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343  
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011  
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240  
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150  
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116  
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325  
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121  
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334  
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350  
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073  
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351  
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126  
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131  
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252  
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232  
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312  
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336  
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252  
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031  
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377  
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246  
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307  
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346  
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173  
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074  
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250  
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356  
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202  
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201  
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316  
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256

\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311  
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153  
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040  
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172  
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351  
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257  
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107  
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070  
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372  
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061  
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145  
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121  
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016  
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117  
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240  
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037  
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025  
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225  
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130  
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053  
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145  
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021  
\354\236\355\005\035\344\310\326\035\206\313

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R2"

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed

Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236  
\126\011\044\224

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R3"
#
Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145

```

\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130  
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121  
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206  
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156  
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011  
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366  
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022  
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173  
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230  
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273  
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146  
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316  
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246  
\225\327\124\131\267\347\021\054\211\324\271\356\027

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "GTS Root R3"
Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R4"
#
Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
#

```

Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "GTS Root R4"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\064  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\064  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060  
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030  
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242  
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261  
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204  
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321

```
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R4"

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Telia Root CA v2"
#
Issuer: CN=Telia Root CA v2,O=Telia Finland
Oyj,C=FI
Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
Not Valid Before: Thu Nov 29 11:55:54 2018
Not Valid After : Sun Nov 29 11:55:54 2043
Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015

```



\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061  
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030  
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156  
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004  
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101  
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065  
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065  
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002  
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154  
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031  
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122  
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342  
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155  
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152  
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312  
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241  
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175  
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230  
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031  
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275  
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244  
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325  
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203  
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074  
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135  
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123  
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204  
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011  
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050  
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154  
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345  
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302  
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134  
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156  
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272  
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203  
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020  
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321  
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012  
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267  
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110  
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154  
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116  
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243  
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024  
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057

\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162  
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206  
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066  
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011  
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062  
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204  
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142  
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333  
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070  
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014  
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346  
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131  
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122  
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240  
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321  
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212  
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335  
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123  
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205  
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226  
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170  
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053  
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020  
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133  
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055  
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244  
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124  
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123  
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306  
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224  
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026  
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146  
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337  
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200  
\254\023\356\120\024\036\230\307

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Telia Root CA v2"

# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

```

Not Valid Before: Thu Nov 29 11:55:54 2018
Not Valid After : Sun Nov 29 11:55:54 2043
Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST BR Root CA 1 2020"
#
Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust
GmbH,C=DE
Not Valid Before: Tue Feb 11 09:45:00 2020
Not Valid After : Sun Feb 11 09:44:59 2035
Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
```

\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377  
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102  
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023  
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070  
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126  
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363  
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032  
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325  
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST BR Root CA 1 2020"

# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue Feb 11 09:45:00 2020

# Not Valid After : Sun Feb 11 09:44:59 2035

# Fingerprint (SHA-256):

E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44

# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST BR Root CA 1 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315

\364\011\101\147

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST EV Root CA 1 2020"
#
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061

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\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373  
\377\320

END

CKA\_VALUE MULTILINE\_OCTAL

\060\020\002\333\060\020\002\140\240\003\002\001\002\002\020\137  
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061  
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071  
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227  
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246  
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202  
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063  
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017  
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303  
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067  
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105  
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141

```
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST EV Root CA 1 2020"

# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0

# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue

Feb 11 10:00:00 2020

# Not Valid After : Sun Feb 11 09:59:59 2035

# Fingerprint (SHA-256):

08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB

# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST EV Root CA 1 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
\075\364\335\007
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
```

END



CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert TLS ECC P384 Root G5"

#

# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3

# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05

# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004  
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040  
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004  
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040  
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052  
\056\363

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011  
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060  
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111

\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151  
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120  
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062  
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066  
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151  
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120  
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007  
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122  
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150  
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114  
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351  
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124  
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022  
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347  
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053  
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120  
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025  
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362  
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270  
\015\166\103\214\056\123\313\174\337\014\027\226\120

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS ECC P384 Root G5"

# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3

# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05

# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "DigiCert
 TLS ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS RSA4096 Root G5"
#
Issuer:
 CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040

```

\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
END  
CKA\_ID  
UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004  
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174  
\317\212  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010  
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023  
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123  
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034  
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101  
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364  
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076  
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011  
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110  
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264  
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034  
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345  
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051  
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267  
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210  
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114  
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374  
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247  
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103  
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024  
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351

\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350  
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016  
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364  
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361  
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367  
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376  
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035  
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351  
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212  
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327  
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155  
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371  
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136  
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175  
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037  
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313  
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257  
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127  
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221  
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160  
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012  
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352  
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307  
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301  
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253  
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305  
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041  
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113  
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020  
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346  
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045  
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244  
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206  
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360  
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157  
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021  
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272  
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276  
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011  
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366  
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160  
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167  
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265

```
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214
\332\062\376\303\153\203\077\070\306\176
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS RSA4096 Root G5"

# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a

# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75

# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "DigiCert TLS RSA4096 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert SMIME ECC

P384 Root G5"

#

# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243  
\326\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005  
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060  
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003

\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151  
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103  
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037  
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105  
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147  
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146  
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274  
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315  
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013  
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266  
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146  
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104  
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161  
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247  
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060  
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303  
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326  
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246  
END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert

SMIME ECC P384 Root G5"

# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE



```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert SMIME RSA4096 Root G5"
#
Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55
Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
#
Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004  
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107  
\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004  
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107  
\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272  
\034\125

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005  
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023  
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060  
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\060\132  
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162  
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003  
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105  
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064  
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105  
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227  
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004  
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360  
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341  
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012  
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267  
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261  
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072

\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070  
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066  
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352  
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060  
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223  
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151  
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367  
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000  
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356  
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152  
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027  
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135  
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206  
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150  
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236  
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261  
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040  
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056  
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214  
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342  
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050  
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207  
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134  
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247  
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361  
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151  
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224  
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163  
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242  
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121  
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013  
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111  
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351  
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205  
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046  
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137  
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371  
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246  
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307  
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350  
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022  
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072  
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363  
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152

```
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331
\014\122\100\037\335\116\017\147\046\026\322\255\027\034
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert SMIME RSA4096 Root G5"

# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A

# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106
\206\320\127\010
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certainly Root R1"
#
Issuer: CN=Certainly Root R1,O=Certainly,C=US
Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
Subject: CN=Certainly Root R1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
#
Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000

```

\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022  
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156  
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162  
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036  
\027\015\062\061\060\064\060\061\060\060\060\060\060\132\027  
\015\064\066\060\064\060\061\060\060\060\060\060\132\060\075  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154  
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164  
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066  
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152  
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201  
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023  
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052  
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056  
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235  
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241  
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154  
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364  
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015  
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364  
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371  
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212  
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246  
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171  
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064  
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211  
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220  
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171  
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244  
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111  
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260  
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265  
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100  
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264  
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027  
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207  
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047  
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204  
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021  
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233  
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001

\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256  
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022  
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053  
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335  
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131  
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335  
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266  
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025  
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042  
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351  
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114  
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335  
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132  
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042  
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142  
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200  
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245  
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173  
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012  
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015  
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143  
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152  
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346  
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047  
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115  
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301  
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362  
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044  
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112  
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147  
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137  
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051  
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272  
\071\137\212\231\251\101\131\007\260\054\257

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root R1"

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not

```
Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272
\314\206\102\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certainly Root E1"
#
Issuer: CN=Certainly Root E1,O=Certainly,C=US
Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
Subject: CN=Certainly Root E1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```



```
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060
\064\060\061\060\060\060\060\060\060\132\060\075\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
```

```
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root E1"

# Issuer: CN=Certainly

Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root E1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```
#
Certificate "E-Tugra Global Root CA RSA v3"
#
Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:07:17 2020
Not Valid After : Sun Mar 12 09:07:17 2045
Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
Fingerprint (SHA1):
E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015  
\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373  
\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122  
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060  
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071  
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006  
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023  
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123  
\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165  
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162  
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147  
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173  
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215  
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056  
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061  
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135  
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075  
\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174  
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047  
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364  
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277  
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061  
\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076  
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113  
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145  
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061  
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306  
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006  
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323  
\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170  
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276  
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126  
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116  
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151  
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065

\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012  
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133  
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207  
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007  
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336  
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005  
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250  
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124  
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143  
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123  
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262  
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041  
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030  
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232  
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220  
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161  
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057  
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174  
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006  
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165  
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320  
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167  
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357  
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344  
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242  
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203  
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375  
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220  
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175  
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320  
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015  
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303  
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000  
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076  
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170  
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305  
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257  
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261  
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014  
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122  
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060  
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074  
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221  
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040

```

\317\073\357\201\161\203\131
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "E-Tugra Global Root CA RSA v3"
Issuer: CN=E-Tugra
Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:07:17 2020
Not Valid After : Sun Mar 12 09:07:17 2045
Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

```

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Global Root CA ECC v3"

#

# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:46:58 2020

# Not Valid After : Sun Mar 12 09:46:58 2045

# Fingerprint (SHA-256):

87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13

# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA ECC v3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103  
\040\166\063

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103  
\040\166\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206

\346\324\227\210\042\301

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046  
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227  
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060  
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141  
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147  
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006  
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162  
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003  
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157  
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040  
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066  
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065  
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105  
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051  
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020  
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303  
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107  
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012  
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342  
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377  
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245  
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202  
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220  
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151  
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313  
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232  
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372  
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145  
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307  
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161  
\276\150\344\043\244\331\255\241\067

END



```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "E-Tugra Global Root CA ECC v3"
Issuer: CN=E-Tugra Global
Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:46:58 2020
Not Valid After : Sun Mar 12 09:46:58 2045
Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```
#
Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"
#
Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
Serial
 Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 10:50:34 2021
Not Valid After : Mon Jan 15 10:50:34 2046
Fingerprint (SHA-256):
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_ID
 UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120
```

\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151  
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143  
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060  
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123  
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040  
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061  
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061  
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004  
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041  
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164  
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141  
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111  
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122  
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323  
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170  
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134  
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250  
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350  
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366  
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032  
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056  
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045  
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147  
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010  
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140  
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042  
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365  
\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320  
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205  
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061  
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115  
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004  
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012  
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204  
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245  
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047  
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307  
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076  
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160  
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267  
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132  
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121  
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363  
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316  
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030  
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001

\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026  
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024  
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004  
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332  
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001  
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370  
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341  
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360  
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322  
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363  
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065  
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111  
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004  
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177  
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240  
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124  
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150  
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171  
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205  
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153  
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324  
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111  
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127  
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072  
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233  
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156  
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047  
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244  
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004  
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025  
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001  
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054  
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216  
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256  
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040  
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066  
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236  
\176\113\144\244\125\135\053\027\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital.C=PT

```

Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
#
Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 10:50:34 2021
Not Valid After : Mon Jan 15 10:50:34 2046
Fingerprint (SHA-256):
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 11:07:50 2021
Not Valid After : Mon Jan 15 11:07:50 2046
Fingerprint

```

(SHA-256):

26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE

# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055  
\344\353\372\235\266\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066  
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372  
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060  
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052  
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154  
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157  
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003  
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116  
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104  
\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061\061  
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061  
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104  
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151

\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154  
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124  
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117  
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215  
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111  
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311  
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206  
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023  
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155  
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004  
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002  
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016  
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360  
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316  
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234  
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026  
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346  
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262  
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160  
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314  
\065\352\216\044\233\345\010\131\307\004\214\163\170\376

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 11:07:50 2021

# Not Valid After : Mon Jan 15 11:07:50 2046

# Fingerprint (SHA-256):

26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE

# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000

\057\322\112\212

```

END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217
END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication RootCA3"
#
#
Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:e1:7c:37:40:fd:1b:fe:67
Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 06:17:16 2016
Not Valid After : Mon Jan 18 06:17:16 2038
Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063

```



END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023  
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\341\174\067\100\375\033\376\147

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000  
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060  
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122  
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066  
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060  
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004  
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034  
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164  
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045  
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040  
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157  
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251  
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065  
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053  
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371  
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164  
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300  
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064  
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120  
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006  
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301  
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075  
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173  
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132  
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041  
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273

\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124  
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374  
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270  
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021  
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340  
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036  
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017  
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355  
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055  
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270  
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055  
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314  
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137  
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115  
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320  
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122  
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021  
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162  
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202  
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322  
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151  
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132  
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300  
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311  
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115  
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235  
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255  
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065  
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010  
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072  
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112  
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076  
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134  
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010  
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036  
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047  
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156  
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337  
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074  
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062  
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025  
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273  
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123  
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303

```
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063
\235\115\146
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA3"

# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:e1:7c:37:40:fd:1b:fe:67

# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 06:17:16 2016

# Not Valid After : Mon Jan 18 06:17:16 2038

# Fingerprint (SHA-256):

24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94

#

Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\011\000\341\174\067\100\375\033\376\147
```

END

CKA\_TRUST\_SERVER\_AUTH

```

CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication ECC RootCA1"
#
Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 05:15:28 2016
Not Valid After : Mon Jan 18 05:15:28 2038
Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000

```

\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316  
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023  
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105  
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155  
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003  
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040  
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061  
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070  
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060  
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105  
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053  
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216  
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145  
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136  
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334  
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112  
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243  
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004  
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356  
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052  
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375  
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016  
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104  
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142  
\033\022\372\026\115\045\113\143\275\036\067\331

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication ECC RootCA1"

# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb

# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 05:15:28 2016

# Not Valid After : Mon Jan 18 05:15:28 2038

# Fingerprint (SHA-256):

E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11

# Fingerprint (SHA1):

B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication ECC RootCA1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366  
\035\015\101\101

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023  
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164  
\103\101\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\326\135\233\263\170\201\056\353

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "BJCA Global Root CA1"

#

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:16:17 2019

# Not Valid After : Mon Dec 12 03:16:17 2044

# Fingerprint (SHA-256):

F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE

# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176
```

\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271  
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077  
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372  
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021  
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124  
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027  
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145  
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260  
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144  
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352  
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056  
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023  
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312  
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157  
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050  
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277  
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203  
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350  
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116  
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127  
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361  
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347  
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211  
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125  
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376  
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300  
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305  
\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223  
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362  
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270  
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014  
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002  
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142  
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301  
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251  
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156  
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310  
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313  
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074  
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363  
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375  
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015  
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072  
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204



```
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362
\257\376\263\160\054\056\246\362
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA1"

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:16:17

2019

# Not Valid After : Mon Dec 12 03:16:17 2044

# Fingerprint (SHA-256):

F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE

# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "BJCA Global Root CA1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
```

```

\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "BJCA Global Root CA2"
#
Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:18:21 2019
Not Valid After : Mon Dec 12 03:18:21 2044
Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157

```

```
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```

Trust for "BJCA Global Root CA2"
Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:18:21 2019
Not Valid After : Mon Dec 12 03:18:21 2044
Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

Found in path(s):

```

* /opt/cola/permits/1919538345_1710807720.5754924/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt

```

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

```

#!/usr/bin/env perl

```

```

```

```

*
* Project
*
*
*
*
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*
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This Perl script creates a fresh ca-bundle.crt file for use with libcurl.
It downloads certdata.txt from Mozilla's source tree (see URL below),
then parses certdata.txt and extracts CA Root Certificates into PEM format.
These are then processed with the OpenSSL commandline tool to produce the
final ca-bundle.crt file.
The script is based on the parse-certs script written by Roland Krikava.
This Perl script works on almost any platform since its only external
dependency is the OpenSSL commandline tool for optional text listing.
Hacked by Guenter Knauf.
#
use Encode;
use Getopt::Std;
use MIME::Base64;
use strict;
use warnings;
use vars qw($opt_b $opt_d $opt_f $opt_h $opt_i $opt_k $opt_l $opt_m $opt_n $opt_p $opt_q $opt_s $opt_t $opt_u
$opt_v $opt_w);
use List::Util;
use Text::Wrap;
use Time::Local;
my $MOD_SHA = "Digest::SHA";
eval "require
$MOD_SHA";
if ($@) {
$MOD_SHA = "Digest::SHA::PurePerl";
eval "require $MOD_SHA";
}

```

```

eval "require LWP::UserAgent";

my %urls = (
'nss' =>
 'https://hg.mozilla.org/projects/nss/raw-file/default/lib/ckfw/builtins/certdata.txt',
'central' =>
 'https://hg.mozilla.org/mozilla-central/raw-file/default/security/nss/lib/ckfw/builtins/certdata.txt',
'beta' =>
 'https://hg.mozilla.org/releases/mozilla-beta/raw-file/default/security/nss/lib/ckfw/builtins/certdata.txt',
'release' =>
 'https://hg.mozilla.org/releases/mozilla-release/raw-file/default/security/nss/lib/ckfw/builtins/certdata.txt',
);

$opt_d = 'release';

If the OpenSSL commandline is not in search path you can configure it here!
my $openssl = 'openssl';

my $version = '1.27';

$opt_w = 76; # default base64 encoded lines length

default cert types to include in the output (default is to include CAs which may issue SSL server certs)
my $default_mozilla_trust_purposes = "SERVER_AUTH";
my $default_mozilla_trust_levels
= "TRUSTED_DELEGATOR";
$opt_p = $default_mozilla_trust_purposes . ":" . $default_mozilla_trust_levels;

my @valid_mozilla_trust_purposes = (
 "DIGITAL_SIGNATURE",
 "NON_REPUDIATION",
 "KEY_ENCIPHERMENT",
 "DATA_ENCIPHERMENT",
 "KEY_AGREEMENT",
 "KEY_CERT_SIGN",
 "CRL_SIGN",
 "SERVER_AUTH",
 "CLIENT_AUTH",
 "CODE_SIGNING",
 "EMAIL_PROTECTION",
 "IPSEC_END_SYSTEM",
 "IPSEC_TUNNEL",
 "IPSEC_USER",
 "TIME_STAMPING",
 "STEP_UP_APPROVED"
);

my @valid_mozilla_trust_levels = (

```

```

"TRUSTED_DELEGATOR", # CAs
"NOT_TRUSTED", # Don't trust these certs.
"MUST_VERIFY_TRUST", # This explicitly tells us that it ISN'T a CA but is otherwise ok. In other words, this
should tell the app to ignore any other sources that claim this is a CA.
"TRUSTED" # This cert is trusted, but only for itself and not for delegates (i.e. it is not a CA).
);

my $default_signature_algorithms = $opt_s = "MD5";

my @valid_signature_algorithms = (
 "MD5",
 "SHA1",
 "SHA256",
 "SHA384",
 "SHA512"
);

$0 =~ s@.*(/\@;
$Getopt::Std::STANDARD_HELP_VERSION = 1;
getopts('bd:fhiklmnp:qs:tuvw:');

if(!defined($opt_d)) {
 # to make plain "-d" use not cause warnings, and actually still work
 $opt_d = 'release';
}

Use predefined URL or else custom URL specified on command line.
my $url;
if(defined($urls{$opt_d})) {
 $url = $urls{$opt_d};
 if(!$opt_k && $url !~ /^https:\//i) {
 die "The URL for '$opt_d' is not HTTPS. Use -k to override (insecure).\n";
 }
}
else {
 $url = $opt_d;
}

my $curl = `curl -V`;

if ($opt_i) {
 print ("=" x 78 . "\n");
 print "Script Version : $version\n";
 print "Perl Version : $]\n";
 print "Operating System Name : $^O\n";
 print "Getopt::Std.pm Version : ${Getopt::Std::VERSION}\n";
 print "Encode::Encoding.pm Version : ${Encode::Encoding::VERSION}\n";
 print "MIME::Base64.pm Version : ${MIME::Base64::VERSION}\n";
}

```

```

print "LWP::UserAgent.pm
Version : ${LWP::UserAgent::VERSION}\n" if($LWP::UserAgent::VERSION);
print "LWP.pm Version : ${LWP::VERSION}\n" if($LWP::VERSION);
print "Digest::SHA.pm Version : ${Digest::SHA::VERSION}\n" if ($Digest::SHA::VERSION);
print "Digest::SHA::PurePerl.pm Version : ${Digest::SHA::PurePerl::VERSION}\n" if
($Digest::SHA::PurePerl::VERSION);
print ("=" x 78 . "\n");
}

```

```

sub warning_message() {
if ($opt_d =~ m/^risk$/i) { # Long Form Warning and Exit
 print "Warning: Use of this script may pose some risk:\n";
 print "\n";
 print " 1) If you use HTTP URLs they are subject to a man in the middle attack\n";
 print " 2) Default to 'release', but more recent updates may be found in other trees\n";
 print " 3) certdata.txt file format may change, lag time to update this script\n";
 print " 4) Generally unwise to blindly trust CAs without manual review & verification\n";
 print " 5) Mozilla apps use additional security
checks aren't represented in certdata\n";
 print " 6) Use of this script will make a security engineer grind his teeth and\n";
 print " swear at you. ;)\n";
 exit;
} else { # Short Form Warning
 print "Warning: Use of this script may pose some risk, -d risk for more details.\n";
}
}

```

```

sub HELP_MESSAGE() {
 print "Usage:\t${0} [-b] [-d<certdata>] [-f] [-i] [-k] [-l] [-n] [-p<purposes:levels>] [-q] [-s<algorithms>] [-t] [-u] [-v] [-w<l>] [<outputfile>]\n";
 print "\t-b\tbackup an existing version of ca-bundle.crt\n";
 print "\t-d\tspecify Mozilla tree to pull certdata.txt or custom URL\n";
 print "\t\t Valid names are:\n";
 print "\t\t ", join(", ", map { ($_ =~ m/$opt_d/) ? "$_ (default)" : "$_" } sort keys %urls), "\n";
 print "\t-f\tforce rebuild even if certdata.txt is current\n";
 print "\t-i\tprint version info about used modules\n";
 print "\t-k\tallow URLs other than HTTPS, enable HTTP fallback (insecure)\n";
 print "\t-l\tprint license info
about certdata.txt\n";
 print "\t-m\tinclude meta data in output\n";
 print "\t-n\tno download of certdata.txt (to use existing)\n";
 print wrap("\t\t", "\t\t", "-p\tlist of Mozilla trust purposes and levels for certificates to include in output. Takes the
form of a comma separated list of purposes, a colon, and a comma separated list of levels. (default:
$default_mozilla_trust_purposes:$default_mozilla_trust_levels)", "\n");
 print "\t\t Valid purposes are:\n";
 print wrap("\t\t", "\t\t", join(", ", "ALL", @valid_mozilla_trust_purposes), "\n");
 print "\t\t Valid levels are:\n";
 print wrap("\t\t", "\t\t", join(", ", "ALL", @valid_mozilla_trust_levels), "\n");
}

```



```

print "\t-q\tbe really quiet (no progress output at all)\n";
print wrap("\t", "\t", "-s\tcomma separated list of certificate signatures/ hashes to output in plain text mode. (default:
$default_signature_algorithms)\n");
print "\t Valid signature algorithms are:\n";
print wrap("\t\t", "\t\t",
 ", join(", ", "ALL", @valid_signature_algorithms), ", "\n";
print "\t\tinclude plain text listing of certificates\n";
print "\t-u\tunlink (remove) certdata.txt after processing\n";
print "\t-v\tbe verbose and print out processed CAs\n";
print "\t-w <l>\twrap base64 output lines after <l> chars (default: ${opt_w})\n";
exit;
}

sub VERSION_MESSAGE() {
print "${0} version ${version} running Perl ${} on ${^O}\n";
}

warning_message() unless ($opt_q || $url =~ m/^(ht|f)tps:/i);
HELP_MESSAGE() if ($opt_h);

sub report($@) {
my $output = shift;

print STDERR $output . "\n" unless $opt_q;
}

sub is_in_list($@) {
my $target = shift;

return defined(List::Util::first { $target eq $_ } @_);
}

Parses $param_string as a case insensitive comma separated list with optional whitespace
validates that only allowed parameters are supplied
sub parse_csv_param($$@) {
my $description = shift;
my $param_string = shift;
my @valid_values = @_;

my @values = map {
 s/^\s+//; # strip leading spaces
 s/\s+$//; # strip trailing spaces
 uc $_ # return the modified string as upper case
} split(',', $param_string);

Find all values which are not in the list of valid values or "ALL"
my @invalid = grep { !is_in_list($_, "ALL", @valid_values) } @values;

```

```

if (scalar(@invalid) > 0) {
 # Tell the user which parameters were invalid and print the standard help message which will exit
 print "Error: Invalid ", $description, scalar(@invalid) == 1 ? " : " : "s: ", join(" ", map { "\"$_\"" } @invalid),
 "\n";
 HELP_MESSAGE();
}

@values = @valid_values if (is_in_list("ALL",@values));

return @values;
}

sub sha256 {
 my $result;
 if ($Digest::SHA::VERSION || $Digest::SHA::PurePerl::VERSION) {
 open(FILE, $_[0]) or die "Can't open '$_[0]': $!";
 binmode(FILE);
 $result = $MOD_SHA->new(256)->addfile(*FILE)->hexdigest;
 close(FILE);
 } else {
 # Use OpenSSL command if Perl Digest::SHA modules not available
 $result = `"$openssl" dgst -r -sha256 "$_[0]"`;
 $result =~ s/^([0-9a-f]{64}) .+/$1/is;
 }
 return $result;
}

sub oldhash {
 my $hash = "";
 open(C, "<$_[0]") || return 0;
 while(<C>) {
 chomp;
 if($_ =~ /^#\# SHA256: (.*)/) {
 $hash = $1;
 last;
 }
 }
 close(C);
 return $hash;
}

if ($opt_p !~ m:/:/) {
 print "Error: Mozilla trust identifier list must include both purposes and levels\n";
 HELP_MESSAGE();
}

(my $included_mozilla_trust_purposes_string, my $included_mozilla_trust_levels_string) = split(':', $opt_p);

```

```

my @included_mozilla_trust_purposes = parse_csv_param("trust purpose",
$included_mozilla_trust_purposes_string, @valid_mozilla_trust_purposes);
my @included_mozilla_trust_levels = parse_csv_param("trust level", $included_mozilla_trust_levels_string,
@valid_mozilla_trust_levels);

my @included_signature_algorithms = parse_csv_param("signature algorithm", $opt_s,
@valid_signature_algorithms);

sub should_output_cert(%) {
 my
 %trust_purposes_by_level = @_;

 foreach my $level (@included_mozilla_trust_levels) {
 # for each level we want to output, see if any of our desired purposes are included
 return 1 if (defined(List::Util::first { is_in_list($_, @included_mozilla_trust_purposes) }
@{ $trust_purposes_by_level{ $level } }));
 }

 return 0;
}

my $crt = $ARGV[0] || 'ca-bundle.crt';
(my $txt = $url) =~ s@(.*/\?.*)@@g;

my $stdout = $crt eq '-';
my $resp;
my $fetched;

my $oldhash = oldhash($crt);

report "SHA256 of old file: $oldhash";

if(!$opt_n) {
 report "Downloading $txt ...";

 # If we have an HTTPS URL then use curl
 if($url =~ /^https:\//i) {
 if($curl) {
 if($curl =~ /^Protocols:.* https(|$)/m) {
 report "Get certdata with curl!";
 my $proto = !$opt_k ? "--proto =https" : "";
 my $quiet = $opt_q ? "-s" : "";
 my @out = `curl -w %{response_code} $proto $quiet -o "$txt" "$url"`;
 if(!$? && @out && $out[0] == 200) {
 $fetched = 1;
 report "Downloaded $txt";
 }
 }
 else {

```

```

 report "Failed downloading via HTTPS with curl";
 if(-e $txt && !unlink($txt)) {
 report "Failed to remove '$txt': $!";
 }
}
}
else {
 report "curl lacks https support";
}
}
else {
 report "curl not found";
}
}

If nothing was fetched then use LWP
if(!$fetched) {
 if($url =~ /^https:\//i) {
 report "Falling back to HTTP";
 $url =~ s/^https:\//http:\//i;
 }
 if(!$opt_k) {
 report "URLs other than HTTPS are disabled by default, to enable use -k";
 exit 1;
 }
 report "Get certdata with LWP!";
 if(!defined(${LWP::UserAgent::VERSION})) {
 report "LWP is not available (LWP::UserAgent not found)";
 exit 1;
 }
 my $ua = new LWP::UserAgent(agent => "$0/$version");
 $ua->env_proxy();
 $resp = $ua->mirror($url, $txt);
 if($resp && $resp->code eq '304') {
 report "Not modified";
 exit 0 if -e $crt && !$opt_f;
 }
 else {
 $fetched = 1;
 report "Downloaded $txt";
 }
 if(!$resp || $resp->code !~ /^(?:200|304)$/) {
 report "Unable to download latest data: "
 . ($resp? $resp->code . ' - ' . $resp->message : "LWP failed");
 exit 1 if -e $crt || !-r $txt;
 }
}
}
}

```

```

my $filedate = $resp ? $resp->last_modified : (stat($txt))[9];
my $datesrc = "as of";
if(!$filedate) {
 # mxr.mozilla.org gave us a time, hg.mozilla.org does not!
 $filedate = time();
 $datesrc="downloaded on";
}

get the hash from the download file
my $newhash= sha256($txt);

if(!$opt_f && $oldhash eq $newhash) {
 report "Downloaded file identical to previous run's source file. Exiting";
 if($opt_u && -e $txt && !unlink($txt)) {
 report "Failed to remove $txt: $!\n";
 }
 exit;
}

report "SHA256 of new file: $newhash";

my $currentdate = scalar gmtime($filedate);

my $format = $opt_t ? "plain text and " : "";
if($stdout
) {
 open(CRT, '> -') or die "Couldn't open STDOUT: $!\n";
} else {
 open(CRT,">$crt.~") or die "Couldn't open $crt.~: $!\n";
}
print CRT <<EOT;
##
Bundle of CA Root Certificates
##
Certificate data from Mozilla ${datesrc}: ${currentdate} GMT
##
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt). This file can be found in the mozilla source tree:
${url}
##
It contains the certificates in ${format}PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.
##
Conversion done with mk-ca-bundle.pl version $version.

```

```

SHA256: $newhash
##

EOT

report "Processing '$txt' ...";
my $cname;
my $certnum = 0;
my $skipnum = 0;
my $start_of_cert = 0;
my @precert;
my $cka_value;
my $valid = 1;

open(TXT,"$txt")
or die "Couldn't open $txt: $!\n";
while (<TXT>) {
if (/^***** BEGIN LICENSE BLOCK *****/) {
print CRT;
print if ($opt_1);
while (<TXT>) {
print CRT;
print if ($opt_1);
last if (/^***** END LICENSE BLOCK *****/);
}
}
elsif(/^# (Issuer|Serial Number|Subject|Not Valid Before|Not Valid After |Fingerprint \|(MD5\)|Fingerprint
\|(SHA1\)):/) {
push @precert, $_;
$valid = 1;
next;
}
elsif(/^#\^\s*$/) {
undef @precert;
next;
}
}
chomp;

Example:
CKA_NSS_SERVER_DISTRICT_AFTER MULTILINE_OCTAL
\062\060\060\066\061\067\060\060\060\060\060\060\132
END

if (/^CKA_NSS_SERVER_DISTRICT_AFTER (CK_BBOOL CK_FALSE|MULTILINE_OCTAL)/) {
if($1 eq "MULTILINE_OCTAL") {
my @timestamp;
while (<TXT>) {
last if (/^END/);
}
}
}

```

```

 chomp;
 my @octets = split(\\);
 shift @octets;
 for (@octets) {
 push
@timestamp, chr(oct);
 }
}
A trailing Z in the timestamp signifies UTC
if($timestamp[12] ne "Z") {
 report "distrust date stamp is not using UTC";
}
Example date: 200617000000Z
Means 2020-06-17 00:00:00 UTC
my $distrustat =
 timegm($timestamp[10] . $timestamp[11], # second
 $timestamp[8] . $timestamp[9], # minute
 $timestamp[6] . $timestamp[7], # hour
 $timestamp[4] . $timestamp[5], # day
 ($timestamp[2] . $timestamp[3]) - 1, # month
 "20" . $timestamp[0] . $timestamp[1]); # year
if(time >= $distrustat) {
 # not trusted anymore
 $skipnum++;
 report "Skipping: $scaname is not trusted anymore" if ($opt_v);
 $valid = 0;
}
else {
 # still trusted
}
}
next;
}

this
is a match for the start of a certificate
if (/^CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE/) {
 $start_of_cert = 1
}
if ($start_of_cert && /^CKA_LABEL UTF8 \"(.*)\"/) {
 $scaname = $1;
}
my %trust_purposes_by_level;
if ($start_of_cert && /^CKA_VALUE MULTILINE_OCTAL/) {
 $cka_value="";
 while (<TXT>) {
 last if (/^END/);
 }
 chomp;
}

```

```

my @octets = split(\\);
shift @octets;
for (@octets) {
 $scka_value .= chr(oct);
}
}
}
if(/^CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST/ && $valid) {
now scan the trust part to determine how we should trust this cert
while (<TXT>) {
 last if (/^#/);
 if (/^CKA_TRUST_([A-Z_+])\s+CK_TRUST\s+CKT_NSS_([A-Z_+])\s*$/) {
 if (!is_in_list($1,@valid_mozilla_trust_purposes)) {
 report "Warning: Unrecognized trust purpose for cert: $cname. Trust purpose: $1. Trust Level: $2";
 } elsif (!is_in_list($2,@valid_mozilla_trust_levels)) {
 report "Warning:
Unrecognized trust level for cert: $cname. Trust purpose: $1. Trust Level: $2";
 } else {
 push @{$trust_purposes_by_level{$2}}, $1;
 }
 }
}

if (!should_output_cert(%trust_purposes_by_level)) {
 $skipnum ++;
 report "Skipping: $cname" if ($opt_v);
} else {
 my $data = $scka_value;
 $scka_value = "";
 my $encoded = MIME::Base64::encode_base64($data, "");
 $encoded =~ s/(.{1,$opt_w})/$1\n/g;
 my $pem = "-----BEGIN CERTIFICATE-----\n"
 . $encoded
 . "-----END CERTIFICATE-----\n";
 print CRT "\n$cname\n";
 print CRT @precert if($opt_m);
 my $maxLength = length(decode('UTF-8', $cname, Encode::FB_CROAK | Encode::LEAVE_SRC));
 if ($opt_t) {
 foreach my $key (keys %trust_purposes_by_level) {
 my $string = $key . ": " . join(" ", @{$trust_purposes_by_level{$key}});
 $maxLength = List::Util::max(length($string), $maxLength
);
 print CRT $string . "\n";
 }
 }
 print CRT ("=" x $maxLength . "\n");
 if (!$opt_t) {
 print CRT $pem;
 }
}

```



```

} else {
 my $pipe = "";
 foreach my $hash (@included_signature_algorithms) {
 $pipe = "|$openssl x509 -" . $hash . " -fingerprint -noout -inform PEM";
 if (!$stdout) {
 $pipe .= " >> $crt.~";
 close(CRT) or die "Couldn't close $crt.~: $!";
 }
 open(TMP, $pipe) or die "Couldn't open openssl pipe: $!";
 print TMP $pem;
 close(TMP) or die "Couldn't close openssl pipe: $!";
 if (!$stdout) {
 open(CRT, ">>$crt.~") or die "Couldn't open $crt.~: $!";
 }
 }
 $pipe = "|$openssl x509 -text -inform PEM";
 if (!$stdout) {
 $pipe .= " >> $crt.~";
 close(CRT) or die "Couldn't close $crt.~: $!";
 }
 open(TMP, $pipe) or die "Couldn't open openssl pipe: $!";
 print TMP
 $pem;
 close(TMP) or die "Couldn't close openssl pipe: $!";
 if (!$stdout) {
 open(CRT, ">>$crt.~") or die "Couldn't open $crt.~: $!";
 }
}
report "Parsing: $aname" if ($opt_v);
$certnum++;
$start_of_cert = 0;
}
undef @precert;
}

}
close(TXT) or die "Couldn't close $txt: $!\n";
close(CRT) or die "Couldn't close $crt.~: $!\n";
unless($stdout) {
 if ($opt_b && -e $crt) {
 my $bk = 1;
 while (-e "$crt.~${bk}~") {
 $bk++;
 }
 rename $crt, "$crt.~${bk}~" or die "Failed to create backup $crt.~$bk}~: $!\n";
 } elsif(-e $crt) {
 unlink($crt) or die "Failed to remove $crt: $!\n";
 }
}

```

```
rename "$crt.~", $crt or die "Failed to rename $crt.~ to $crt: $!\n";
}
if($opt_u && -e $txt && !unlink($txt)) {
 report "Failed to remove $txt: $!\n";
}
report "Done ($certnum CA certs processed, $skipnum skipped).";
```

Found in path(s):

```
* /opt/cola/permits/1919538345_1710807720.5754924/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/mk-ca-bundle.pl
```

# 1.320 activation 1.2.0

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# 1.323 jetty-continuation 9.4.54.v20240208

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<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

- \* javax.servlet:javax.servlet-api
- \* javax.annotation:javax.annotation-api
- \* javax.transaction:javax.transaction-api
- \* javax.websocket:javax.websocket-api

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- \* java.sun.security.ssl

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org.ow2.asm:asm-commons  
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org.mortbay.jasper:apache-jsp  
org.apache.tomcat:tomcat-jasper  
org.apache.tomcat:tomcat-juli  
org.apache.tomcat:tomcat-jsp-api  
org.apache.tomcat:tomcat-el-api  
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org.apache.tomcat:tomcat-util

org.mortbay.jasper:apache-el  
org.apache.tomcat:tomcat-jasper-el  
org.apache.tomcat:tomcat-el-api

-----  
Mortbay

The following artifacts are CDDL + GPLv2 with classpath exception.

<https://glassfish.dev.java.net/nonav/public/CDDL+GPL.html>

org.eclipse.jetty.toolchain:jetty-schemas

-----  
Assorted

The UnixCrypt.java code implements the one way cryptography used by Unix systems for simple password protection. Copyright 1996 Aki Yoshida, modified April 2001 by Iris Van den Broeke, Daniel Deville. Permission to use, copy, modify and distribute UnixCrypt for non-commercial or commercial purposes and without fee is granted provided that the copyright notice appears in all copies.

# 1.324 ca-certificates-bundle 20240226-r0

## 1.324.1 Available under license :

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

```
#!/usr/bin/env perl

*
* Project _ _|||_ _\||
```

```

* / _||| |_)||
* |(_|_| | _<|_|_
* _|_|_| \|_|_
*
* Copyright (C) 1998 - 2020, Daniel Stenberg, <daniel@haxx.se>, et al.
*
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*
* This software is distributed on an "AS IS" basis, WITHOUT
* WARRANTY OF ANY
* KIND, either express or implied.
*
* *****
* This Perl script creates a fresh ca-bundle.crt file for use with libcurl.
* It downloads certdata.txt from Mozilla's source tree (see URL below),
* then parses certdata.txt and extracts CA Root Certificates into PEM format.
* These are then processed with the OpenSSL commandline tool to produce the
* final ca-bundle.crt file.
* The script is based on the parse-certs script written by Roland Krikava.
* This Perl script works on almost any platform since its only external
* dependency is the OpenSSL commandline tool for optional text listing.
* Hacked by Guenter Knauf.
#
use Encode;
use Getopt::Std;
use MIME::Base64;
use strict;
use warnings;
use vars qw($opt_b $opt_d $opt_f $opt_h $opt_i $opt_k $opt_l $opt_m $opt_n $opt_p $opt_q $opt_s $opt_t $opt_u
$opt_v $opt_w);
use List::Util;
use Text::Wrap;
use Time::Local;
my $MOD_SHA = "Digest::SHA";
eval "require
$MOD_SHA";
if ($@) {
$MOD_SHA = "Digest::SHA::PurePerl";
eval "require $MOD_SHA";
}
eval "require LWP::UserAgent";

```



```

my %urls = (
'nss' =>
 'https://hg.mozilla.org/projects/nss/raw-file/default/lib/ckfw/builtins/certdata.txt',
'central' =>
 'https://hg.mozilla.org/mozilla-central/raw-file/default/security/nss/lib/ckfw/builtins/certdata.txt',
'beta' =>
 'https://hg.mozilla.org/releases/mozilla-beta/raw-file/default/security/nss/lib/ckfw/builtins/certdata.txt',
'release' =>
 'https://hg.mozilla.org/releases/mozilla-release/raw-file/default/security/nss/lib/ckfw/builtins/certdata.txt',
);

```

```
$opt_d = 'release';
```

```
If the OpenSSL commandline is not in search path you can configure it here!
```

```
my $openssl = 'openssl';
```

```
my $version = '1.27';
```

```
$opt_w = 76; # default base64 encoded lines length
```

```
default cert types to include in the output (default is to include CAs which may issue SSL server certs)
```

```
my $default_mozilla_trust_purposes = "SERVER_AUTH";
```

```
my $default_mozilla_trust_levels
```

```
= "TRUSTED_DELEGATOR";
```

```
$opt_p = $default_mozilla_trust_purposes . ":" . $default_mozilla_trust_levels;
```

```
my @valid_mozilla_trust_purposes = (
```

```
"DIGITAL_SIGNATURE",
```

```
"NON_REPUDIATION",
```

```
"KEY_ENCIPHERMENT",
```

```
"DATA_ENCIPHERMENT",
```

```
"KEY_AGREEMENT",
```

```
"KEY_CERT_SIGN",
```

```
"CRL_SIGN",
```

```
"SERVER_AUTH",
```

```
"CLIENT_AUTH",
```

```
"CODE_SIGNING",
```

```
"EMAIL_PROTECTION",
```

```
"IPSEC_END_SYSTEM",
```

```
"IPSEC_TUNNEL",
```

```
"IPSEC_USER",
```

```
"TIME_STAMPING",
```

```
"STEP_UP_APPROVED"
```

```
);
```

```
my @valid_mozilla_trust_levels = (
```

```
"TRUSTED_DELEGATOR", # CAs
```

```
"NOT_TRUSTED", # Don't trust these certs.
```

```

"MUST_VERIFY_TRUST", # This explicitly tells us that it ISN'T a CA but is otherwise ok. In other words, this
should tell the app to ignore any other sources that claim this is a CA.
"TRUSTED" # This cert is trusted, but only for itself and not for delegates (i.e. it is not a CA).
);

my $default_signature_algorithms = $opt_s = "MD5";

my @valid_signature_algorithms = (
 "MD5",
 "SHA1",
 "SHA256",
 "SHA384",
 "SHA512"
);

$0 =~ s@.*(\/\)\@\@;
$Getopt::Std::STANDARD_HELP_VERSION = 1;
getopts('bd:fhiklmnp:qs:tuvw:');

if(!defined($opt_d)) {
 # to make plain "-d" use not cause warnings, and actually still work
 $opt_d = 'release';
}

Use predefined URL or else custom URL specified on command line.
my $url;
if(defined($urls{$opt_d})) {
 $url = $urls{$opt_d};
 if(!$opt_k && $url !~ /^https:\\/\//i) {
 die "The URL for '$opt_d' is not HTTPS. Use -k to override (insecure).\n";
 }
}
else {
 $url = $opt_d;
}

my $curl = `curl -V`;

if ($opt_i) {
 print ("=" x 78 . "\n");
 print "Script Version : $version\n";
 print "Perl Version : $]\n";
 print "Operating System Name : $^O\n";
 print "Getopt::Std.pm Version : ${Getopt::Std::VERSION}\n";
 print "Encode::Encoding.pm Version : ${Encode::Encoding::VERSION}\n";
 print "MIME::Base64.pm Version : ${MIME::Base64::VERSION}\n";
 print "LWP::UserAgent.pm

```

```

Version : ${LWP::UserAgent::VERSION}\n" if($LWP::UserAgent::VERSION);
print "LWP.pm Version : ${LWP::VERSION}\n" if($LWP::VERSION);
print "Digest::SHA.pm Version : ${Digest::SHA::VERSION}\n" if($Digest::SHA::VERSION);
print "Digest::SHA::PurePerl.pm Version : ${Digest::SHA::PurePerl::VERSION}\n" if
($Digest::SHA::PurePerl::VERSION);
print ("=" x 78 . "\n");
}

```

```

sub warning_message() {
if ($opt_d =~ m/^risk$/i) { # Long Form Warning and Exit
 print "Warning: Use of this script may pose some risk:\n";
 print "\n";
 print " 1) If you use HTTP URLs they are subject to a man in the middle attack\n";
 print " 2) Default to 'release', but more recent updates may be found in other trees\n";
 print " 3) certdata.txt file format may change, lag time to update this script\n";
 print " 4) Generally unwise to blindly trust CAs without manual review & verification\n";
 print " 5) Mozilla apps use additional security
checks aren't represented in certdata\n";
 print " 6) Use of this script will make a security engineer grind his teeth and\n";
 print " swear at you. ;)\n";
 exit;
} else { # Short Form Warning
 print "Warning: Use of this script may pose some risk, -d risk for more details.\n";
}
}

```

```

sub HELP_MESSAGE() {
 print "Usage:\t${0} [-b] [-d<certdata>] [-f] [-i] [-k] [-l] [-n] [-p<purposes:levels>] [-q] [-s<algorithms>] [-t] [-u] [-v] [-w<l>] [<outputfile>]\n";
 print "\t-b\tbackup an existing version of ca-bundle.crt\n";
 print "\t-d\tspecify Mozilla tree to pull certdata.txt or custom URL\n";
 print "\t\t Valid names are:\n";
 print "\t\t ", join(", ", map { ($_ =~ m/$opt_d/) ? "$_(default)" : "$_" } sort keys %urls), "\n";
 print "\t-f\tforce rebuild even if certdata.txt is current\n";
 print "\t-i\tprint version info about used modules\n";
 print "\t-k\tallow URLs other than HTTPS, enable HTTP fallback (insecure)\n";
 print "\t-l\tprint license info
about certdata.txt\n";
 print "\t-m\tinclude meta data in output\n";
 print "\t-n\tno download of certdata.txt (to use existing)\n";
 print wrap("\t\t", "\t\t", "-p\tlist of Mozilla trust purposes and levels for certificates to include in output. Takes the
form of a comma separated list of purposes, a colon, and a comma separated list of levels. (default:
$default_mozilla_trust_purposes:$default_mozilla_trust_levels)", "\n");
 print "\t\t Valid purposes are:\n";
 print wrap("\t\t\t", "\t\t\t", join(", ", "ALL", @valid_mozilla_trust_purposes),), "\n";
 print "\t\t Valid levels are:\n";
 print wrap("\t\t\t", "\t\t\t", join(", ", "ALL", @valid_mozilla_trust_levels),), "\n";
 print "\t-q\tbe really quiet (no progress output at all)\n";
}

```

```

print wrap("\t","\t", "-s\tcomma separated list of certificate signatures/hashes to output in plain text mode. (default:
$default_signature_algorithms)\n");
print "\t\t Valid signature algorithms are:\n";
print wrap("\t\t ", "\t\t
", join(", ", "ALL", @valid_signature_algorithms), "\n");
print "\t\t\t\t\tinclude plain text listing of certificates\n";
print "\t-u\t\t\t\t\tunlink (remove) certdata.txt after processing\n";
print "\t-v\t\t\t\t\tbe verbose and print out processed CAs\n";
print "\t-w <l>\t\t\t\t\twrap base64 output lines after <l> chars (default: ${opt_w})\n";
exit;
}

sub VERSION_MESSAGE() {
print "${0} version ${version} running Perl ${} on ${^O}\n";
}

warning_message() unless ($opt_q || $url =~ m/^(ht|f)tps:/i);
HELP_MESSAGE() if ($opt_h);

sub report($@) {
my $output = shift;

print STDERR $output . "\n" unless $opt_q;
}

sub is_in_list($@) {
my $target = shift;

return defined(List::Util::first { $target eq $_ } @_);
}

Parses $param_string as a case insensitive comma separated list with optional whitespace
validates that only allowed parameters are supplied
sub parse_csv_param($$@) {
my $description = shift;
my $param_string = shift;
my @valid_values = @_;

my @values = map {
s/^\s+//; # strip leading spaces
s/\s+$//; # strip trailing spaces
uc $_ # return the modified string as upper case
} split(',', $param_string);

Find all values which are not in the list of valid values or "ALL"
my @invalid = grep { !is_in_list($_, "ALL", @valid_values) } @values;

if (scalar(@invalid) > 0) {

```

```

Tell the user which parameters were invalid and print the standard help message which will exit
print "Error: Invalid ", $description, scalar(@invalid) == 1 ? " : " : "s: ", join(", ", map { "\"$_\""} @invalid),
"\n";
HELP_MESSAGE();
}

@values = @valid_values if (is_in_list("ALL",@values));

return @values;
}

sub sha256 {
my $result;
if ($Digest::SHA::VERSION || $Digest::SHA::PurePerl::VERSION) {
open(FILE, $_[0]) or die "Can't open '$_[0]': $!";
binmode(FILE);
$result = $MOD_SHA->new(256)->addfile(*FILE)->hexdigest;
close(FILE);
} else {
Use OpenSSL command if Perl Digest::SHA modules not available
$result = `"$openssl" dgst -r -sha256 "$_[0]"`;
$result =~ s/^([0-9a-f]{64}) .+/$1/is;
}
return $result;
}

sub oldhash {
my $hash = "";
open(C, "<$_[0]") || return 0;
while(<C>) {
chomp;
if($_ =~ /^#\# SHA256: (.*)/) {
$hash = $1;
last;
}
}
close(C);
return $hash;
}

if ($opt_p !~ m:/) {
print "Error: Mozilla trust identifier list must include both purposes and levels\n";
HELP_MESSAGE();
}

(my $included_mozilla_trust_purposes_string, my $included_mozilla_trust_levels_string) = split(':', $opt_p);
my @included_mozilla_trust_purposes = parse_csv_param("trust purpose",

```

```

$included_mozilla_trust_purposes_string, @valid_mozilla_trust_purposes);
my @included_mozilla_trust_levels = parse_csv_param("trust level", $included_mozilla_trust_levels_string,
@valid_mozilla_trust_levels);

my @included_signature_algorithms = parse_csv_param("signature algorithm", $opt_s,
@valid_signature_algorithms);

sub should_output_cert(%) {
 my
 %trust_purposes_by_level = @_;

 foreach my $level (@included_mozilla_trust_levels) {
 # for each level we want to output, see if any of our desired purposes are included
 return 1 if (defined(List::Util::first { is_in_list($_, @included_mozilla_trust_purposes) }
@{ $trust_purposes_by_level{ $level } }));
 }

 return 0;
}

my $crt = $ARGV[0] || 'ca-bundle.crt';
(my $txt = $url) =~ s@(.*\/\?.*)@@g;

my $stdout = $crt eq '-';
my $resp;
my $fetched;

my $oldhash = oldhash($crt);

report "SHA256 of old file: $oldhash";

if(!$opt_n) {
 report "Downloading $txt ...";

 # If we have an HTTPS URL then use curl
 if($url =~ /^https:\//i) {
 if($curl) {
 if($curl =~ /^Protocols:.* https(|$)/m) {
 report "Get certdata with curl!";
 my $proto = !$opt_k ? "--proto=https" : "";
 my $quiet = $opt_q ? "-s" : "";
 my @out = `curl -w % {response_code} $proto $quiet -o "$txt" "$url"`;
 if(!$? && @out && $out[0] == 200) {
 $fetched = 1;
 report "Downloaded $txt";
 }
 }
 else {
 report "Failed downloading via HTTPS with curl!";
 }
 }
 }
}

```

```

 if(-e $txt && !unlink($txt)) {
 report "Failed to remove '$txt': $!";
 }
}
else {
 report "curl lacks https support";
}
}
else {
 report "curl not found";
}
}

If nothing was fetched then use LWP
if(!$fetched) {
 if($url =~ /^https:\//i) {
 report "Falling back to HTTP";
 $url =~ s/^https:\//http:\//i;
 }
 if(!$opt_k) {
 report "URLs other than HTTPS are disabled by default, to enable use -k";
 exit 1;
 }
 report "Get certdata with LWP!";
 if(!defined(${LWP::UserAgent::VERSION})) {
 report "LWP is not available (LWP::UserAgent not found)";
 exit 1;
 }
 my $ua = new LWP::UserAgent(agent => "$0/$version");
 $ua->env_proxy();
 $resp = $ua->mirror($url, $txt);
 if($resp && $resp->code eq '304') {
 report "Not modified";
 exit 0 if -e $crt && !$opt_f;
 }
 else {
 $fetched = 1;
 report "Downloaded $txt";
 }
 if(!$resp || $resp->code !~ /^(?:200|304)$/) {
 report "Unable to download latest data: "
 . ($resp? $resp->code . ' - ' . $resp->message : "LWP failed");
 exit 1 if -e $crt || !-r $txt;
 }
}
}
}

```

```

my $filedate = $resp ? $resp->last_modified : (stat($txt))[9];
my $datesrc = "as of";
if(!$filedate) {
 # mxr.mozilla.org gave us a time, hg.mozilla.org does not!
 $filedate = time();
 $datesrc="downloaded on";
}

get the hash from the download file
my $newhash= sha256($txt);

if(!$opt_f && $oldhash eq $newhash) {
 report "Downloaded file identical to previous run's source file. Exiting";
 if($opt_u && -e $txt && !unlink($txt)) {
 report "Failed to remove $txt: $!\n";
 }
 exit;
}

report "SHA256 of new file: $newhash";

my $currentdate = scalar gmtime($filedate);

my $format = $opt_t ? "plain text and " : "";
if($stdout
) {
 open(CRT, '> -') or die "Couldn't open STDOUT: $!\n";
} else {
 open(CRT,">$crt.~") or die "Couldn't open $crt.~: $!\n";
}
print CRT <<EOT;
##
Bundle of CA Root Certificates
##
Certificate data from Mozilla ${datesrc}: ${currentdate} GMT
##
This is a bundle of X.509 certificates of public Certificate Authorities
(CA). These were automatically extracted from Mozilla's root certificates
file (certdata.txt). This file can be found in the mozilla source tree:
${url}
##
It contains the certificates in ${format}PEM format and therefore
can be directly used with curl / libcurl / php_curl, or with
an Apache+mod_ssl webserver for SSL client authentication.
Just configure this file as the SSLCACertificateFile.
##
Conversion done with mk-ca-bundle.pl version $version.
SHA256: $newhash

```



##

EOT

```
report "Processing '$txt' ...";
my $aname;
my $certnum = 0;
my $skipnum = 0;
my $start_of_cert = 0;
my @precert;
my $cka_value;
my $valid = 1;
```

```
open(TXT,"$txt")
or die "Couldn't open $txt: $!\n";
while (<TXT>) {
if (/^***** BEGIN LICENSE BLOCK *****/) {
 print CRT;
 print if ($opt_l);
 while (<TXT>) {
 print CRT;
 print if ($opt_l);
 last if (/^***** END LICENSE BLOCK *****);
 }
}
elseif(/^# (Issuer|Serial Number|Subject|Not Valid Before|Not Valid After |Fingerprint \|(MD5)\|Fingerprint
\|(SHA1)\):/) {
 push @precert, $_;
 $valid = 1;
 next;
}
elseif(/^#\^s*$/) {
 undef @precert;
 next;
}
chomp;
```

# Example:

```
CKA_NSS_SERVER_DISTRICT_AFTER MULTILINE_OCTAL
\062\060\060\066\061\067\060\060\060\060\060\060\132
END
```

```
if (/^CKA_NSS_SERVER_DISTRICT_AFTER (CK_BBOOL CK_FALSE|MULTILINE_OCTAL)/) {
 if ($1 eq "MULTILINE_OCTAL") {
 my @timestamp;
 while (<TXT>) {
 last if (/^END/);
 chomp;
```

```

 my @octets = split(/\//);
 shift @octets;
 for (@octets) {
 push
@timestamp, chr(oct);
 }
}
A trailing Z in the timestamp signifies UTC
if($timestamp[12] ne "Z") {
 report "distrust date stamp is not using UTC";
}
Example date: 200617000000Z
Means 2020-06-17 00:00:00 UTC
my $distrustat =
 timegm($timestamp[10] . $timestamp[11], # second
 $timestamp[8] . $timestamp[9], # minute
 $timestamp[6] . $timestamp[7], # hour
 $timestamp[4] . $timestamp[5], # day
 ($timestamp[2] . $timestamp[3]) - 1, # month
 "20" . $timestamp[0] . $timestamp[1]); # year
if(time >= $distrustat) {
 # not trusted anymore
 $skipnum++;
 report "Skipping: $scaname is not trusted anymore" if ($opt_v);
 $valid = 0;
}
else {
 # still trusted
}
}
next;
}

this
is a match for the start of a certificate
if (/^CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE/) {
 $start_of_cert = 1
}
if ($start_of_cert && /^CKA_LABEL UTF8 \"(.*)\"/) {
 $scaname = $1;
}
my %trust_purposes_by_level;
if ($start_of_cert && /^CKA_VALUE MULTILINE_OCTAL/) {
 $sca_value="";
 while (<TXT>) {
 last if (/^END/);
 .chomp;
 my @octets = split(/\//);

```

```

shift @octets;
for (@octets) {
 $cka_value .= chr(oct);
}
}
}
if(/^CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST/ && $valid) {
 # now scan the trust part to determine how we should trust this cert
 while (<TXT>) {
 last if (/^#/);
 if (/^CKA_TRUST_([A-Z_]+)\s+CK_TRUST\s+CKT_NSS_([A-Z_]+)\s*$/) {
 if (!is_in_list($1,@valid_mozilla_trust_purposes)) {
 report "Warning: Unrecognized trust purpose for cert: $scaname. Trust purpose: $1. Trust Level: $2";
 } elsif (!is_in_list($2,@valid_mozilla_trust_levels)) {
 report "Warning:
Unrecognized trust level for cert: $scaname. Trust purpose: $1. Trust Level: $2";
 } else {
 push @{$trust_purposes_by_level{$2}}, $1;
 }
 }
 }

 if (!should_output_cert(%trust_purposes_by_level)) {
 $skipnum ++;
 report "Skipping: $scaname" if ($opt_v);
 } else {
 my $data = $cka_value;
 $cka_value = "";
 my $encoded = MIME::Base64::encode_base64($data, "");
 $encoded =~ s/(.{1,$opt_w})/$1\n/g;
 my $pem = "-----BEGIN CERTIFICATE-----\n"
 . $encoded
 . "-----END CERTIFICATE-----\n";
 print CRT "\n$scaname\n";
 print CRT @precert if($opt_m);
 my $maxLength = length(decode('UTF-8', $scaname, Encode::FB_CROAK | Encode::LEAVE_SRC));
 if ($opt_t) {
 foreach my $key (keys %trust_purposes_by_level) {
 my $string = $key . ": " . join(" ", @{$trust_purposes_by_level{$key}});
 $maxLength = List::Util::max(length($string), $maxLength);
 }
 };
 print CRT $string . "\n";
 }
}
print CRT ("=" x $maxLength . "\n");
if (!$opt_t) {
 print CRT $pem;
} else {

```

```

my $pipe = "";
foreach my $hash (@included_signature_algorithms) {
 $pipe = "|$openssl x509 -" . $hash . " -fingerprint -noout -inform PEM";
 if (!$stdout) {
 $pipe .= " >> $crt.~";
 close(CRT) or die "Couldn't close $crt.~: $!";
 }
 open(TMP, $pipe) or die "Couldn't open openssl pipe: $!";
 print TMP $pem;
 close(TMP) or die "Couldn't close openssl pipe: $!";
 if (!$stdout) {
 open(CRT, ">>$crt.~") or die "Couldn't open $crt.~: $!";
 }
}
$pipe = "|$openssl x509 -text -inform PEM";
if (!$stdout) {
 $pipe .= " >> $crt.~";
 close(CRT) or die "Couldn't close $crt.~: $!";
}
open(TMP, $pipe) or die "Couldn't open openssl pipe: $!";
print TMP
$pem;
close(TMP) or die "Couldn't close openssl pipe: $!";
if (!$stdout) {
 open(CRT, ">>$crt.~") or die "Couldn't open $crt.~: $!";
}
}
report "Parsing: $scaname" if ($opt_v);
$certnum ++;
$start_of_cert = 0;
}
undef @precert;
}

}
close(TXT) or die "Couldn't close $txt: $!\n";
close(CRT) or die "Couldn't close $crt.~: $!\n";
unless($stdout) {
 if ($opt_b && -e $crt) {
 my $bk = 1;
 while (-e "$crt.~${bk}~") {
 $bk++;
 }
 rename $crt, "$crt.~${bk}~" or die "Failed to create backup $crt.~$bk}~: $!\n";
 } elsif(-e $crt) {
 unlink($crt) or die "Failed to remove $crt: $!\n";
 }
 rename "$crt.~", $crt or die "Failed to rename $crt.~ to $crt: $!\n";
}

```

```

}
if($opt_u && -e $txt && !unlink($txt)) {
 report "Failed to remove $txt: $!\n";
}
report "Done ($certnum CA certs processed, $skipnum skipped).";

```

Found in path(s):

```

* /opt/cola/permits/1939000431_1710807763.614011/0/ca-certificates-bundle-20230506-r0-os-alpine-3-18-0-tar-
xz/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/mk-ca-bundle.pl
No license file was found, but licenses were detected in source scan.

```

```

/* c_rehash.c - Create hash symlinks for certificates
* C implementation based on the original Perl and shell versions
*
* Copyright (c) 2013-2014 Timo Teräs <timo.teras@iki.fi>
* All rights reserved.
*
* This software is licensed under the MIT License.
* Full license available at: http://opensource.org/licenses/MIT
*/

```

Found in path(s):

```

* /opt/cola/permits/1939000431_1710807763.614011/0/ca-certificates-bundle-20230506-r0-os-alpine-3-18-0-tar-
xz/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c_rehash.c
No license file was found, but licenses were detected in source scan.

```

```

#
This Source Code Form is subject to the terms of the Mozilla Public
License, v. 2.0. If a copy of the MPL was not distributed with this
file, You can obtain one at http://mozilla.org/MPL/2.0/.

```

```

#
certdata.txt
#
This file contains the object definitions for the certs and other
information "built into" NSS.
#
Object definitions:
#
Certificates
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

```

CKA_SUBJECT DER+base64 (varies)
CKA_ID byte array (varies)
#
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_VALUE DER+base64 (varies)
CKA_NSS_EMAIL ASCII7 (unused here)
CKA_NSS_SERVER_DISTRUST_AFTER DER+base64 (varies)
CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64 (varies)
#
Trust
#
-- Attribute -- -- type -- -- value --
CKA_CLASS CK_OBJECT_CLASS CKO_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 (varies)
CKA_ISSUER DER+base64 (varies)
CKA_SERIAL_NUMBER DER+base64 (varies)
CKA_CERT_HASH binary+base64 (varies)
CKA_EXPIRES CK_DATE
(not used here)
CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST (varies)
CKA_TRUST_NON_REPUDIATION CK_TRUST (varies)
CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST (varies)
CKA_TRUST_KEY_AGREEMENT CK_TRUST (varies)
CKA_TRUST_KEY_CERT_SIGN CK_TRUST (varies)
CKA_TRUST_CRL_SIGN CK_TRUST (varies)
CKA_TRUST_SERVER_AUTH CK_TRUST (varies)
CKA_TRUST_CLIENT_AUTH CK_TRUST (varies)
CKA_TRUST_CODE_SIGNING CK_TRUST (varies)
CKA_TRUST_EMAIL_PROTECTION CK_TRUST (varies)
CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST (varies)
CKA_TRUST_IPSEC_TUNNEL CK_TRUST (varies)
CKA_TRUST_IPSEC_USER CK_TRUST (varies)
CKA_TRUST_TIME_STAMPING CK_TRUST (varies)
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL (varies)
(other
trust attributes can be defined)
#
#
The object to tell NSS that this is a root list and we don't
have to go looking for others.
#
BEGINDATA

```

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

#
Certificate "GlobalSign Root CA"
#
Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
Not Valid Before: Tue Sep 01 12:00:00 1998
Not Valid After : Fri Jan 28 12:00:00 2028
Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign
Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006

```

\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004  
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166  
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022  
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040  
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060  
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060  
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016  
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033  
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231  
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037  
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034  
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052  
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106  
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064  
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320  
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054  
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263  
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362  
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240  
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004  
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015  
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374  
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217  
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247  
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156  
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235



```
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146
\125\342\374\110\311\051\046\151\340
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA"

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

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

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

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

#

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"

#

# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

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

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

# Fingerprint (SHA-256):

CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65

#

Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163

\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204  
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123  
\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060  
\061\060\060\060\060\060\132\027\015\063\066\060\067\061\066  
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060  
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156  
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170  
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046  
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033  
\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

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

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

# Fingerprint (SHA-256):

```
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```
Not Valid Before: Fri Oct 01 00:00:00 1999
Not Valid After : Wed Jul 16 23:59:59 2036
Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
```

END

CKA\_VALUE MULTILINE\_OCTAL

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

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"

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

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

#

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257



```

\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust.net Premium 2048 Secure Server CA"
#
Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)
Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Not Valid Before: Fri Dec 24 17:50:51 1999
Not Valid After : Tue Jul 24 14:15:12 2029
Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA\_LABEL

UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061  
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067  
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022  
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123  
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151  
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056  
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223  
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167  
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271  
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233  
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225  
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033  
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150  
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366  
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037  
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037  
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341  
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145

```
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053
\174\136\232\166\351\131\220\305\174\203\065\021\145\121
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"

# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Serial Number: 946069240 (0x3863def8)

# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

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

\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Baltimore CyberTrust Root"

#

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

# Serial Number: 33554617 (0x20000b9)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061

\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155

\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171

\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004

\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142

\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061

\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155

\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171

\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004

\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142

\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

```
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374
\347\201\035\031\303\044\102\352\143\071\251
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Baltimore CyberTrust Root"

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

# Serial Number: 33554617

(0x20000b9)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
```

```
\122\312\344\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
```

```
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
```

```
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
```

```
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
```

```
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
```

```
\145\162\124\162\165\163\164\040\122\157\157\164
```

```

END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```



\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105  
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003  
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164  
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157  
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145  
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026  
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023  
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062  
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060  
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015  
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060  
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162  
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151  
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162  
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004  
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162  
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125  
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306  
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150  
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056

\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213  
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370  
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142  
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333  
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375  
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134  
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150  
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210  
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350  
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177  
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342  
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056  
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330  
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201  
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042  
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062  
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064  
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150  
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373  
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220  
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204  
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004  
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004  
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143  
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320  
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155  
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221  
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264  
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232  
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311  
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342  
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317  
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332  
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354  
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377  
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231  
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140  
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146  
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376  
\036\177\132\264\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```
Trust for "Entrust Root Certification Authority"
Issuer: CN=Entrust
 Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by
 reference,O="Entrust, Inc.",C=US
Serial Number: 1164660820 (0x456b5054)
Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
 incorporated by reference,O="Entrust, Inc.",C=US
Not Valid Before: Mon Nov 27 20:23:42 2006
Not Valid After : Fri Nov 27 20:53:42 2026
Fingerprint (SHA-256):
73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C
Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324
\147\111\122\371
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344
END
CKA_ISSUER
 MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\105\153\120\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST
 CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
Certificate "Certum Root CA"
#
Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
Serial Number: 65568 (0x10020)
Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
Not Valid Before: Tue Jun 11 10:46:39 2002
Not Valid After : Fri Jun 11 10:46:39 2027
Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
```

\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304  
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261  
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215  
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250  
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234  
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304  
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210  
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153  
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117  
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156  
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123  
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225  
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040  
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042  
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110  
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073  
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076  
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201  
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032  
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246  
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343  
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340  
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230  
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251  
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152  
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171  
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323  
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161  
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122  
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151  
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054  
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Root CA"

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

# Serial Number: 65568 (0x10020)

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

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

```

Not Valid After : Fri Jun 11
10:46:39 2027
Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
\121\261\201\030
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
END
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Comodo AAA Services root"
#
Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Serial Number: 1 (0x1)
Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Not Valid Before: Thu Jan 01 00:00:00 2004
Not Valid After : Sun Dec 31 23:59:59 2028
Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006

\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204  
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121  
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162  
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062  
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155  
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151  
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372  
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274  
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120  
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277  
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112  
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363  
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302  
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067  
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366  
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003  
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217  
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042  
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242  
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362  
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267  
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237  
\225\351\066\226\230\156



```

END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Comodo AAA Services root"
Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Serial Number: 1 (0x1)
Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
Not Valid Before: Thu Jan 01 00:00:00 2004
Not Valid After : Sun Dec 31 23:59:59 2028
Fingerprint
(SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
END
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

```

```
Certificate "QuoVadis Root CA 2"
#
Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Serial Number: 1289 (0x509)
Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 18:27:00 2006
Not Valid After : Mon Nov 24 18:23:33 2031
Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
```

\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232  
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256  
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036  
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140  
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346  
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012  
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111  
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302  
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307  
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301  
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224  
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306  
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351  
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315  
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263  
\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365  
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161  
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174  
\255\353\257\367\026\313\333\315\045\053\345\037\373\232\237\342  
\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021  
\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247  
\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263  
\076\321\250\374\243\332\035\260\321\261\043\124\337\104\166\155  
\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052  
\061\344\055\365\345\345\333\310\340\377\345\200\327\013\143\240  
\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362  
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227  
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007  
\243\047\021\356\026\020\173\274\105\112\114\262\004\322\253\357  
\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134  
\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210  
\311\136\373\314\141\334\213\063\167\323\104\062\065\011\142\004  
\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002  
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125  
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366  
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147  
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320  
\366\003\304\031\106\321\224\153\241\111\244\107\060\105\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023  
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2"

# Issuer: CN=QuoVadis Root

CA 2,O=QuoVadis Limited,C=BM

# Serial Number: 1289 (0x509)

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

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

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

# Fingerprint (SHA-256):

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

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

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\005\011
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 3"
#
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)
Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 19:11:23 2006
Not Valid After : Mon Nov 24 19:06:44 2031
Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061

```

\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\005\306

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005  
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062  
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064  
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314  
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103  
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270  
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001  
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253  
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147  
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053  
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067  
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311  
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335  
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014  
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036  
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057  
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313  
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173  
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323  
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245

\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314  
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136  
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125  
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236  
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210  
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305  
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355  
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111  
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246  
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331  
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322  
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155  
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100  
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327  
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002  
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341  
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011  
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006  
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101  
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103  
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164  
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143  
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151  
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164  
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120  
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156  
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041  
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141  
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160  
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076  
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006  
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103  
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111  
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031  
\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064  
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363  
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240  
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246  
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167

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

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 3"

# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM

# Serial Number: 1478 (0x5c6)

# Subject:

CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM

# Not Valid Before: Fri Nov 24 19:11:23 2006

# Not Valid After : Mon Nov 24 19:06:44 2031

# Fingerprint (SHA-256):

18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35

# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE



```

CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication Root CA"
#
Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
Not Valid Before: Tue Sep 30 04:20:49 2003
Not Valid After : Sat Sep 30 04:20:49 2023
Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication
Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103

```

```
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006
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\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026
\057\317\246\356\311\160\042\024\275\375\276\154\013\003
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication Root CA"

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Camerfirma Chambers of Commerce Root"
#
Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
Serial Number: 0 (0x0)
Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
Not Valid Before: Tue Sep 30 16:13:43 2003
Not Valid After : Wed Sep 30 16:13:44 2037
Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END

```

```
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052
```

\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121  
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064  
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167  
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006  
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001  
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057  
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143  
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143  
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060  
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351  
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021  
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000  
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150  
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142  
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162  
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056  
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115  
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060  
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164  
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163  
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155  
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321  
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226  
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135  
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272  
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216  
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042  
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236  
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354  
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034  
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331  
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312  
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064  
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110  
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335  
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356  
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370  
\334  
END

```
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
For Email Distrust After: Mon Mar 01 00:00:00 2021
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\061\060\063\060\061\060\060\060\060\060\060\132
END

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

```

CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "XRamp Global CA Root"
#
Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
Not Valid Before: Mon Nov 01 17:14:04 2004
Not Valid After : Mon Jan 01 05:37:19 2035
Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER

```



MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120  
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036  
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141  
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044  
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123  
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163  
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130  
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061  
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067  
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167  
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122  
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162  
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125  
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041  
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246  
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320  
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141  
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070  
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254  
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132  
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332  
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027  
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142  
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201  
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024  
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377

\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254  
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060  
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057  
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164  
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020  
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012  
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220  
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021  
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110  
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352  
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155  
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211  
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231  
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332  
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260  
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273  
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262  
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341  
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330  
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020  
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311  
\264\003\045\274

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "XRamp Global CA Root"

# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services

Inc,OU=www.xrampsecurity.com,C=US

# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

# Subject: CN=XRamp

Global Certification Authority,O=XRamp Security Services Inc,OU=www.xrampsecurity.com,C=US

# Not Valid Before: Mon Nov 01 17:14:04 2004

# Not Valid After : Mon Jan 01 05:37:19 2035

# Fingerprint (SHA-256):

CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2

# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "XRamp Global CA Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122

\267\345\130\306

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170

\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155

\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160

\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143

\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023

\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145

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

\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

\240\255

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Go Daddy Class 2 CA"

#

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

# Serial Number: 0 (0x0)

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

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

# Not Valid After : Thu Jun

29 17:06:20 2034

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Class 2 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157

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

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041  
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040  
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143  
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104  
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067  
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060  
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150  
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160  
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023  
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015  
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030  
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342

\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142  
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030  
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244  
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171  
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377  
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304  
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202  
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241  
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125  
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171  
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057  
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007  
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012  
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162  
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327  
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105  
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317  
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345  
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156  
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020  
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370  
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274  
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021  
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002  
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245  
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237  
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035  
\177\333\275\237

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Class 2 CA"

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

# Serial Number: 0 (0x0)

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

```

Not Valid Before: Tue
Jun 29 17:06:20 2004
Not Valid After : Thu Jun 29 17:06:20 2034
Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Class 2 CA"
#
Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
Serial Number: 0 (0x0)
Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
Not Valid Before: Tue Jun 29 17:39:16 2004
Not Valid After : Thu Jun 29 17:39:16 2034
Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367
```

\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002  
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021  
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237  
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360  
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115  
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045  
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052  
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064  
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072  
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121  
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232  
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270  
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144  
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300  
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006  
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206  
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006  
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157  
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003  
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103  
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363  
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145  
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101  
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343  
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351  
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101  
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064  
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030  
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155  
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057  
\037\027\224



```

END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Class 2 CA"
Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
Serial Number: 0 (0x0)
Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
Not Valid Before: Tue Jun 29 17:39:16 2004
Not Valid After : Thu Jun 29 17:39:16 2034
Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
#
Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root CA"

```

```

#
Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061

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\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076  
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170  
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227  
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337  
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137  
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263  
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046  
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301  
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353  
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361  
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106

```
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root CA"

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Global Root CA"

#

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

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

#

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010

\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060  
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127  
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001  
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127  
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277  
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173  
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006  
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172  
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155  
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062  
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111  
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317  
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024  
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277  
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370  
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004  
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177  
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321  
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037  
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126  
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077

```
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225
\225\155\336
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root CA"

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

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

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

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

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

# Fingerprint (SHA-256):

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

#

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert High Assurance EV Root CA"
#
Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Fri Nov 10 00:00:00 2006
Not Valid After : Mon Nov 10 00:00:00 2031
Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER

```



MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

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

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert High Assurance EV Root CA"

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert High Assurance EV Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SwissSign Gold CA - G2"

#

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Gold CA - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
```

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000  
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125  
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023  
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060  
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147  
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036  
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027  
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\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060  
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\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
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\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270  
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271  
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\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151  
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CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SwissSign Gold CA - G2"
Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
Not Valid Before: Wed Oct 25 08:30:35 2006
Not Valid
 After : Sat Oct 25 08:30:35 2036
Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SwissSign Silver CA - G2"

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```
#
Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Serial Number:4f:1b:d4:2f:54:bb:2f:4b
Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
Not Valid Before: Wed Oct 25 08:32:46 2006
Not Valid After : Sat Oct 25 08:32:46 2036
Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
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END
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END
CKA_VALUE MULTILINE_OCTAL
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\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
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\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060
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\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162
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\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155  
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\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006  
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\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170  
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\156

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Silver CA - G2"

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

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

#

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

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

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

# Fingerprint (SHA-256):

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

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

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SecureTrust CA"
#
Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:31:18 2006
Not Valid After : Mon Dec 31 19:40:55 2029
Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145  
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165  
\162\145\124\162\165\163\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145  
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165  
\162\145\124\162\165\163\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030  
\131\320

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014  
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060  
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162  
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145  
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061  
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063  
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012  
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157  
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125  
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040  
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312  
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063  
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340  
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110  
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216  
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365  
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117  
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250  
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030  
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144  
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243  
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162  
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044  
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureTrust CA"

#

Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:31:18 2006

# Not Valid After : Mon Dec 31 19:40:55 2029

# Fingerprint (SHA-256):

F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73

# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Secure Global CA"
#
Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
Not Valid Before: Tue Nov 07 19:42:28 2006
Not Valid After : Mon Dec 31 19:52:06 2029
Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145

```

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

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007  
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060  
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162  
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145  
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066  
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061  
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125  
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040  
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006  
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157  
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006  
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211  
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105  
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017  
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032  
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120  
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144  
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011  
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360  
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015  
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310  
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014  
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302  
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373

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

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Secure Global CA"

# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US

# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5

# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:42:28 2006

# Not Valid After : Mon Dec 31 19:52:06 2029

# Fingerprint (SHA-256):

42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
END
CKA_ISSUER
MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO Certification Authority"
#
Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Fri Dec 01 00:00:00 2006
Not Valid After : Mon Dec 31 23:59:59 2029
Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164

```



\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006  
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006  
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106  
\345\075

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116  
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125  
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002  
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145  
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061  
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162  
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117  
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060  
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206

\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367  
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373  
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333  
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310  
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104  
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241  
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174  
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077  
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146  
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351  
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075  
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341  
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376  
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120  
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216  
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116  
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060  
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345  
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115  
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156  
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030  
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174  
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002  
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057  
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063  
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126  
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077  
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337  
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310  
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070  
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127  
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365  
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135  
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005  
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041  
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001  
\145

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

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

```

```

#
Certificate "COMODO ECC Certification Authority"
#
Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Thu Mar 06 00:00:00 2008
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052

```

END

CKA\_VALUE MULTILINE\_OCTAL

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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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

#
Certificate "OISTE WISeKey Global Root GA CA"
```

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

\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020  
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171  
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162  
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060  
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157  
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145  
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124  
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154  
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060  
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067  
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013  
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006  
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060  
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150  
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003  
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144  
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050  
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127  
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157  
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066  
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172  
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121  
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066  
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060  
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001  
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261  
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253



```
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311
\374\276\337\012\015
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GA CA"

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

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

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

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

# Not Valid After : Fri

Dec 11 16:09:51 2037

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
```

```
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna"

#

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

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

```
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna"

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

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

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

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

#

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

```

\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ePKI Root Certification Authority"
#
Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Mon Dec 20 02:31:27 2004
Not Valid After : Wed Dec 20 02:31:27 2034
Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322

```

\274\235

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025  
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036  
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027  
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341  
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155  
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007  
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217  
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376  
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041  
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225  
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364  
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367  
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020  
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065  
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047  
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330  
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111  
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221  
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162  
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300  
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243  
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024  
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224  
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076  
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101  
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322  
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172  
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052  
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107

\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203  
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215  
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251  
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132  
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215  
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002  
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004  
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125  
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060  
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005  
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307  
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201  
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000  
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312  
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066  
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017  
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122  
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227  
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277  
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322  
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323  
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066  
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245  
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355  
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272  
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224  
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115  
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001  
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217  
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341  
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122  
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200  
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211  
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263  
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342  
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374  
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304  
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156  
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143  
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203  
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352  
\201\370\021\234

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER
CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ePKI Root Certification Authority"
Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Mon Dec 20 02:31:27 2004
Not Valid After : Wed Dec 20 02:31:27 2034
Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
\075\151\306\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER
MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "certSIGN ROOT CA"
#

```



```
Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
Serial Number:20:06:05:16:70:02
Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
Not Valid Before: Tue Jul 04 17:20:04
2006
Not Valid After : Fri Jul 04 17:20:04 2031
Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
```

\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127  
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135  
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020  
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272  
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263  
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135  
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001  
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200  
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020  
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320  
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045  
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057  
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211  
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327  
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044  
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030  
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124  
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223  
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031  
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133  
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367  
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210  
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240  
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240  
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160  
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302  
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210  
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115  
\366\356\260\132\116\111\104\124\130\137\102\203

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN ROOT CA"

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

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

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

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

```

Not Valid After : Fri Jul 04 17:20:04 2031
Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
#
Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Serial Number:49:41:2c:e4:00:10
Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
Not Valid Before: Thu Dec 11 15:08:21 2008
Not Valid After : Wed Dec 06 15:08:21 2028
Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221
```

\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036  
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027  
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201  
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163  
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114  
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004  
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156  
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163  
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114  
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163  
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163  
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245  
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071  
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141  
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174  
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070  
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202  
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220  
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106  
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302  
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316  
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173  
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205

```
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233
\330\316\304\143\165\077\131\107\261
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"

# Issuer:

CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Serial Number:49:41:2c:e4:00:10

# Subject: CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

# Not Valid Before: Thu Dec 11 15:08:21 2008

# Not Valid After : Wed Dec 06 15:08:21 2028

# Fingerprint (SHA-256):

6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98

# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

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

```

\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Hongkong Post Root CA 1"
#
Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
Serial Number: 1000 (0x3e8)
Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
Not Valid Before: Thu May 15 05:13:14 2003
Not Valid After : Mon May 15 04:52:29 2023
Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003  
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060  
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065  
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006  
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004  
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164  
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153  
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101  
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220  
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042  
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320  
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151  
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037  
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047  
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174  
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363  
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341  
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067  
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145  
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327  
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101  
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332  
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063  
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154  
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105  
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203  
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116



```
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342
\002\153\331\132
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA

1"

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

# Serial Number: 1000 (0x3e8)

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\002\003\350
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "SecureSign RootCA11"
#
Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Serial Number: 1 (0x1)
Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Not Valid Before: Wed Apr 08 04:56:47 2009
Not Valid After : Sun Apr 08 04:56:47 2029
Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060

```

\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064  
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006  
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004  
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054  
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023  
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103  
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063  
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027  
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224  
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074  
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072  
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266  
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225  
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203  
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362  
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175  
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330  
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213  
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342  
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305  
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053  
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002  
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324  
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355  
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241  
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146  
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257  
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073  
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120  
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255  
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102  
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253  
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335  
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310  
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371  
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154  
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055  
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215  
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003  
\362

```

END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SecureSign RootCA11"
Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
Serial Number: 1 (0x1)
Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
#
Not Valid Before: Wed Apr 08 04:56:47 2009
Not Valid After : Sun Apr 08 04:56:47 2029
Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
\307\330\021\263
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Microsec e-Szigno Root CA 2009"
#

```

```
Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:00:c2:7e:43:04:4e:47:3f:19
Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Jun 16 11:30:18 2009
Not Valid After : Sun Dec 30 11:30:18 2029
Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003
```

\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164  
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143  
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122  
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006  
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157  
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015  
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062  
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061  
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017  
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061  
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163  
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003  
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151  
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071  
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317  
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175  
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165  
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134  
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330  
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034  
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024  
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116  
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002  
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373  
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032  
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247  
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302  
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044  
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203  
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265  
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075  
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003  
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314  
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006  
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145  
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321  
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223  
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041  
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312  
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124

```
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311
\202\042\055\172\124\253\160\303\175\042\145\202\160\226
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsec e-Szigno Root CA 2009"

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

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

# Subject: E=info@e-szigno.hu,CN=Microsec

e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Microsec e-Szigno Root CA 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
```

END

CKA\_ISSUER MULTILINE\_OCTAL

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

```

\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root CA - R3"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Serial Number:04:00:00:00:01:21:58:53:08:a2
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
Not Valid Before: Wed Mar 18 10:00:00 2009
Not Valid After : Sun Mar 18 10:00:00 2029
Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
#
Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242

```



END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004  
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006  
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156  
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060  
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151  
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157  
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061  
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070  
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125  
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122  
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006  
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156  
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141  
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365  
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374  
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202  
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243  
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023  
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337  
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260  
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246  
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254  
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365  
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335  
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351  
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377  
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031  
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233  
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161  
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250  
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124  
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312  
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212  
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051  
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123  
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203  
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212  
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000

```
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107
\130\077\137
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R3"

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

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

#

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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

END

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"

#

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\123\354\073\356\373\262\110\137

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123  
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004

\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060  
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062  
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001  
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003

\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176  
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305  
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113  
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066  
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075  
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341  
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345  
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365  
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341  
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113  
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065  
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227  
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246  
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022  
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160  
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322  
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144  
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242  
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100  
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205  
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347  
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175  
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114  
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254  
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332  
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040  
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351  
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336  
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063  
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136  
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064  
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001  
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156  
\156\117\022\176\012\074\235\225

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

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

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

```

```
Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
Not Valid Before: Thu Dec 13 13:08:28 2007
Not Valid After : Sun Dec 13 08:27:25 2037
Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171
```

\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244  
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216  
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231  
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014  
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207  
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267  
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301  
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127  
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074  
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174  
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003  
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341  
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340  
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376  
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204  
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046  
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020  
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265  
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251  
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215  
\006\063\132\242\205\345\220\065\240\142\134\026\116\360\343\242  
\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353  
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013  
\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360  
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044  
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001  
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114  
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215  
\277\332\177\242\017\227\117\014\323\015\373\327\321\345\162\176  
\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354  
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201  
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156  
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221  
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132  
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040  
\101\060\061\063\063\067\062\066\060\055\122\115\145\162\143\056  
\126\151\164\157\162\151\141\055\107\141\163\164\145\151\172\040  
\124\061\060\065\065\040\106\066\062\040\123\070\061\103\060\101  
\006\003\125\004\011\014\072\101\166\144\141\040\144\145\154\040  
\115\145\144\151\164\145\162\162\141\156\145\157\040\105\164\157  
\162\142\151\144\145\141\040\061\064\040\055\040\060\061\060\061  
\060\040\126\151\164\157\162\151\141\055\107\141\163\164\145\151  
\172\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\035\034\145  
\016\250\362\045\173\264\221\317\344\261\261\346\275\125\164\154  
\005\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\002\001\000\170\246\014\026\112\237\114\210\072\300\313



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

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Izenpe.com"

#

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

```

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

#
Certificate "Chambers of Commerce Root - 2008"
#
Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Serial Number:00:a3:da:42:7e:a4:b1:ae:da
Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:29:50 2008
Not Valid After : Sat Jul 31 12:29:50 2038
Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
#
Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000  
\243\332\102\176\244\261\256\332\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165  
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164  
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056  
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Chambers of Commerce Root - 2008"

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

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

#

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Chambers of Commerce Root - 2008"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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END

CKA\_ISSUER MULTILINE\_OCTAL

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\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Global Chambersign Root - 2008"

#

# Issuer: CN=Global Chambersign

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

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

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

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Global Chambersign Root - 2008"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325  
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256  
\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035  
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336  
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035  
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351  
\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153  
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307  
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233  
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141  
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120  
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323  
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040  
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060  
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026  
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361  
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201  
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153  
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257  
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163

\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202  
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035  
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060  
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164  
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162  
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177  
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032  
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131  
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250  
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257  
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063  
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365  
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252  
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361  
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230  
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135  
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163  
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077  
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110  
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235  
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372  
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367  
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035  
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204  
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324  
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116  
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260  
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170  
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050  
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011  
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326  
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036  
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351  
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150  
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231  
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060  
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364  
\351\233\256\325\124\300\164\200\321\013\102\237\301

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Global Chambersign Root - 2008"

# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see

```
current address at www.camerfirma.com/address),C=EU
Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
Not Valid Before: Fri Aug 01 12:31:40 2008
Not Valid After : Sat Jul 31 12:31:40 2038
Fingerprint (SHA-256):
13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA
Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

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

```
Serial Number: 0 (0x0)
Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
```

\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023  
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040  
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060  
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063  
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007  
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007  
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030  
\006\003\125\004\012\023\021\107\157\104\141\144\144\171\056\143  
\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010  
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203  
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366  
\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116  
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007  
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215  
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336  
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062  
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262  
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353  
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141  
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051  
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200  
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221  
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333  
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033  
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000  
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040  
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227  
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145  
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214  
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256  
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053  
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337  
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353  
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355  
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072

```
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210
\342\342\104\276\134\367\352\034\365
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Root Certificate Authority - G2"

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

# Serial Number: 0 (0x0)

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

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

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

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint

(SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Root Certificate Authority - G2"
#
Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150

```

\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062  
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145  
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040  
\107\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060  
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154  
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060  
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071  
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172  
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143  
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151  
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133  
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327  
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040  
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334  
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133  
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165  
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161  
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363  
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315  
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202  
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373  
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115  
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244



\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134  
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164  
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303  
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060  
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001  
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071  
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324  
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321  
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147  
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267  
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323  
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175  
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340  
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040  
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316  
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312  
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011  
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042  
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365  
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045  
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151  
\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Root Certificate Authority - G2"

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

# Serial Number: 0 (0x0)

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

#

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

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

# Fingerprint (SHA-256):

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

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

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Starfield Services Root Certificate Authority - G2"
#
Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before:
Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060  
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154  
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150  
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071  
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061  
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003  
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021  
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154

\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162  
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151  
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004  
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162  
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276  
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051  
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136  
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033  
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266  
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035  
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203  
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112  
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256  
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314  
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336  
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015  
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105  
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144  
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237  
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205  
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252  
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010  
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055  
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336  
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301  
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052  
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056  
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163  
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320  
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047  
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035  
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372  
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046  
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247  
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060  
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250  
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215  
\261\050\272

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Services Root Certificate Authority - G2"
Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Serial Number: 0 (0x0)
Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
Not Valid Before: Tue Sep 01 00:00:00 2009
Not Valid After : Thu Dec 31 23:59:59 2037
Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root
Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Commercial"

#

# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Serial Number:77:77:06:27:26:a9:b1:7c

# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:06:06 2010

# Not Valid After : Tue Dec 31 14:06:06 2030

# Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Commercial"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026

\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155

\145\162\143\151\141\154

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026

\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155

\145\162\143\151\141\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167

\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367

\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004

\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013

\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006

\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163

\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015

\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063

\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013

\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037  
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303  
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217  
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065  
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137  
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053  
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107  
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326  
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013  
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005  
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002  
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265  
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201  
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120  
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253  
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334  
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077  
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000  
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051  
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006  
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052  
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324  
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143  
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045  
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073  
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355  
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362  
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302  
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140  
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162  
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111  
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002  
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236  
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Commercial"

# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Serial Number:77:77:06:27:26:a9:b1:7c

# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:06:06 2010

# Not Valid After : Tue Dec 31 14:06:06 2030

# Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Commercial"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054  
\307\262\170\267

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Networking"

#

# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Serial Number:7c:4f:04:39:1c:d4:99:2d

# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:08:24 2010

# Not Valid After : Tue Dec



31 14:08:24 2030

# Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Networking"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167  
\157\162\153\151\156\147

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167  
\157\162\153\151\156\147

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\174\117\004\071\034\324\231\055

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174  
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015  
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063  
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151  
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240  
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217  
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362

\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063  
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241  
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232  
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253  
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324  
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113  
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374  
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275  
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051  
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024  
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012  
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106  
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026  
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242  
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264  
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316  
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116  
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321  
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356  
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144  
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145  
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131  
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025  
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110  
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056  
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313  
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221  
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074  
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064  
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333  
END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Networking"

# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Serial Number:7c:4f:04:39:1c:d4:99:2d

# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan

29 14:08:24 2010

# Not Valid After : Tue Dec 31 14:08:24 2030

```

Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AffirmTrust Premium"
#
Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
Serial Number:6d:8c:14:46:b1:a6:0a:ee
Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
Not Valid Before: Fri Jan 29 14:10:36 2010
Not Valid After : Mon Dec 31 14:10:36 2040
Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\155\214\024\106\261\246\012\356

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155  
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006  
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163  
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060  
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062  
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004  
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034  
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124  
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337  
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232  
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347  
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020  
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221  
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013  
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331  
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047  
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055  
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322  
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373  
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273  
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271  
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167

\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265  
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173  
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050  
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076  
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206  
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043  
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003  
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222  
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270  
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225  
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322  
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000  
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013  
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032  
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173  
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270  
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327  
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273  
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021  
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116  
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166  
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104  
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101  
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040  
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254  
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365  
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101  
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142  
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262  
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320  
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070  
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010  
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234  
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000  
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175  
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320  
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106  
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057  
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005  
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103  
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112  
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107  
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110

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\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236
\051\340\266\270\011\150\031\034\030\103
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium"

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

# Fingerprint (SHA-256):

70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A

# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium"

CKA\_CERT\_SHA1\_HASH

MULTILINE\_OCTAL

```
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\155\214\024\106\261\246\012\356
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Premium ECC"

#

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

#

Not Valid Before: Fri Jan 29 14:20:24 2010

# Not Valid After : Mon Dec 31 14:20:24 2040

# Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\164\227\045\212\307\077\172\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164  
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075  
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146  
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004  
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120

\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060  
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061  
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125  
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061  
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155  
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103  
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003  
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234  
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350  
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275  
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117  
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170  
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065  
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060  
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154  
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306  
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161  
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210  
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131  
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002  
\214\171

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium ECC"

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:20:24 2010

# Not Valid After : Mon Dec 31 14:20:24 2040

# Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium ECC"



```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA"
#
Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number: 279744 (0x444c0)
Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before: Wed Oct 22 12:07:37 2008
Not Valid After : Mon Dec 31 12:07:37 2029
Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151

```

\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040  
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162  
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101  
END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164  
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040  
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162  
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\004\104\300

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004  
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063  
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067  
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001  
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307  
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227  
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074  
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314

\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253  
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060  
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124  
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256  
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121  
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314  
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227  
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333  
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061  
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151  
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251  
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305  
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246  
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162  
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271  
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067  
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313  
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201  
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055  
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274  
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061  
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076  
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230  
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132  
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130  
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110  
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232  
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106  
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Network CA"

# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Serial Number: 279744 (0x444c0)

# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Not Valid Before: Wed Oct 22 12:07:37 2008

# Not Valid After : Mon Dec 31 12:07:37 2029

```

Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
END
CKA_ISSUER
MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TWCA Root Certification Authority"
#
Issuer: CN=TWCA Root Certification Authority,OU=Root
CA,O=TAIWAN-CA,C=TW
Serial Number: 1 (0x1)
Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Thu Aug 28 07:24:33 2008
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325
```

\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104  
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157  
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021  
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307  
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242  
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122  
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227  
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370  
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124  
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363  
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135  
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375  
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061  
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033  
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362  
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074  
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276  
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202  
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345  
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314  
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154  
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254  
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101  
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203  
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036  
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106  
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347  
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066  
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332  
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031  
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316  
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TWCA Root Certification Authority"

# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 1 (0x1)

# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Thu Aug 28 07:24:33 2008

# Not Valid After : Tue Dec 31 15:59:59 2030

```

Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
#
Certificate "Explicitly Distrust DigiNotar Root CA"
#
Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Serial Number:0f:ff
Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
Not Valid Before: Fri Jul 27 17:19:37 2007
Not Valid After : Mon Mar 31 18:19:22 2025
Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201
```



\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300  
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177  
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330  
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213  
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337  
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045  
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123  
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007  
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043  
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042  
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041  
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313  
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110  
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114  
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376  
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344  
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357  
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314  
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351  
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154  
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262  
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042  
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077  
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102  
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323  
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176  
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147  
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002  
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004  
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257  
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362  
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203  
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302  
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013  
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075  
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114

\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313  
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273  
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235  
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160  
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007  
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351  
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134  
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045  
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113  
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174  
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304  
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012  
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330  
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

#

Trust for Certificate "Explicitly Distrust DigiNotar Root CA"

# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff

# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Not Valid Before: Fri Jul 27 17:19:37 2007

# Not Valid After : Mon Mar 31 18:19:22 2025

# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E

# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260  
\316\272\041\057

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157  
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151

\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061  
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021  
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156  
\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377  
\377\377

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST

CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Security Communication RootCA2"

#

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Fri May 29 05:00:39 2009

# Not Valid After : Tue May 29 05:00:39 2029

# Fingerprint (SHA-256):

51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023  
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023  
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156

\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\001\000  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045  
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124  
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056  
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036  
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151  
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036  
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027  
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135  
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060  
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162  
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054  
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123  
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143  
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025  
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145  
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360  
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253  
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021  
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265  
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114  
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336  
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251  
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020  
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353  
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031  
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216  
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074  
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375  
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260  
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003  
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054  
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254  
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131  
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105

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\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136
\201\050\174\247\175\047\353\000\256\215\067
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA2"

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Fri May 29 05:00:39 2009

# Not Valid After : Tue May 29 05:00:39 2029

# Fingerprint (SHA-256):

51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

#

Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
```

```

\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Actalis Authentication Root CA"
#
Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Serial Number:57:0a:11:97:42:c4:e3:cc
Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Not Valid Before: Thu Sep 22 11:22:02 2011
Not Valid After : Sun Sep 22 11:22:02 2030
Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END

```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\127\012\021\227\102\304\343\314

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127  
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004  
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005  
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032  
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060  
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003  
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164  
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164  
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062  
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062  
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002  
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\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164  
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\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003  
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156  
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157  
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221  
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240  
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327  
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\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105  
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\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051  
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322  
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077  
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\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223  
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343  
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205  
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020  
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\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136  
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132

\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041  
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\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164  
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224  
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347  
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060  
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136  
\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073  
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237  
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363  
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355  
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125  
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\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013  
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144  
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061  
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\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252  
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152  
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363  
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115  
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254  
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025  
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267  
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272  
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143  
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331  
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300  
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227  
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070  
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160  
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244  
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033  
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300  
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321  
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225  
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363  
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124  
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274  
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146  
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124  
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024  
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263  
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223  
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```

\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Actalis Authentication Root CA"
Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Serial Number:57:0a:11:97:42:c4:e3:cc
Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
Not Valid Before: Thu Sep 22 11:22:02 2011
Not Valid After : Sun Sep 22 11:22:02 2030
Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Buypass Class 2 Root

```

CA"

#

# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:38:03 2010

# Not Valid After : Fri Oct 26 08:38:03 2040

# Fingerprint (SHA-256):

9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48

# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 2 Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132  
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060

\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
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\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344  
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353  
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352  
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052  
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325  
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164  
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307  
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165  
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377  
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\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134  
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350  
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031  
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257  
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347  
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001  
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075  
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000  
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153  
\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004  
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033  
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342  
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135  
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362  
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122  
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150  
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306  
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015  
\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143  
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326  
\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117  
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\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363  
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017  
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\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357  
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025  
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254  
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\217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376
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\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022
\313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021
\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
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\327\201\011\361\311\307\046\015\254\230\026\126\240
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 2 Root CA"

# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:38:03 2010

# Not Valid After : Fri Oct 26 08:38:03 2040

# Fingerprint (SHA-256):

9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48

# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 2 Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
```

```

\013\022\100\231
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Buypass Class 3 Root CA"
#
Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:28:58 2010
Not Valid After : Fri Oct 26 08:28:58
2040
Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101  
END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132  
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172  
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030  
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075  
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307  
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304  
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347  
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072  
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075  
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355  
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034  
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327  
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071  
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023  
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134  
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113  
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064  
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027  
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156  
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246  
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330  
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013

\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110  
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322  
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016  
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132  
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303  
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303  
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237  
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017  
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142  
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262  
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057  
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043  
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342  
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302  
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125  
\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137  
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200  
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322  
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245  
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101  
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066  
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033  
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163  
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032  
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172  
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221  
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157  
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325  
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206  
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256  
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326  
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071  
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004  
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377  
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314  
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065  
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222  
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065  
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303  
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170  
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346  
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152  
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351

```

\061\356\006\274\163\277\023\142\012\237\307\271\227
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Buypass Class 3 Root CA"
#
Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
Not Valid Before: Tue Oct 26 08:28:58 2010
Not Valid After : Fri Oct 26 08:28:58 2040
Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 3"
#

```



```
Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:29:56 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
Fingerprint (SHA1):
55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
```

\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060  
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042  
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315  
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366  
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053  
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077  
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104  
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373  
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270  
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042  
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206  
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271  
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221  
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223  
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114  
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067  
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137  
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265  
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277  
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262  
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115  
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035  
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131  
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262  
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312  
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364

```
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051
\116\223\303\244\124\024\133
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 3"

# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:29:56 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
```

```

\141\163\163\040\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root Class 3 CA 2 2009"
#
Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Serial Number: 623603 (0x983f3)
Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:35:58 2009
Not Valid After : Mon Nov 05 08:35:58 2029
Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011  
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003  
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071  
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070  
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132  
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105  
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067  
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126  
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125  
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066  
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100  
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121  
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121  
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051  
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234  
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014  
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070  
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340  
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151  
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145  
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305  
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336  
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323  
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176  
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143  
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164  
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157  
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062  
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117  
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054  
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145  
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103  
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167  
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154

```
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136
\164\145\327\134\376\243\342
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623603 (0x983f3)

# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:35:58 2009

# Not Valid After : Mon Nov 05 08:35:58 2029

# Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Serial Number: 623604 (0x983f4)
Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Not Valid Before: Thu Nov 05 08:50:46 2009
Not Valid After : Mon Nov 05 08:50:46 2029
Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154

```

\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060  
\060\071  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\003\011\203\364  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011  
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003  
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062  
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065  
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060  
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002  
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124  
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125  
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164  
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126  
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240  
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147  
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005  
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326  
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064  
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342  
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262  
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231  
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355  
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034  
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121  
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072  
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160  
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374  
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225  
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355  
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060  
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323  
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232  
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201  
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160  
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164  
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122



\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141  
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045  
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055  
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104  
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166  
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240  
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055  
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055  
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163  
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357  
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051  
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316  
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111  
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071  
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262  
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110  
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105  
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042  
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104  
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332  
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046  
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063  
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227  
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327  
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041  
\352\237\026\361\054\124\265

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 EV 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623604 (0x983f4)

# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:50:46 2009

# Not Valid After : Mon Nov 05 08:50:46 2029

# Fingerprint (SHA-256):

EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81

# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140
\372\271\026\203
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "CA Disig Root R2"
#
Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
Serial Number:00:92:b8:88:db:b0:8a:c1:63
Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
Not Valid Before: Thu
Jul 19 09:15:30 2012
Not Valid After : Sat Jul 19 09:15:30 2042
Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157

```

\164\040\122\062  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061  
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163  
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104  
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125  
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157  
\164\040\122\062

END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\011\000\222\270\210\333\260\212\301\143

END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000  
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125  
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023  
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006  
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056  
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151  
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061  
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062  
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060  
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003  
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061  
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040  
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103  
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236  
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346  
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101  
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107  
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002  
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243  
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310  
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003  
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322  
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336  
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307  
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304  
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321  
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053  
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052

\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316  
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212  
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005  
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166  
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207  
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015  
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211  
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161  
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261  
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003  
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100  
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232  
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154  
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321  
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012  
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365  
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035  
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012  
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136  
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001  
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114  
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047  
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250  
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237  
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126  
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274  
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033  
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323  
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321  
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232  
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213  
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074  
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245  
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322  
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016  
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042  
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356  
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021  
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067  
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350  
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161  
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353  
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263  
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007

```
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375
\363\154\033\165\106\243\345\112\027\351\244\327\013
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CA Disig Root R2"

# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Serial Number:00:92:b8:88:db:b0:8a:c1:63

# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Not Valid Before: Thu Jul 19 09:15:30 2012

# Not Valid After : Sat Jul 19 09:15:30 2042

# Fingerprint (SHA-256):

E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03

# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CA Disig Root R2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\011\000\222\270\210\333\260\212\301\143
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ACCVRAIZ1"

#

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

# Fingerprint (SHA-256):

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13

#

Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ACCVRAIZ1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103  
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014  
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004  
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006  
\023\002\105\123

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103  
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014  
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004  
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006  
\023\002\105\123

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\136\303\267\246\103\177\244\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136  
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004  
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016  
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015  
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060  
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061

\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061  
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020  
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061  
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103  
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103  
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233  
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226  
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336  
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030  
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134  
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333  
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250  
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076  
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114  
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100  
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151  
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241  
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153  
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055  
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263  
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377  
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370  
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240  
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207  
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\172\141\143\143\166\061\056\143\162\164\060\037\006\010\053\006  
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\010\053\006\001\005\005\007\002\002\060\202\001\024\036\202\001  
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\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024  
\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111  
\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201  
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246  
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\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275  
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103  
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047  
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057  
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\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012  
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336  
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207  
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126  
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276  
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141  
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301  
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352  
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300  
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135  
\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337  
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105  
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226  
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217  
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207  
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311  
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113  
\125\064\106\052\213\206\073

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ACCVRAIZ1"

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

# Fingerprint (SHA-256):

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13

# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8

"ACCVRAIZ1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170  
\274\123\144\027

END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TWCA Global Root CA"
#
Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Serial Number: 3262 (0xcbe)
Subject: CN=TWCA Global
Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Wed Jun 27 06:28:33 2012
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116

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\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\002\014\276

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014  
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\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
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\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
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\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071  
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002  
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\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023  
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\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
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\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270  
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\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062  
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\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161  
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\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202  
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\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017  
\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157  
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\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227  
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END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL
CK_FALSE

Trust for "TWCA Global Root CA"
Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Serial Number: 3262 (0xcbe)
Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
Not Valid Before: Wed Jun 27 06:28:33 2012
Not Valid After : Tue Dec 31 15:59:59 2030
Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\014\276
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TeliaSonera Root CA v1"
#
Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera

```

```
Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
Not Valid Before: Thu Oct 18 12:00:50 2007
Not Valid After : Mon Oct 18 12:00:50 2032
Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143
```

\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345  
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165  
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043  
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261  
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227  
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110  
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006  
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176  
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135  
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324  
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254  
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260  
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213  
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046  
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367  
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213  
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336  
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225  
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211  
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056  
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076  
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040  
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170  
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260  
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172  
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354  
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022  
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235  
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220  
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170  
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016  
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325  
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142  
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104  
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345  
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135  
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116  
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261  
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343  
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203  
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343  
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304  
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200  
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235  
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107

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\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211
\245\240\314\277\323\366\165\244\165\226\155\126
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TeliaSonera Root CA v1"

# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96

# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Not Valid Before: Thu Oct 18 12:00:50 2007

# Not Valid After : Mon Oct 18 12:00:50 2032

# Fingerprint (SHA-256):

DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89

# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TeliaSonera Root CA v1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
```

END



```
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "E-Tugra Certification Authority"
#
Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Serial Number:6a:68:3e:9c:51:9b:cb:53
Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
Not Valid Before: Tue Mar 05 12:09:48 2013
Not Valid After : Fri Mar 03 12:09:48 2023
Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\152\150\076\234\121\233\313\123

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152  
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125  
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014  
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012  
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102  
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152  
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154  
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125  
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164  
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172  
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165  
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063  
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013  
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006  
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076  
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040  
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153  
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151  
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046  
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141  
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115  
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014  
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151

\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030  
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113  
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113  
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107  
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015  
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053  
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205  
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104  
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144  
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050  
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273  
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263  
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303  
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331  
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215  
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007  
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263  
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102  
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255  
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171  
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336  
\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014  
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305  
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012  
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374  
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313  
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061  
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347  
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013  
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077  
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027  
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307  
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372  
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171  
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005  
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034  
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320  
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221  
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326  
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320

\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230  
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323  
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141  
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134  
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072  
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173  
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067  
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153  
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275  
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212  
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271  
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060  
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072  
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321  
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261  
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345  
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037  
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276  
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217  
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227  
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013  
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103  
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373  
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147  
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035  
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073  
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Certification Authority"

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Serial Number:6a:68:3e:9c:51:9b:cb:53

# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Not Valid Before: Tue Mar 05 12:09:48 2013

# Not Valid After : Fri Mar 03 12:09:48 2023

# Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "T-TeleSec GlobalRoot Class 2"
#
Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:40:14 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
```

\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350  
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035  
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110  
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145  
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202  
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366  
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115  
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142  
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302  
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336  
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352  
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104  
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040  
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331  
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306  
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237  
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277  
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054  
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162  
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237  
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364  
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002  
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043  
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332  
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160  
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165  
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121  
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372  
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311  
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030  
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015  
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263  
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333  
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117  
\005\047\216\023\241\156\302

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "T-TeleSec GlobalRoot Class 2"
Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Serial Number: 1 (0x1)
Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
Not Valid Before: Wed Oct 01 10:40:14 2008
Not Valid After : Sat Oct 01 23:59:59 2033
Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
#
Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```



```

#
Certificate "Atos TrustedRoot 2011"
#
Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Serial Number:5c:33:cb:62:2c:5f:b3:32
Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Not Valid Before: Thu Jul 07 14:58:30 2011
Not Valid After : Tue Dec 31 23:59:59 2030
Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015

```

\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051  
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274  
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251  
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314  
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266  
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003  
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276  
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015  
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230  
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020  
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034  
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160  
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013  
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326  
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234  
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042  
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003  
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356  
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011  
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006  
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004  
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224  
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270  
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043  
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206  
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001  
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017  
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130  
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354  
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134  
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302  
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132  
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203  
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151  
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344  
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357  
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140  
\035\362\376\011\021\260\360\207\173\247\235

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "Atos TrustedRoot 2011"
Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Serial Number:5c:33:cb:62:2c:5f:b3:32
Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
Not Valid Before: Thu Jul 07 14:58:30 2011
Not Valid After : Tue Dec 31 23:59:59 2030
Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
END
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate
"QuoVadis Root CA 1 G3"
#
Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 17:27:44 2012
Not Valid After : Sun Jan 12 17:27:44 2042
Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74

```

# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217
```

\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236  
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250  
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265  
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065  
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076  
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043  
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041  
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004  
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220  
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351  
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246  
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157  
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250  
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313  
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232  
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134  
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075  
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017  
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306  
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265  
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112  
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255  
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074  
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161  
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216  
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231  
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102  
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255  
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363  
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312  
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025  
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202  
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317  
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141  
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166  
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145  
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057  
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015  
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277  
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002  
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271  
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330  
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111

```
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207
\063\140\345\303
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 1 G3"

# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93

# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 17:27:44 2012

# Not Valid After : Sun Jan 12 17:27:44 2042

# Fingerprint (SHA-256):

8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74

# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis

Root CA 1 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "QuoVadis Root CA 2 G3"

#

# Issuer: CN=QuoVadis Root CA

2 G3,O=QuoVadis Limited,C=BM

# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 18:59:32 2012

# Not Valid After : Sun Jan 12 18:59:32 2042

# Fingerprint (SHA-256):

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2 G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
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CKA\_ISSUER MULTILINE\_OCTAL

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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 2 G3"
Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
Not Valid Before: Thu Jan 12 18:59:32 2012
Not Valid After : Sun Jan 12 18:59:32 2042
Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
END
CKA_ISSUER MULTILINE_OCTAL
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "QuoVadis Root CA 3 G3"
#
Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
#

```

Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM  
# Not Valid Before: Thu Jan 12 20:26:32 2012  
# Not Valid After : Sun Jan 12 20:26:32 2042  
# Fingerprint (SHA-256):  
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46  
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "QuoVadis Root CA 3 G3"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
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\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375
\130\371\230\364
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 3 G3"

# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d

# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 20:26:32 2012

# Not Valid After : Sun Jan 12 20:26:32 2042

# Fingerprint (SHA-256):

88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46

# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 3 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
```

END

```

CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root G2"
#
Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
Subject:
 CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_ID

```

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232  
\364\113

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013  
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061  
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050  
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200  
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317  
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063  
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034  
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154  
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114  
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351  
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171  
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335  
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100  
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161  
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323  
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056

\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171  
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372  
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001  
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026  
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275  
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310  
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170  
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245  
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110  
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321  
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175  
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342  
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033  
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302  
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375  
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015  
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127  
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257  
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336  
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067  
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050  
\042\023\163\154\317\046\365\212\051\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G2"

# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85

#

Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221



```

\223\121\135\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Assured ID Root G3"
#
Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "DigiCert Assured ID Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151

```

```
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316
```

```
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057
\352\226\143\152\145\105\222\225\001\264
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G3"

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri

Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
```

```

\154\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G2"
#
Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345

```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003  
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060  
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220  
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210  
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254  
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124  
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261  
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335  
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266  
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220  
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127  
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343  
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263  
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125  
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014  
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020  
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207  
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305  
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225  
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030  
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137  
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354  
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370  
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044

```
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345
\062\266
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root G2"

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F

# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
```

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
```

```

\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Global Root G3"
#
Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
Subject: CN=DigiCert Global
Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063

```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253  
\105\162

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005  
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060  
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003  
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156  
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056  
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036  
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040  
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036  
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027  
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013  
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352  
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106  
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056  
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235  
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316  
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035  
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305  
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061  
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163  
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236  
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177  
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111  
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210  
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174  
\263\047\027

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER



```

CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root G3"
Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
END
CKA_ISSUER
MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert Trusted Root G4"
#
Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

```

```
Subject: CN=DigiCert
Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
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\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
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\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
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\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
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\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040
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\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151  
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\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374  
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235  
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\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227  
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\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117  
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\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117  
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Trusted Root G4"

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

#

```

Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "COMODO RSA Certification Authority"
#
Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Tue Jan 19 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE_CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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END
CKA_ID UTF8 "0"
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\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
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\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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END
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MULTILINE_OCTAL
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\206\235
END
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\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
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\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125
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\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071
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\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125
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\104\117\040\122\123\101\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
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\172\166\257\161\220\327\354\375\015\372\234\154\372\337\260\202  
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\213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272  
\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225  
\332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111  
\171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071  
\374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332  
\027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343  
\127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171  
\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231  
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043  
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221  
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212  
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312  
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224  
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036  
\216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314  
\314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035  
\173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213  
\113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342  
\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234  
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233  
\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336  
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116  
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245  
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174  
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354  
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301  
\065\123\205\006\112\135\237\255\273\033\137\164

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO RSA Certification Authority"

# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d

# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Not Valid Before: Tue Jan 19 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34

# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4



```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust RSA Certification Authority"
#
Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon
Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060
\062\060\061\060\060\060\060\060\132\027\015\063\070\060\061
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011
```

\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125  
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024  
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125  
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320  
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040  
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301  
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072  
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053  
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030  
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074  
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021  
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377  
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146  
\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376  
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366  
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040  
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106  
\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123  
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014  
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376  
\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372  
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304  
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154  
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223  
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331  
\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270  
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345  
\163\254\043\073\055\000\277\065\125\164\011\111\330\111\130\032  
\177\222\066\346\121\222\016\363\046\175\034\115\027\274\311\354  
\103\046\320\277\101\137\100\251\104\104\364\231\347\127\207\236  
\120\037\127\124\250\076\375\164\143\057\261\120\145\011\346\130  
\102\056\103\032\114\264\360\045\107\131\372\004\036\223\324\046  
\106\112\120\201\262\336\276\170\267\374\147\025\341\311\127\204  
\036\017\143\326\351\142\272\326\137\125\056\352\134\306\050\010  
\004\045\071\270\016\053\251\362\114\227\034\007\077\015\122\365  
\355\357\057\202\017\002\003\001\000\001\243\102\060\100\060\035  
\006\003\125\035\016\004\026\004\024\123\171\277\132\252\053\112  
\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015  
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002

\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305  
\122\237\313\370\317\231\006\177\033\332\103\025\237\236\002\125  
\127\226\024\361\122\074\047\207\224\050\355\037\072\001\067\242  
\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216  
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250  
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113  
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367  
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214  
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257  
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354  
\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227  
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346  
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021  
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341  
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345  
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336  
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157  
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354  
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031  
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310  
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167  
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177  
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207  
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356  
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101  
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204  
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301  
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201  
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217  
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135  
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306  
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220  
\250\375

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust RSA Certification Authority"

# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

```
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "USERTrust ECC Certification Authority"
#
Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
Not Valid Before: Mon Feb 01 00:00:00 2010
Not Valid After : Mon Jan 18 23:59:59 2038
Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
```

# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "USERTrust ECC Certification Authority"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200  
\314\046

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134  
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006  
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171  
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145  
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023  
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164

\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023  
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006  
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164  
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040  
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162  
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122  
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150  
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321  
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005  
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340  
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177  
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137  
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302  
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060  
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001  
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035  
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115  
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326  
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304  
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135  
\127\152\030

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust ECC Certification Authority"

# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26

# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A

# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R5"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038
Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```



```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
```

```
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R5"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24

# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign ECC Root CA - R5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Staat der Nederlanden Root CA - G3"
#
Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
Serial Number: 10003001 (0x98a239)
Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
#
Not Valid Before: Thu Nov 14 11:28:42 2013
Not Valid After : Mon Nov 13 23:00:00 2028
Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\000\230\242\071

```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000  
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116  
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036  
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027  
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060  
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060  
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157  
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017  
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112  
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157  
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226  
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225  
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355  
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227  
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021  
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204  
\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162  
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222  
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276  
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321  
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124  
\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113  
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263  
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103  
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212  
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174  
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344  
\160\263\337\162\157\132\067\100\211\330\205\244\327\361\013\336  
\103\031\324\112\130\054\214\212\071\236\277\204\207\361\026\073  
\066\014\351\323\264\312\154\031\101\122\011\241\035\260\152\277  
\202\357\160\121\041\062\334\005\166\214\313\367\144\344\003\120  
\257\214\221\147\253\305\362\356\130\330\336\276\367\347\061\317  
\154\311\073\161\301\325\210\265\145\274\300\350\027\027\007\022  
\265\134\322\253\040\223\264\346\202\203\160\066\305\315\243\215  
\255\213\354\243\301\103\207\346\103\342\064\276\225\213\065\355  
\007\071\332\250\035\172\237\066\236\022\260\014\145\022\220\025

\140\331\046\100\104\343\126\140\245\020\324\152\074\375\101\334  
\016\132\107\266\357\227\141\165\117\331\376\307\262\035\324\355  
\135\111\263\251\152\313\146\204\023\325\134\240\334\337\156\167  
\006\321\161\165\310\127\157\257\017\167\133\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024  
\124\255\372\307\222\127\256\312\065\234\056\022\373\344\272\135  
\040\334\224\127\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\060\231\235\005\062\310\136\016  
\073\230\001\072\212\244\347\007\367\172\370\347\232\337\120\103  
\123\227\052\075\312\074\107\230\056\341\025\173\361\222\363\141  
\332\220\045\026\145\300\237\124\135\016\003\073\133\167\002\234  
\204\266\015\230\137\064\335\073\143\302\303\050\201\302\234\051  
\056\051\342\310\303\001\362\063\352\052\252\314\011\010\367\145  
\147\306\315\337\323\266\053\247\275\314\321\016\160\137\270\043  
\321\313\221\116\012\364\310\172\345\331\143\066\301\324\337\374  
\042\227\367\140\135\352\051\057\130\262\275\130\275\215\226\117  
\020\165\277\110\173\075\121\207\241\074\164\042\302\374\007\177  
\200\334\304\254\376\152\301\160\060\260\351\216\151\342\054\151  
\201\224\011\272\335\376\115\300\203\214\224\130\300\106\040\257  
\234\037\002\370\065\125\111\057\106\324\300\360\240\226\002\017  
\063\305\161\363\236\043\175\224\267\375\072\323\011\203\006\041  
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012  
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012  
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060  
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167  
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211  
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100  
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065  
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345  
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352  
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024  
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267  
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121  
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044  
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276  
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077  
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172  
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110  
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014  
\367\200\173\041\147\047\060\131

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "Staat der Nederlanden Root CA - G3"
Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
Serial Number: 10003001 (0x98a239)
Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
Not Valid Before: Thu Nov 14 11:28:42 2013
Not Valid After : Mon Nov 13 23:00:00 2028
Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\242\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "IdenTrust Commercial Root CA 1"
#
Issuer: CN=IdenTrust Commercial Root CA
1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 18:12:23 2014
Not Valid After : Mon Jan 16 18:12:23 2034
Fingerprint (SHA-256):

```

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE  
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "IdenTrust Commercial Root CA 1"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162  
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144  
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\040\122\157\157\164\040\103\101\040\061  
END  
CKA\_ID  
UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162  
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144  
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\040\122\157\157\164\040\103\101\040\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000  
\000\002  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012  
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156  
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154  
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064  
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060  
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125  
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060  
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157  
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063  
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123  
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174

|212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103  
|342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224  
|371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207  
|357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302  
|366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051  
|113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324  
|054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242  
|046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365  
|155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022  
|135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353  
|033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142  
|117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111  
|314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205  
|145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213  
|275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363  
|151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176  
|376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312  
|126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117  
|016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054  
|310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112  
|164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202  
|361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350  
|336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323  
|163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360  
|010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330  
|011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157  
|227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164  
|234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303  
|173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115  
|210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100  
|060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
|060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
|377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300  
|323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166  
|060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
|202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141  
|036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256  
|150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007  
|352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255  
|015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270  
|217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055  
|055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075  
|127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216  
|124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167  
|234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372  
|251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353  
|024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067  
|373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202



```
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030
\272\204\156\207
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Commercial Root CA 1"

# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 18:12:23 2014

# Not Valid After : Mon Jan 16 18:12:23 2034

# Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Commercial Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "IdenTrust Public Sector Root CA 1"
#
Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
#
Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 17:53:32 2014
Not Valid After : Mon Jan 16 17:53:32 2034
Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER
MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123

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\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061  
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\000\002  
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\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156  
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143  
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027  
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015  
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020  
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\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124  
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164  
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
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\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073  
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204  
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175  
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\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354  
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122  
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255  
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\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200  
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\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066  
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131  
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362  
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353  
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166  
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125  
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\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025  
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000  
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303  
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003  
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001  
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\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223  
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021  
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214  
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043  
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156  
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162  
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325  
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016  
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276  
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075  
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077  
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130  
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006  
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270  
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237  
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026  
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050  
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027  
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337  
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254  
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\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136  
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\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022  
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\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357  
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "IdenTrust Public Sector Root CA 1"
Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Not Valid Before: Thu Jan 16 17:53:32 2014
Not Valid After : Mon Jan 16 17:53:32 2034
Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
\155\115\105\375
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - G2"
#
Issuer: CN=Entrust Root Certification Authority
- G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust,
Inc.",C=US

```

```
Serial Number: 1246989352 (0x4a538c28)
Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Jul 07 17:25:54 2009
Not Valid After : Sat Dec 07 17:55:54 2030
Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
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\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER
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MULTILINE\_OCTAL

\002\004\112\123\214\050

END

CKA\_VALUE MULTILINE\_OCTAL

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\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003  
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\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164  
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050  
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054  
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163  
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062  
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065  
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023  
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\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
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\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
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\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162  
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\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150  
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215  
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107  
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\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233  
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237  
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\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352  
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\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207  
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130  
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\105\366

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - G2"

# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

# Not Valid After : Sat Dec 07 17:55:54 2030

# Fingerprint (SHA-256):

43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39

# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G2"



```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Entrust Root Certification Authority - EC1"
#
Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
Not Valid After : Fri Dec 18 15:55:36 2037
Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
#
Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Entrust Root Certification Authority - EC1"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000  
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010  
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004  
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056  
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167  
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154  
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003

\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156  
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157  
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145  
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062  
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061  
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003  
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156  
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145  
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067  
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040  
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040  
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165  
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003  
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020  
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042  
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353  
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361  
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155  
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352  
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256  
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107  
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016  
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244  
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316  
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102  
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321  
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365  
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327  
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247  
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270  
\231\267\046\101\133\045\140\256\320\110\032\356\006

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - EC1"

# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use

```
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
Not Valid After : Fri Dec 18 15:55:36 2037
Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "CFCA EV ROOT"
#
```

```
Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
Serial Number: 407555286 (0x184acd6)
Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
Not Valid Before: Wed Aug 08 03:07:01 2012
#
Not Valid After : Mon Dec 31 03:07:01 2029
Fingerprint (SHA-256):
5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD
Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125
```

\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143  
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006  
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117  
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067  
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020  
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014  
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113  
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075  
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361  
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371  
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270  
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261  
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051  
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172  
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335  
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163  
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263  
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105  
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055  
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243  
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170  
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317  
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132  
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001  
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055  
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055  
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270  
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140  
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145  
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360  
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325  
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053  
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177  
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157  
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377  
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003  
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247  
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227

\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323  
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036  
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006  
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113  
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353  
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071  
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122  
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375  
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161  
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262  
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277  
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111  
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175  
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324  
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167  
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135  
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136  
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361  
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315  
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332  
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144  
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136  
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221  
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347  
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231  
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325  
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222  
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331  
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243  
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173  
\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CFCA EV ROOT"

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

# Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "OISTE WISeKey Global Root GB CA"
#
Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
#
Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Mon Dec 01 15:00:32 2014
Not Valid After : Thu Dec 01 15:10:31 2039
Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145

```



\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366  
\302\300

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166  
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060  
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027  
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015  
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061  
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016  
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042  
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106  
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163  
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123  
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141  
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267  
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365  
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046  
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261  
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255  
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315

\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127  
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157  
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161  
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144  
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121  
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376  
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117  
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206  
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351  
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153  
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001  
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003  
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065  
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343  
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001  
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201  
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041  
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161  
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224  
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071  
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313  
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012  
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316  
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330  
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354  
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337  
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004  
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332  
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034  
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307  
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176  
\065\255\201\307\116\161\272\210\023

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GB CA"

# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

# Subject:

CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Mon Dec 01 15:00:32 2014

# Not Valid After : Thu Dec 01 15:10:31 2039

# Fingerprint (SHA-256):

```

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SZAFIR ROOT CA2"
#
Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
Not Valid Before: Mon Oct 19 07:43:30 2015
Not Valid After : Fri Oct 19 07:43:30 2035
Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
#
Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

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```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222
```

\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112  
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260  
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332  
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266  
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372  
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073  
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301  
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371  
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002  
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334  
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315  
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026  
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254  
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351  
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344  
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160  
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157  
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162  
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206  
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314  
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203  
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217  
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120  
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353  
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262  
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076  
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227  
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240  
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212  
\326\040\036\343\163\267

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL

CK\_FALSE

# Trust for "SZAFIR ROOT CA2"

# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Not Valid Before: Mon Oct 19 07:43:30 2015

# Not Valid After : Fri Oct 19 07:43:30 2035

# Fingerprint (SHA-256):

```

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Network CA 2"
#
Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
Not Valid Before:
Thu Oct 06 08:39:56 2011
Not Valid After : Sat Oct 06 08:39:56 2046
Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031
```

\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125  
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162  
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167  
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200  
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357  
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113  
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047  
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302  
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334  
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101  
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111  
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215  
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104  
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300  
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002  
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204  
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167  
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150  
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146  
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061  
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150  
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242  
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032  
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165  
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226  
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272  
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274  
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263  
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113  
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054  
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022  
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276  
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375  
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147  
\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125  
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241  
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072  
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005  
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325  
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020



\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157  
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024  
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337  
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130  
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204  
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275  
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024  
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343  
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046  
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311  
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111  
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377  
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333  
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326  
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333  
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210  
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264  
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052  
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047  
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045  
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250  
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026  
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015  
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343  
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304  
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022  
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317  
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030  
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336  
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342  
\016\265\271\276\044\217

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

#

Trust for "Certum Trusted Network CA 2"

# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Not Valid Before: Thu Oct 06 08:39:56 2011

# Not Valid After : Sat Oct 06 08:39:56 2046

# Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

```
Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
Certificate "Hellenic Academic and Research Institutions RootCA 2015"
```

```
#
```

```
Issuer: CN=Hellenic
```

```
Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert.
Authority,L=Athens,C=GR
```

```
Serial Number: 0 (0x0)
```

```
Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
Not Valid Before: Tue Jul 07 10:11:21 2015
```

```
Not Valid After : Sat Jun 30 10:11:21 2040
```

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

```
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
```

```
Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
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CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research

```

Institutions Cert. Authority,L=Athens,C=GR
Serial Number: 0 (0x0)
Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
Not Valid Before: Tue Jul 07 10:11:21 2015
Not Valid After : Sat Jun 30 10:11:21 2040
Fingerprint (SHA-256):
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"
#
#

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Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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END

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CKA\_ISSUER MULTILINE\_OCTAL

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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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END

CKA\_NSS\_MOZILLA\_CA\_POLICY



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CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"
Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
Serial Number: 0 (0x0)
Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR
Not Valid Before: Tue Jul 07 10:37:12 2015
Not Valid After : Sat Jun 30 10:37:12 2040
Fingerprint (SHA-256):
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
#
Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ISRG Root X1"

#

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

#

Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143  
\202\213\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000  
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051  
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145

\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141  
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125  
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061  
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070  
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034  
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165  
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104  
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176  
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232  
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255  
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224  
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157  
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003  
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026  
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173  
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023  
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207  
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064  
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320  
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002  
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016  
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326  
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057  
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254  
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335  
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247  
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121  
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163  
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347  
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060  
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272  
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360  
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152  
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367  
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210  
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063  
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001

\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125  
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051  
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113  
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140  
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340  
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220  
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357  
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372  
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212  
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211  
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267  
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071  
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206  
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211  
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053  
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025  
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327  
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102  
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114  
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123  
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134  
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171  
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055  
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152  
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055  
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334  
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300  
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044  
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172  
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335  
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006  
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137  
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X1"

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

```
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AC RAIZ FNMT-RCM"
#
Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
Not Valid Before: Wed Oct 29 15:59:56 2008
Not Valid After : Tue Jan 01 00:00:00 2030
Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
#
Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231
```

\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136  
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034  
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002  
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120  
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171  
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013  
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356  
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161  
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173  
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123  
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302  
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222  
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143  
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354  
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166  
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007  
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313  
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255  
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257  
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203  
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367  
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207  
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063  
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005  
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167  
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160  
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303  
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376  
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023  
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165  
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367  
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133  
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014  
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047  
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346  
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137  
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372  
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212  
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215  
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031  
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040  
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346  
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274  
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353  
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351

```
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121
\072\117\110\366\213\266\263
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC RAIZ FNMT-RCM"

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

#

Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Not Valid Before: Wed Oct 29 15:59:56 2008

# Not Valid After : Tue Jan 01 00:00:00 2030

# Fingerprint (SHA-256):

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA

# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
\054\114\054\040
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
```

END



```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 1"
#
Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
Subject: CN=Amazon Root CA 1,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sun Jan 17 00:00:00 2038
Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066

```

\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\132\027\015\063  
\070\060\061\061\067\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060  
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343  
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367  
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172  
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114  
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336  
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344  
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260  
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120  
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226  
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272  
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164  
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062  
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113  
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157  
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234  
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046  
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314  
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012  
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121  
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060  
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310  
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174  
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030  
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054  
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355  
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370  
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357  
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255  
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127  
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324  
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136  
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223

```
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 1"

# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US

# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca

# Subject: CN=Amazon Root CA 1,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sun Jan 17 00:00:00 2038

# Fingerprint (SHA-256):

8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E

# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon

Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
```

```
\152\156\336\026
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
```

```
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
```

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

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
```

```
\346\226\066\133\312
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Amazon Root CA 2"

```
#
Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
#
Subject: CN=Amazon Root CA 2,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064
\060\060\065\062\066\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052
```

\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112  
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374  
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204  
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331  
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222  
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015  
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340  
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232  
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277  
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112  
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000  
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112  
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153  
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354  
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117  
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236  
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053  
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001  
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321  
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063  
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263  
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143  
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313  
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236  
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063  
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003  
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011  
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072  
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201  
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010  
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010  
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225  
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360  
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146  
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315  
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366  
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131  
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240  
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030  
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003  
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317  
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022  
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030

```
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323
\340\373\011\140\154
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 2"

# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

#

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
```

```
\317\107\113\032
```

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 3"
#
Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
Subject: CN=Amazon Root CA 3,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

```

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350  
\236\166\003\362\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006  
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003  
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002  
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051  
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245  
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163  
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150  
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253  
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031  
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003  
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053  
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170  
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234  
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214  
\143\044\110\034\337\060\175\325\150\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 3"

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After



```

: Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Amazon Root CA 4"
#
Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
Subject: CN=Amazon Root CA 4,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sat May 26 00:00:00 2040
Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173  
\054\310\032\301\016

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006  
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032  
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002  
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067  
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142  
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360  
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026  
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144  
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142  
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072  
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201  
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060  
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057  
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160  
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065

```
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265
\012\166\324\245\274\020
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 4"

# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

# Subject:

CN=Amazon Root CA 4,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320

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\363\230

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044  
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327  
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203  
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001  
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375  
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050  
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100  
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174  
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307  
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237  
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333  
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047  
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254  
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021  
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217  
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065  
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362  
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026

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\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364
\322\063\340\377\275\321\124\071\051\017
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug

31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Symantec Class 1 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9

# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 1 Public Primary Certification  
Authority - G6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303

```

\314\123\155\144
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Symantec Class 2 Public Primary Certification Authority - G6"
#
Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

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\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261  
\377\101

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144  
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123



\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351  
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147  
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023  
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256  
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154  
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326  
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326  
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061  
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341  
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000  
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262  
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061  
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137  
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215  
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322  
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137  
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064  
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226  
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301  
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000  
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013  
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366  
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156  
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266  
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160  
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356  
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275  
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113  
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231  
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246  
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035  
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326  
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376  
\157\374\132\344\202\125\131\257\061\251

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
END

#
Trust for "Symantec Class 2 Public Primary Certification Authority - G6"
Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Not Valid Before: Tue Oct 18 00:00:00 2011
Not Valid After : Tue Dec 01 23:59:59 2037
Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
\121\324\035\217
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END

```

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

#
Certificate "D-TRUST Root CA 3 2013"
#
Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Serial Number: 1039788 (0xfddac)
Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
Not Valid Before: Fri Sep 20 08:25:51 2013
Not Valid After : Wed Sep 20 08:25:51 2028
Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003

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\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071  
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062  
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003  
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012  
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037  
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124  
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337  
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341  
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046  
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154  
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340  
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011  
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274  
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323  
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352  
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121  
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075  
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256  
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077  
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357  
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174  
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263  
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157  
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276  
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240  
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164  
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057  
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157  
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061  
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155  
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143  
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163  
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057  
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057  
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164  
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234  
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237  
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317  
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175

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\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111
\137\134
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root CA 3 2013"

# Issuer: CN=D-TRUST Root

CA 3 2013,O=D-Trust GmbH,C=DE

# Serial Number: 1039788 (0xfddac)

# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE

# Not Valid Before: Fri Sep 20 08:25:51 2013

# Not Valid After : Wed Sep 20 08:25:51 2028

# Fingerprint (SHA-256):

A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57

# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root CA 3 2013"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Serial Number: 1 (0x1)
Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Not Valid Before: Mon Nov 25 08:25:55 2013
Not Valid After : Sun Oct 25 08:25:55 2043
Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
#
Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145  
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003  
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154  
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157  
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165  
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055  
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145  
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153  
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060  
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040  
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040  
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165  
\162\165\155\040\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040  
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125  
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151  
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152  
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162  
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060  
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162  
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145  
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064  
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113  
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123  
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162  
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070  
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062  
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006  
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107  
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102  
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145  
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153  
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155  
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124  
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155  
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040  
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123  
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111

\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040  
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040  
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273  
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377  
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372  
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253  
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154  
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320  
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153  
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000  
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116  
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227  
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332  
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311  
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177  
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054  
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352  
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037  
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077  
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107  
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230  
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175  
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341  
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260  
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355  
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337  
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027  
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235  
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270  
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226  
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223  
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334  
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177  
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255  
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237  
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302  
\237\042\136\242\017\241\343

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL



CK\_FALSE

```
Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Serial Number: 1 (0x1)
Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
Not Valid Before: Mon Nov 25 08:25:55 2013
Not Valid After : Sun Oct 25 08:25:55 2043
Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GDCA TrustAUTH R5 ROOT"

#

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:DO:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040  
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105  
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114  
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104  
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040  
\122\117\117\124

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040  
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105  
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114  
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104  
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040  
\122\117\117\124

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\175\011\227\376\360\107\352\172

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175

\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004  
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051  
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111  
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131  
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125  
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125  
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064  
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061  
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011  
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125  
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103  
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117  
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060  
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165  
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331  
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374  
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143  
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311  
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127  
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143  
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072  
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032  
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256  
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357  
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214  
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043  
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020  
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064  
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146  
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144  
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275  
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166  
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247  
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011  
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017  
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227  
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040  
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244  
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245  
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355  
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202  
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271  
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177  
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000  
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155

\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032  
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077  
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340  
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021  
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062  
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146  
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267  
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347  
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371  
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066  
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223  
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362  
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160  
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067  
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337  
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115  
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057  
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340  
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202  
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320  
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050  
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367  
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163  
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125  
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223  
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375  
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220  
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374  
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061  
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352  
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373  
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053  
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236  
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014  
\250\267\101\154\007\335\275\074\206\227\057\322

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "GDCA TrustAUTH R5 ROOT"

```

Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
Serial Number:7d:09:97:fe:f0:47:ea:7a
Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
Not Valid Before: Wed Nov 26 05:13:15 2014
Not Valid After : Mon Dec 31 15:59:59 2040
Fingerprint (SHA-256):
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TrustCor RootCert CA-1"
#
Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Serial Number:00:da:9b:ec:71:f3:03:b0:19
Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor

```

```
Systems S. de R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:16 2016
Not Valid After : Mon Dec 31 17:23:16 2029
Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
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END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

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END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-1"

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

#

Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072



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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "TrustCor RootCert CA-2"
#
Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor
Systems S. de R.L.,L=Panama City,ST=Panama,C=PA
Serial Number:25:a1:df:ca:33:cb:59:02
Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:23 2016
Not Valid After : Sun Dec 31 17:26:39 2034
Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101

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CKA\_ID

UTF8 "0"

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MULTILINE\_OCTAL

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\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021  
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301  
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273  
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376  
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206  
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367  
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264  
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367  
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301  
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027  
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222  
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051  
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101  
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226  
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156  
\326\354\011

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

```

Trust for "TrustCor RootCert CA-2"
Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Serial Number:25:a1:df:ca:33:cb:59:02
Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:23 2016
Not Valid After : Sun Dec 31 17:26:39 2034
Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307
\224\262\034\300
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST
CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

```

```

Certificate "TrustCor ECA-1"
#
Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Serial Number:00:84:82:2c:5f:1c:62:d0:40
Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
Not Valid Before: Thu Feb 04 12:32:33 2016
Not Valid After : Mon Dec 31 17:28:07 2029
Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000  
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003  
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010  
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060  
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162  
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064  
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061  
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125  
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014  
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007  
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060  
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162  
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122  
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162  
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025  
\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040  
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333  
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137  
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001  
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200  
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372  
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015  
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071  
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271  
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037  
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256  
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061  
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075  
\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177  
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221  
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354  
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105  
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155  
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037  
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314  
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060

```
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242
\264\237\327\346
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\060\132
```

END

# For Email Distrust After: Wed Nov 30 00:00:00

2022

CKA\_NSS\_EMAIL\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

# Trust for "TrustCor ECA-1"

# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:84:82:2c:5f:1c:62:d0:40

# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:33 2016

# Not Valid After : Mon Dec 31 17:28:07 2029

# Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE



```

CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204
\013\310\170\275
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority RSA"
#
Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:7b:2c:9b:d3:16:80:32:99
Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 17:39:39 2016
Not Valid After : Tue Feb 12 17:39:39 2041
Fingerprint (SHA-256):
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173  
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005  
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007  
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012  
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157  
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056  
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067  
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063  
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157  
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202

\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205  
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221  
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026  
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375  
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227  
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154  
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035  
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002  
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241  
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370  
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067  
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307  
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331  
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341  
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070  
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050  
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305  
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072  
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003  
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304  
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236  
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047  
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134  
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344  
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276  
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274  
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313  
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033  
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046  
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170  
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042  
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242  
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003  
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122  
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172  
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225  
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374  
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030  
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134  
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330  
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001  
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054  
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161

\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004  
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177  
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016  
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030  
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064  
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017  
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164  
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353  
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101  
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261  
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010  
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275  
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040  
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330  
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171  
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321  
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156  
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013  
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116  
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237  
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265  
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007  
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130  
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047  
\271

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority RSA"

# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:7b:2c:9b:d3:16:80:32:99

# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 17:39:39 2016

# Not Valid After : Tue Feb 12 17:39:39 2041

# Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251

```
\066\111\014\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\173\054\233\323\026\200\062\231
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "SSL.com Root Certification Authority ECC"
#
Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:75:e6:df:cb:c1:68:5b:a8
Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Fri Feb 12 18:14:03 2016
Not Valid After : Tue Feb 12 18:14:03 2041
Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
```

```
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060\063
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125
```

```
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority ECC"

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

# Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
```

```
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\165\346\337\313\301\150\133\250
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com EV Root Certification Authority RSA R2"

#

# Issuer: CN=SSL.com EV Root

Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL

Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Wed May 31 18:14:37 2017

# Not Valid After : Fri May 30 18:14:37 2042

# Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
```



\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065  
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105  
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\040\122\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\126\266\051\315\064\274\170\366

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126  
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014  
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014  
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004  
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151  
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114  
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061  
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062  
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006  
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006  
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060  
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160  
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003  
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352  
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206  
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050  
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237  
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235  
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242  
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132  
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253  
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124  
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175  
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322  
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136

\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021  
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212  
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041  
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000  
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354  
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107  
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220  
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125  
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354  
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025  
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002  
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201  
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016  
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156  
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354  
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256  
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071  
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304  
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230  
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365  
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366  
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003  
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270  
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126  
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121  
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377  
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371  
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305  
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125  
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040  
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214  
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327  
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014  
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150  
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342  
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263  
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233  
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306  
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355  
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135  
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312  
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046  
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224  
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155

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\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority RSA R2"

# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Wed May 31 18:14:37 2017

# Not Valid After : Fri May 30 18:14:37 2042

# Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173

\174\056\304\232

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163

\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164

\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114

\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065

\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105

```
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\126\266\051\315\064\274\170\366
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com EV Root Certification Authority ECC"

#

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

```
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
```

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification

Authority ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
```

\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006  
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103  
\103

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\010\054\051\234\133\026\355\005\225

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054  
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075  
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170  
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165  
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123  
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064  
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155  
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070  
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061  
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157  
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107  
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006  
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000  
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336  
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134  
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056  
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060  
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345  
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312  
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227  
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150  
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331  
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373

```
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250
\371\007\340\142\232\214\134\112
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority ECC"

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
\307\106\102\155
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\054\051\234\133\026\355\005\225
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

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

```
#
```

```
#
```

```
 Certificate "GlobalSign Root CA - R6"
```

```
#
```

```
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
```

```
Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
```

```
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
```

```
Not Valid Before: Wed Dec 10 00:00:00 2014
```

```
Not Valid After : Sun Dec 10 00:00:00 2034
```

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

```
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
```

```
Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

```
END
```

```
CKA_ID
```

```
 UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
```

\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064  
\061\062\061\060\060\060\060\060\060\060\060\132\027\015\063\064\061  
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036  
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023  
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123  
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154  
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371  
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110  
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052  
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024  
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144  
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170  
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032  
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103  
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276  
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143  
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160  
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377  
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112  
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260  
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220  
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030  
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127  
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340  
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104  
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066  
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026  
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355  
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341  
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300  
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165  
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047  
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060  
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323  
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130  
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214  
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204  
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036  
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143  
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154  
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147  
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256



\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310  
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315  
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350  
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267  
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255  
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170  
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243  
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265  
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035  
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332  
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343  
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106  
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171  
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337  
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173  
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257  
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163  
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250  
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002  
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151  
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353  
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154  
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354  
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226  
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005  
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257  
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241  
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342  
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321  
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146  
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104  
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270  
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012  
\147\203\005\132\311\244\020

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R6"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Not Valid Before: Wed Dec 10 00:00:00 2014

# Not Valid After : Sun Dec 10 00:00:00 2034

# Fingerprint (SHA-256):

```

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "OISTE WISeKey Global Root GC CA"
#
Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
Not Valid Before: Tue May 09 09:48:34 2017
Not Valid After : Fri May 09 09:58:33 2042
Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055  
\072\352

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041  
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060  
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060  
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003  
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040  
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165  
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144  
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105  
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040  
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067  
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060  
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011  
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125  
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006  
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156  
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061  
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040  
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122  
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342  
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303

```
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302
\242\355\357\173\260\200\117\130\017\113\123\071\275
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GC CA"

# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Tue May 09

09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042

# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GC CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
```

\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055  
\072\352

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "UCA Global G2 Root"

#

# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 11 00:00:00 2016

# Not Valid After : Mon Dec 31 00:00:00 2040

# Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "UCA Global G2 Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003  
\220\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135  
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060  
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164  
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107  
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027  
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015  
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061  
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017  
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061  
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154  
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053  
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232  
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114  
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275  
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165  
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016  
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346  
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150  
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130  
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321  
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207  
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206  
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334  
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350  
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262  
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043  
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057  
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307  
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330  
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101  
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112  
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257  
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303  
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153  
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345  
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203  
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107  
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172  
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104  
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106

\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317  
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246  
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025  
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053  
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043  
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313  
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004  
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071  
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144  
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303  
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345  
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216  
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332  
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024  
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015  
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200  
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325  
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304  
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243  
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343  
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024  
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365  
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233  
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253  
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243  
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240  
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027  
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024  
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310  
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270  
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124  
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262  
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105  
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042  
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327  
\120\037\212\373\006\365\302\031\360\320

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Global G2 Root"

```

Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 11 00:00:00 2016
Not Valid After : Mon Dec 31 00:00:00 2040
Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "UCA Extended Validation Root"
#
Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
Not Valid Before: Fri Mar 13 00:00:00 2015
Not Valid After : Fri Dec 31 00:00:00 2038
Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

```



```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061
\063\060\060\060\060\060\060\132\027\015\063\070\061\062\063\061
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322
```

\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037  
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367  
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051  
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171  
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331  
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144  
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163  
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241  
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342  
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246  
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350  
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143  
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210  
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314  
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363  
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007  
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160  
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177  
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232  
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111  
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106  
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120  
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020  
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054  
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361  
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202  
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003  
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176  
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215  
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054  
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256  
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021  
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111  
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332  
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220  
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224  
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144  
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071  
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374  
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123  
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351  
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027  
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342  
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054

\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255  
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350  
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243  
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341  
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340  
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216  
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127  
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013  
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202  
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120  
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345  
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261  
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166  
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162  
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314  
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255  
\177\275\145\040\262\311\301\053\166\030\166\237\126\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Extended Validation Root"

# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 13 00:00:00 2015

# Not Valid After : Fri Dec 31 00:00:00 2038

# Fingerprint (SHA-256):

D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24

# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "UCA Extended Validation Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377  
\335\360\327\072

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165

```
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna Root CA"

#

# Issuer: CN=Certigna Root

CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013

# Not Valid After : Sat Oct 01 08:32:27 2033

# Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304  
\343\246\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000  
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022  
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164  
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060  
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066  
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151  
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061  
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063  
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060  
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003  
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034  
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070  
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027  
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040  
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352  
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357  
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016  
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333  
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134  
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114  
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050  
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055  
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356  
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302  
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335  
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146  
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017  
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315  
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041  
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032  
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055  
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337  
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367  
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333  
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063  
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304  
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026  
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223

\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232  
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175  
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144  
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253  
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105  
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271  
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304  
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060  
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001  
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326  
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026  
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037  
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060  
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053  
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057  
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146  
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003  
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150  
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147  
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157  
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053  
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171  
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156  
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224  
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325  
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313  
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241  
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323  
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106  
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034  
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067  
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372  
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171  
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145  
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001  
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341  
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172  
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142  
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216  
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030  
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065  
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053  
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324  
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357

```
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certigna Root CA"

# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013

# Not Valid After : Sat Oct 01 08:32:27 2033

# Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign Root CA - G1"
#
Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```



\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061  
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003  
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013  
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043  
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124  
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151  
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034  
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032  
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157  
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146  
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063  
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274  
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232  
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116  
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160  
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365  
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052  
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262  
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035  
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114  
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057  
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170  
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355  
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343  
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024  
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373  
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360  
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161  
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141  
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027  
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314

```
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - G1"

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies

Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
```

```

\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign ECC Root CA - G3"
#
Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END

```

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074  
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110  
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006  
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125  
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150  
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144  
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060  
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060  
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111  
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151  
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023  
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154  
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060  
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105  
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363  
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064  
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124  
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316  
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222  
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062  
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201  
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276  
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057  
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201  
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002  
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173  
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303  
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004  
\054\243

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```
Trust for "emSign ECC Root CA - G3"
Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies
Limited,OU=emSign PKI,C=IN
Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign Root CA - C1"
#
Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2
Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
#
Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
```

\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231  
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117  
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171  
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331  
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257  
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163  
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107  
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070  
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137  
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307  
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316  
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026  
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234  
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064  
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211  
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265  
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241  
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252  
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242  
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154  
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073  
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370  
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360  
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170  
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047  
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350  
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306  
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124  
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056  
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023  
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226  
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000  
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250  
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341  
\361\337\312\276\203\015\102

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER

CK\_BBOOL CK\_FALSE

```

Trust for "emSign Root CA - C1"
Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2
Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
\313\206\117\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "emSign ECC Root CA - C3"
#
Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
Not Valid Before: Sun Feb 18 18:30:00 2018
Not Valid After : Wed Feb 18 18:30:00 2043
Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

```



#

Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - C3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003  
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003  
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173  
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110  
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125  
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061  
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156  
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103  
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042

```
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - C3"

# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

#

Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - C3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025
\014\356\110\146
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
```

```
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\012\173\161\266\202\126\270\022\174\234\250
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hongkong Post Root CA 3"

#

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

# Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL

CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
```

\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061  
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157  
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040  
\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306  
\256\043\270\034\132\244

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010  
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270  
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110  
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147  
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011  
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125  
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163  
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147  
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103  
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062  
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071  
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002  
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156  
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023  
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003  
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157  
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156  
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040  
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326  
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307  
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116  
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215  
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111  
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210  
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357  
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345  
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125  
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050  
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243  
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230  
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315  
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105  
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230  
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251

\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311  
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355  
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023  
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243  
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133  
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010  
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143  
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376  
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321  
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044  
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012  
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064  
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127  
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243  
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067  
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032  
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036  
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141  
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213  
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016  
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306  
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364  
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044  
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244  
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340  
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071  
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353  
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103  
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015  
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344  
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210  
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232  
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122  
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347  
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164  
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146  
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163  
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265  
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076  
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237  
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210  
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234  
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306

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\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006
\232\233\364
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 3"

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

# Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

#

Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hongkong Post Root CA 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306  
\256\043\270\034\132\244

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority - G4"

#

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

#

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125  
\145\255\130

END

CKA\_VALUE

MULTILINE\_OCTAL

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\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163  
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013  
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155  
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040  
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156  
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060  
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064  
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066  
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132  
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\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
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\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
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\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
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\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055  
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031  
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037  
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274  
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304  
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020  
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004  
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043  
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336  
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065  
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014  
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132  
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\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323  
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351  
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252  
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\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000  
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141  
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361  
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146  
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005  
\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334  
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374  
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332  
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362  
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045  
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332  
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067  
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143  
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\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240  
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022  
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045  
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363  
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322  
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364  
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211  
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253  
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377  
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344

\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177  
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056  
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234  
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210  
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216  
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207  
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360  
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307  
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136  
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176  
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330  
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002  
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244  
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166  
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062  
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245  
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072  
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101  
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244  
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273  
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061  
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230  
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332  
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

# Trust for "Entrust Root Certification Authority - G4"

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

#

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065

\051\272\226\001

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "Microsoft ECC Root Certificate Authority 2017"
#
Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Not Valid Before: Wed Dec 18 23:06:45 2019
Not Valid After : Fri Jul 18 23:16:04 2042
Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001  
\302\354

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146  
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060  
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003  
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103  
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003  
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105  
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060  
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066  
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060  
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162  
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162  
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121  
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121  
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171  
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231  
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033

```
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153
\124\026\040\377\053\265\347\114\014\115\246\117\163
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft ECC Root Certificate Authority 2017"

# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 23:06:45 2019

# Not Valid After : Fri Jul 18 23:16:04 2042

# Fingerprint (SHA-256):

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

#

Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
```

\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001  
\302\354

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Microsoft RSA Root Certificate Authority 2017"

#

# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 22:51:22 2019

# Not Valid After : Fri Jul 18 23:00:23 2042

# Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL

CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151

\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177  
\105\263

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036  
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060  
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146  
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060  
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146  
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062  
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063  
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115  
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141  
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115  
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165  
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276  
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231  
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147  
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234  
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364  
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113  
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351  
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265  
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256  
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262  
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146  
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170  
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202  
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311  
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376  
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211  
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034  
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205  
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242  
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206  
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023

\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321  
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272  
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042  
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254  
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012  
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256  
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036  
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007  
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362  
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124  
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220  
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001  
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331  
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135  
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102  
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115  
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071  
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202  
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204  
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225  
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272  
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063  
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075  
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341  
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211  
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126  
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166  
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155  
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115  
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367  
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056  
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147  
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221  
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301  
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245  
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151  
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357  
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142  
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375  
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116  
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340  
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115  
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122



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\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft RSA Root Certificate Authority 2017"

# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 22:51:22 2019

# Not Valid After : Fri Jul 18 23:00:23 2042

# Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING

```

CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "e-Szigno Root CA 2017"
#
Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
Not Valid Before: Tue Aug 22 12:07:06 2017
Not Valid After : Fri Aug 22 12:07:06 2042
Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001

```

\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052  
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125  
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014  
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125  
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144  
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110  
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003  
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157  
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067  
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060  
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011  
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125  
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024  
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040  
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126  
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060  
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157  
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060  
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316  
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157  
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204  
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275  
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207  
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170  
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003  
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301  
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006  
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041  
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150  
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154  
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374  
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131  
\371\347\334\061

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "e-Szigno Root CA 2017"

# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Aug 22 12:07:06 2017

# Not Valid After : Fri Aug 22 12:07:06 2042

```

Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
#
Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "certSIGN Root CA G2"
#
Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Serial Number:11:00:34:b6:4e:c6:36:2d:36
Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Not Valid Before: Mon Feb 06 09:27:35 2017
Not Valid After : Thu Feb 06 09:27:35 2042
Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151
```

\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301  
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143  
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254  
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127  
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315  
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226  
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121  
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012  
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117  
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310  
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337  
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205  
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146  
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201  
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361  
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067  
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117  
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062  
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132  
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240  
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202  
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270  
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003  
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011  
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347  
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352  
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344  
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036  
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002  
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113  
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144  
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045  
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365  
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041  
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364  
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013  
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206  
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234  
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315  
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045  
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344  
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071  
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202  
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016

\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230  
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003  
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343  
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106  
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161  
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144  
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247  
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121  
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204  
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320  
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026  
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027  
\101\020\135\047\163\140\205\127\111\042\007

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN Root CA G2"

# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Serial Number:11:00:34:b6:4e:c6:36:2d:36

# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

# Not Valid Before: Mon Feb 06 09:27:35 2017

# Not Valid After : Thu Feb 06 09:27:35 2042

# Fingerprint (SHA-256):

65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05

# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "certSIGN Root CA G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243  
\215\222\345\062

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111  
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023  
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101  
\040\107\062

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global Certification Authority"
#
Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
#
Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:34:12 2017
Not Valid After : Sat Aug 23 19:34:12 2042
Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004

```



\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\014\005\367\016\206\332\111\363\106\065\056\272\262  
END  
CKA\_VALUE  
MULTILINE\_OCTAL  
\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005  
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003  
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060  
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061  
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167  
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165  
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061  
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071  
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010  
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004  
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003  
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110  
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060  
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166  
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315  
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076  
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347  
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030  
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321  
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156  
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334  
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200  
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374  
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363  
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234  
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226  
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064  
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307  
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117

\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033  
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051  
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145  
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024  
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116  
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360  
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014  
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246  
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164  
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343  
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330  
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234  
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254  
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006  
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147  
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370  
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066  
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332  
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163  
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226  
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075  
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344  
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336  
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053  
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365  
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020  
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341  
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124  
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101  
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040  
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121  
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304  
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271  
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217  
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323  
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321  
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072  
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036  
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363  
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354  
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141  
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162  
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166  
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174

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\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312
\311\340\266\234\351\316\161\161\336\154\077\026\244\171
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global Certification Authority"

# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2

# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:34:12 2017

# Not Valid After : Sat Aug 23 19:34:12 2042

# Fingerprint (SHA-256):

97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8

# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global ECC P256 Certification Authority"
#
Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:35:10 2017
Not Valid After : Sat Aug 23 19:35:10 2042
Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 ""
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156

```

\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015  
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052  
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062  
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206  
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343  
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122  
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015  
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344  
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000  
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220  
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060  
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104  
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266  
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041  
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145

```

\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314
\234\341\164\173
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P256 Certification Authority"
Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:35:10 2017
Not Valid After : Sat Aug 23 19:35:10 2042
Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global
ECC P256 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_TRUST_SERVER_AUTH

```

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CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Trustwave Global ECC P384 Certification Authority"
#
Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:36:43 2017
Not Valid After : Sat Aug 23 19:36:43 2042
Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157

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\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010  
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052  
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062  
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005  
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203  
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011  
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224  
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214  
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105  
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003  
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006  
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275  
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010  
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067  
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120  
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302  
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002  
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376  
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053



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\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156
\113
END
CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P384 Certification Authority"
Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:36:43 2017
Not Valid After : Sat Aug 23 19:36:43 2042
Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END

```

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "NAVER Global Root Certification Authority"

#

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104  
\161\370\326\120\115\015

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001  
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326  
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113  
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105  
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106  
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125  
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027  
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015  
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061  
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044  
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123  
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103  
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116  
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100  
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326  
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173  
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207  
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372  
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313  
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104  
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001  
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367  
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263  
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161  
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105  
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017  
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270  
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014  
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052  
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065  
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367  
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337  
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217  
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101  
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206  
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224  
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361  
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250  
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072  
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031  
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332

\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112  
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026  
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212  
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002  
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102  
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210  
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140  
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322  
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015  
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226  
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073  
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143  
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023  
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003  
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246  
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025  
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332  
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213  
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341  
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034  
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036  
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042  
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154  
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373  
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177  
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370  
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174  
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343  
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151  
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321  
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252  
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167  
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027  
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231  
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366  
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216  
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216  
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071  
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245  
\365\165\336\211\367\162

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "NAVER Global Root Certification Authority"
Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d
Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
Not Valid Before: Fri Aug 18 08:58:42 2017
Not Valid After : Tue Aug 18 23:59:59 2037
Fingerprint (SHA-256):
88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65
Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1
CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NAVER Global Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
END
CKA_ISSUER MULTILINE_OCTAL
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
#
Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

```

```
Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Not Valid Before: Thu Dec 20 09:37:33 2018
Not Valid After : Sun Dec 20 09:37:33 2043
Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8
"AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062
```

\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003  
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122  
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105  
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060  
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071  
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106  
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013  
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141  
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064  
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122  
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122  
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066  
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307  
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307  
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054  
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257  
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012  
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362  
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256  
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032  
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027  
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002  
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053  
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321  
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162  
\277\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC

RAIZ FNMT-RCM SERVIDORES SEGUROS"

# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Not Valid Before: Thu Dec 20 09:37:33 2018

# Not Valid After : Sun Dec 20 09:37:33 2043

```

Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
END
CKA_ISSUER
MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Secure Mail Root R45"
#
Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Serial Number: 76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
#
Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```



```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333
```

\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073  
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132  
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225  
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372  
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363  
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047  
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235  
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230  
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367  
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270  
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335  
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206  
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362  
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122  
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366  
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335  
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012  
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120  
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306  
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151  
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316  
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153  
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237  
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017  
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174  
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216  
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077  
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201  
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205  
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050  
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266  
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146  
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276  
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300  
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254  
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043  
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265  
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343  
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336  
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124  
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201  
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017  
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176

```
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362
\263\301\366\074
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root R45"

# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root R45"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\122\064\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217  
\127\334

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL  
CK\_FALSE

#

# Certificate "GlobalSign Secure Mail Root E45"

#

# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\105\064\065

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154

\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\105\064\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270  
\220\012

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166  
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060  
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060  
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003  
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040  
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037  
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162  
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060  
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\132  
\027\015\064\065\060\063\061\070\060\060\060\060\060\132\060  
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031  
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123  
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125  
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123  
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040  
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001  
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107  
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300  
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157  
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104  
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157  
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210  
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137  
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060  
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145  
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175  
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307  
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212  
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114  
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357  
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127  
\221\057\244\313\174

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER
CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Secure Mail Root E45"
Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 18 00:00:00 2020
Not Valid After : Sat Mar 18 00:00:00 2045
Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
END
CKA_ISSUER
MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root R46"
#
Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

```

```
Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not
Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157
```

\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211  
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211  
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023  
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143  
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006  
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154  
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027  
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235  
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332  
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063  
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050  
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021  
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130  
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204  
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075  
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173  
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205  
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370  
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043  
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004  
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155  
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073  
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215  
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106  
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346  
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354  
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154  
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061  
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232  
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252  
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375  
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002  
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246  
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170  
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242  
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116  
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140  
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314  
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166  
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142  
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115



```
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256
\045\131\314\177\065\137\010\367\100\105\061\170\052\172
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

#

Trust for "GlobalSign Root R46"

# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root R46"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
```

```

\167\303\242\220
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign Root E46"
#
Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
#
Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204  
\035\230\350\103

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021  
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350  
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061  
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027  
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147  
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003  
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157  
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060  
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060  
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006  
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107  
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061  
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154  
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064  
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014  
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352  
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067  
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006  
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135  
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200  
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220  
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013  
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367  
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074  
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061  
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323  
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root E46"
Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
Not Valid Before: Wed Mar 20 00:00:00 2019
Not Valid After : Tue Mar 20 00:00:00 2046
Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GLOBALTRUST
2020"
#
Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

```

```
Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
Not Valid Before: Mon Feb 10 00:00:00 2020
Not Valid After : Sun Jun 10 00:00:00 2040
Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122
\125\123\124\040\062\060\062\060\060\060\060\036\027\015\062\060\060\062
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125
\123\124\040\062\060\062\060\060\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
```

\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366  
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133  
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275  
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370  
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131  
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174  
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344  
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367  
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011  
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034  
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360  
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127  
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143  
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176  
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116  
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102  
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211  
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066  
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343  
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007  
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051  
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130  
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364  
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134  
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374  
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036  
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274  
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101  
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060  
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224  
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111  
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266  
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037  
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234  
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056  
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150  
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300  
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244  
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325  
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102  
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052  
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056  
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135  
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276

\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305  
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137  
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323  
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345  
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342  
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003  
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147  
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373  
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022  
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357  
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201  
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245  
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015  
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202  
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303  
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021  
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047  
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142  
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367  
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210  
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045  
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315  
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362  
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365  
\155\015\277\173\327\222

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GLOBALTRUST 2020"

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

# Not Valid After : Sun Jun 10 00:00:00 2040

# Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE

CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GLOBALTRUST 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046

```

\117\123\161\242
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ANF
Secure Server Root CA"
#
Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
Not Valid Before: Wed Sep 04 10:00:38 2019
Not Valid After : Tue Aug 30 10:00:38 2039
Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116

```



```
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152
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\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330  
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227  
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107  
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274  
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227  
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127  
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034  
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043  
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213  
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012  
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173  
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221  
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317  
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251  
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063  
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246  
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364  
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277  
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370  
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266  
\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147  
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120  
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066  
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367  
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146  
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103  
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101  
\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062  
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037  
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143  
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060  
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243  
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152  
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360  
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213  
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133  
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223  
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243  
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065  
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244  
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312  
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352  
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066  
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364

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\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211
\240\215\254
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ANF Secure Server Root CA"

# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de  
Certificacion,C=ES,serialNumber=G63287510

# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1

# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de  
Certificacion,C=ES,serialNumber=G63287510

# Not Valid Before: Wed Sep 04 10:00:38 2019

# Not Valid After : Tue Aug 30 10:00:38 2039

# Fingerprint (SHA-256):

FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99

# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ANF Secure Server Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum EC-384 CA"
#
Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Mon Mar 26 07:24:54 2018
Not Valid After : Thu Mar 26 07:24:54 2043
Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006

```

\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157  
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272  
\163\364  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170  
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060  
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060  
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003  
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141  
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060  
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023  
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103  
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065  
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064  
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143  
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027  
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103  
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304  
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072  
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140  
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346  
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210  
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347  
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060

```
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum EC-384 CA"

# Issuer: CN=Certum EC-384

CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum EC-384 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
```

```

END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certum Trusted Root CA"
#
Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
Subject: CN=Certum Trusted Root
CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
Not Valid Before: Fri Mar 16 12:10:13 2018
Not Valid After : Mon Mar 16 12:10:13 2043
Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006

```

\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117  
\265\355

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036  
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060  
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172  
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060  
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104  
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056  
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165  
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125  
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164  
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070  
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060  
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011  
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125  
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040  
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045  
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026  
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067  
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231  
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176  
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301  
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352  
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317  
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024  
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052  
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147  
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067  
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105  
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357  
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031  
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167  
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152  
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126  
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232  
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327



\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377  
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242  
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214  
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147  
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205  
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077  
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007  
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017  
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041  
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066  
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120  
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201  
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200  
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072  
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165  
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003  
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265  
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271  
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170  
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023  
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206  
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350  
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252  
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027  
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121  
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106  
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204  
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020  
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037  
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372  
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137  
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013  
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372  
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252  
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044  
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303  
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303  
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352  
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136  
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314  
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103  
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153  
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017  
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152

```
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305
\303\270\070\333
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Root CA"

# Issuer: CN=Certum

Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Fri Mar 16 12:10:13 2018

# Not Valid After : Mon Mar 16 12:10:13 2043

# Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TunTrust Root CA"

#

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

#

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061  
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145  
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143  
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004  
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164  
\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061  
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145  
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143  
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004  
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273  
\273\262\153\076\374\023

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023  
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153  
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124  
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156  
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154  
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003  
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157  
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060  
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070  
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006  
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101  
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040  
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\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060  
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\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
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\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131  
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037  
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207  
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135  
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156  
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220  
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005  
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376  
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307  
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031  
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335  
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320  
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205  
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\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247  
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324  
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150  
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175  
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066  
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375  
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271  
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\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246  
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240  
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315  
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041  
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001

\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041  
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\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226  
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\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233  
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104  
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006  
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264  
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003  
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\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227  
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135  
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056  
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113  
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175  
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370  
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147  
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042  
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007  
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373  
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107  
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117  
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011  
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327  
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347  
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110  
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325  
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271  
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026  
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317  
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333  
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060  
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367  
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020  
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\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146  
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TunTrust Root CA"

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

#

Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040

\106\064\234\273

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061

\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145

\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145

\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143

\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004

\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164

\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273

\273\262\153\076\374\023

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HARICA TLS RSA Root CA 2021"

#

# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

```
Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 10:55:38 2021
Not Valid After : Mon Feb 13 10:55:37 2045
Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
Fingerprint
(SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
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CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
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\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
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\070\176
END
CKA_VALUE MULTILINE_OCTAL
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\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
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\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040
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\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153  
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016  
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\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317  
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014  
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145  
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057  
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360  
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\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256  
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333  
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\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370  
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224  
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353  
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140  
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374  
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220  
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125  
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045  
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001



\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045  
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024  
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071  
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310  
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367  
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364  
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102  
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332  
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206  
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360  
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217  
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050  
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360  
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317  
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027  
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166  
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255  
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230  
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311  
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064  
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311  
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353  
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123  
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002  
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112  
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375  
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337  
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214  
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026  
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000  
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071  
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124  
\353\166\123\030\215\021\230\272

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS RSA Root CA 2021"

# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:55:38 2021

# Not Valid After : Mon Feb 13 10:55:37 2045

# Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

```

CKA_CLASS
CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA TLS ECC Root CA 2021"
#
Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:01:10 2021
Not Valid After : Mon Feb 13 11:01:09 2045
Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root

```

CA 2021"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004  
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103  
\103\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004  
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103  
\103\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342  
\277\316

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147  
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060  
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101  
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157  
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060  
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062  
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004  
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144  
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143  
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103  
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111  
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040  
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070  
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073

```
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111
\105\346\354\267\023\341\072\154
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS ECC Root CA 2021"

# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce

# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic  
Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:01:10 2021

# Not Valid After : Mon Feb 13 11:01:09 2045

# Fingerprint (SHA-256):

3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01

# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA TLS ECC Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
```

```
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HARICA Client RSA Root CA 2021"

#

# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:58:46 2021

# Not Valid After : Mon Feb 13 10:58:45 2045

# Fingerprint (SHA-256):

1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D

#

Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client RSA Root CA 2021"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
```

\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002  
\050\076

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125  
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014  
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122  
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060  
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132  
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060  
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067  
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151  
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122  
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164  
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003  
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040  
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253  
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207  
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031  
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217  
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062  
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057  
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123  
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016  
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350  
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125  
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062  
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071  
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070  
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103

\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342  
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254  
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220  
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220  
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140  
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147  
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352  
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373  
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270  
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021  
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240  
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066  
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371  
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217  
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132  
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356  
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310  
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112  
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104  
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107  
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105  
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313  
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247  
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203  
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352  
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336  
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347  
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247  
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241  
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252  
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132  
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253  
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144  
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324  
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261  
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270  
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316  
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320  
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052  
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037  
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327  
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044  
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350  
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247

```
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014
\151\317\054\253\073\204\140\063\031\122\375\151\024\063
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA Client RSA Root CA 2021"

# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:58:46 2021

# Not Valid After : Mon Feb 13 10:58:45 2045

# Fingerprint (SHA-256):

1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D

#

Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client RSA Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_SERIAL\_NUMBER



```

MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HARICA Client ECC Root CA 2021"
#
Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:03:34 2021
Not Valid After : Mon Feb 13 11:03:33 2045
Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END

```

CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020  
\175\360

END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061  
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060  
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101  
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064  
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110  
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103  
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367  
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001  
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046  
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133  
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376  
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317  
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227  
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110  
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106  
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253  
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035  
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311  
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370  
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117  
\376\163\012\357\061\260\253\043\130\023\214\213\336\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY  
CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA

Client ECC Root CA 2021"

# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:03:34 2021

# Not Valid After : Mon Feb 13 11:03:33 2045

# Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370

\336\046\371\000

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061

\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156

\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040

\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165

\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004

\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164

\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062

\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020

\175\360

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"

#

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

```
Serial Number:1b:70:e9:d2:ff:ae:6c:71
#
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Tue Sep 23 15:22:07 2014
Not Valid After : Mon May 05 15:22:07 2036
Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
```

\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004  
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034  
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102

\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146  
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266  
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010  
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105  
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323  
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337  
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311  
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201  
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211  
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117  
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256  
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042  
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104  
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361  
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033  
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225  
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054  
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041  
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255  
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246  
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220  
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121  
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025  
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325  
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260  
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102  
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330  
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375  
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343  
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363  
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112  
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160  
\006\137\244\274\372\040\174\125

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion

Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number: 1b:70:e9:d2:ff:ae:6c:71

```

Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Not Valid Before: Tue Sep 23 15:22:07 2014
Not Valid After : Mon May 05 15:22:07 2036
Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "vTrus ECC Root CA"
#
Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:26:44 2018
Not Valid After : Fri Jul 31 07:26:44 2043
Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
#
Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
```



```
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus ECC Root CA"

# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da

# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:26:44 2018

# Not Valid After : Fri Jul 31 07:26:44 2043

# Fingerprint (SHA-256):

30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3

# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus ECC Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244

\073\346\155\034\326\332

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING

CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "vTrus Root CA"

#

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

# Not Valid After : Fri Jul 31 07:24:05 2043

# Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061

\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103

\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060

\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157

\157\164\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061

\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103

\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060

\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157

\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065

\375\157\274\005\215\105

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103

\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274  
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103  
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165  
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061  
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040  
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063  
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061  
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125  
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023  
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054  
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166  
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174  
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113  
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034  
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213  
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263  
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024  
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237  
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271  
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276  
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136  
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147  
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175  
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123  
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152  
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107  
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302  
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176  
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355  
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220  
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166  
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246  
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032  
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147  
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115  
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011  
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232  
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220  
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370  
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132  
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326  
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252  
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301  
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004

\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306  
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255  
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346  
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354  
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235  
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262  
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111  
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143  
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372  
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020  
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314  
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344  
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344  
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257  
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052  
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064  
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322  
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050  
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312  
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353  
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353  
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275  
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375  
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337  
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241  
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101  
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146  
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065  
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117  
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112  
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305  
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247  
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212  
\334\346\164\174\140\206\157\207\227\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus Root CA"

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

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Not Valid After : Fri Jul 31 07:24:05 2043
Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "ISRG Root X2"
#
Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
#
Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
Not Valid Before: Fri Sep 04 00:00:00 2020
Not Valid After : Mon Sep 17 16:00:00 2040
Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER
MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015
\064\060\060\071\061\067\061\066\060\060\060\060\132\027\015\064
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312
```

```
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X2"

# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

#

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Not Valid Before: Fri Sep 04 00:00:00 2020

# Not Valid After : Mon Sep 17 16:00:00 2040

# Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
```

END

```

CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "HiPKI Root CA - G1"
#
Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Fri Feb 22 09:46:04 2019
Not Valid After : Thu Dec 31 15:59:59 2037
Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140

```



END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055  
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120  
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060  
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132  
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043  
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167  
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114  
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151  
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060  
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036  
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041  
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057  
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167  
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354  
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272  
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141  
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361  
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363  
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037  
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004  
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031  
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162  
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227  
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212  
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011  
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305  
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143  
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255  
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132  
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353  
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232  
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301  
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331  
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371  
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303  
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014

\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273  
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103  
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072  
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111  
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161  
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121  
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250  
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342  
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177  
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030  
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234  
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171  
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027  
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332  
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112  
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066  
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334  
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041  
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320  
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340  
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126  
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204  
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150  
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273  
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315  
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305  
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311  
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164  
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053  
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167  
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340  
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076  
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312  
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200  
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024  
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000  
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253  
\233\141\374\022\121\065\344\045\375\257\252\152\206\071

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "HiPKI Root CA - G1"
Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
#
Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
Not Valid Before: Fri Feb 22 09:46:04 2019
Not Valid After : Thu Dec 31 15:59:59 2037
Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226
\343\345\322\140
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GlobalSign ECC Root CA - R4"
#
Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
Not Valid Before: Tue Nov 13 00:00:00 2012
Not Valid After : Tue Jan 19 03:14:07 2038

```

```
Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS
 CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER
 MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075
```

```
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R4"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2

# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign ECC Root CA - R4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
```

```

\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R1"
#
Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
Subject: CN=GTS Root R1,O=Google Trust
Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011  
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021  
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100  
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350  
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204  
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247  
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360  
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261  
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043  
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360  
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007  
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330  
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345  
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226  
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117  
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207  
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063  
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312  
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374  
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261  
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216  
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244  
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237  
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372  
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166  
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003  
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276  
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051  
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047  
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260  
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315  
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125  
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201  
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003

\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146  
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333  
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042  
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146  
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036  
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153  
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016  
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262  
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076  
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213  
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070  
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337  
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256  
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011  
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017  
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355  
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037  
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131  
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137  
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077  
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035  
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303  
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123  
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337  
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067  
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331  
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066  
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231  
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146  
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024  
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363  
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333  
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106  
\143\325\066\161\256\127\373\267\202\155\334

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R1"

# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17



```

Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R2"
#
Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS
CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056
```

\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153  
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255  
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344  
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343  
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011  
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240  
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150  
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116  
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325  
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121  
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334  
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350  
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073  
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351  
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126  
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131  
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252  
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232  
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312  
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336  
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252  
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031  
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377  
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246  
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307  
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346  
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173  
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074  
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250  
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356  
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202  
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201  
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316  
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256  
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311  
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153  
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040  
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172  
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351  
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257  
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107  
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070  
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372

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\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021
\354\236\355\005\035\344\310\326\035\206\313
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R2"

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed

Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
```

```

END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R3"
#
Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002

```

\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130  
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121  
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206  
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156  
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011  
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366  
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022  
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173  
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230  
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273  
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146  
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316  
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246  
\225\327\124\131\267\347\021\054\211\324\271\356\027

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R3"

# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "GTS Root R4"
#
Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
Not Valid Before: Wed Jun 22 00:00:00 2016
Not Valid After : Sun Jun 22 00:00:00 2036
Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
#
Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\064

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\064

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060  
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030  
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242  
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261  
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204  
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321  
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076  
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003  
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205  
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034  
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074



```
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103
```

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R4"

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Telia Root CA v2"

```
#
Issuer: CN=Telia Root CA v2,O=Telia Finland
Oyj,C=FI
Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
Not Valid Before: Thu Nov 29 11:55:54 2018
Not Valid After : Sun Nov 29 11:55:54 2043
Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154
```

\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031  
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122  
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342  
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155  
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152  
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312  
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241  
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175  
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230  
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031  
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275  
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244  
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325  
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203  
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074  
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135  
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123  
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204  
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011  
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050  
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154  
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345  
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302  
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134  
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156  
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272  
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203  
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020  
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321  
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012  
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267  
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110  
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154  
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116  
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243  
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024  
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057  
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162  
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206  
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066  
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011  
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062  
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204

\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142  
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333  
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070  
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014  
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346  
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131  
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122  
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240  
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321  
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212  
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335  
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123  
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205  
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226  
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170  
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053  
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020  
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133  
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055  
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244  
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124  
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123  
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306  
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224  
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026  
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146  
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337  
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200  
\254\023\356\120\024\036\230\307

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Telia Root CA v2"

# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Not Valid Before: Thu Nov 29 11:55:54 2018

# Not Valid After : Sun Nov 29 11:55:54 2043

# Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "D-TRUST BR Root CA 1 2020"
#
Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust
GmbH,C=DE
Not Valid Before: Tue Feb 11 09:45:00 2020
Not Valid After : Sun Feb 11 09:44:59 2035
Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164

```

\040\103\101\040\061\040\062\060\062\060  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113  
\115\226  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174  
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060  
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071  
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232  
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166  
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022  
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313  
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147  
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264  
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377  
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145

\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102  
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023  
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070  
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126  
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363  
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032  
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325  
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST BR Root CA 1 2020"

# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue Feb 11 09:45:00 2020

# Not Valid After : Sun Feb 11 09:44:59 2035

# Fingerprint (SHA-256):

E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44

# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST BR Root CA 1 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315  
\364\011\101\147

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
Certificate "D-TRUST EV Root CA 1 2020"
#
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END

```



CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137  
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061  
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071  
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227  
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246  
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202  
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063  
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017  
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303  
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067  
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105  
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052  
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331  
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200  
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221  
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002  
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133  
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST EV Root CA 1 2020"
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue
Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
\075\364\335\007
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS ECC P384 Root G5"
#
Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

```

```
Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL
CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
```

```
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270
\015\166\103\214\056\123\313\174\337\014\027\226\120
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS ECC P384 Root G5"

# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3

# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05

# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert

TLS ECC P384 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert TLS RSA4096 Root G5"
#
Issuer:
 CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID
 UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040

```

\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174  
\317\212  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010  
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023  
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123  
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034  
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101  
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364  
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076  
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011  
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110  
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264  
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034  
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345  
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051  
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267  
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210  
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114  
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374  
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247  
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103  
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024  
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351  
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350  
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016  
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364  
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361  
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367  
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376  
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035  
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351  
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212

\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327  
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155  
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371  
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136  
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175  
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037  
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313  
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257  
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127  
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221  
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160  
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012  
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352  
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307  
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301  
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253  
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305  
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041  
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113  
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020  
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346  
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045  
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244  
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206  
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360  
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157  
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021  
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272  
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276  
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011  
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366  
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160  
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167  
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265  
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205  
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312  
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334  
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212  
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330  
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214  
\332\062\376\303\153\203\077\070\306\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

```

CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert TLS RSA4096 Root G5"
Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert SMIME ECC
P384 Root G5"
#
Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

```



```
Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037
```

```
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert

SMIME ECC P384 Root G5"

# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DigiCert SMIME RSA4096 Root G5"
#
Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55
Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
#
Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004  
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107  
\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272  
\034\125

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005  
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023  
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060  
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\132  
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162  
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003  
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105  
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064  
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105  
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227  
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004  
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360  
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341  
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012  
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267  
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261  
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072  
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070  
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066  
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352  
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060  
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223  
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151  
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367  
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000  
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356

\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152  
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027  
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135  
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206  
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150  
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236  
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261  
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040  
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056  
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214  
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342  
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050  
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207  
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134  
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247  
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361  
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151  
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224  
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163  
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242  
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121  
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013  
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111  
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351  
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205  
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046  
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137  
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371  
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246  
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307  
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350  
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022  
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072  
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363  
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152  
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333  
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105  
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132  
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030  
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100  
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315  
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216  
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017  
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106

```
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331
\014\122\100\037\335\116\017\147\046\026\322\255\027\034
END
```

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER

CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert SMIME RSA4096 Root G5"

# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A

# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106
\206\320\127\010
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
Certificate "Certainly Root R1"
#
Issuer: CN=Certainly Root R1,O=Certainly,C=US
Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
Subject: CN=Certainly Root R1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
#
Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000
\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036
\027\015\062\061\060\064\060\061\060\060\060\060\060\060\132\027
\015\064\066\060\064\060\061\060\060\060\060\060\060\132\060\075
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060

```

\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154  
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164  
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066  
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152  
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201  
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023  
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052  
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056  
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235  
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241  
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154  
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364  
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015  
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364  
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371  
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212  
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246  
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171  
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064  
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211  
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220  
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171  
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244  
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111  
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260  
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265  
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100  
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264  
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027  
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207  
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047  
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204  
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021  
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233  
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256  
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022  
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053  
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335  
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131  
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335  
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266



\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025  
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042  
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351  
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114  
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335  
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132  
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042  
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142  
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200  
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245  
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173  
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012  
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015  
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143  
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152  
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346  
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047  
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115  
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301  
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362  
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044  
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112  
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147  
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137  
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051  
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272  
\071\137\212\231\251\101\131\007\260\054\257

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root R1"

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not

Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root R1"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272
\314\206\102\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Certainly Root E1"
#
Issuer: CN=Certainly Root E1,O=Certainly,C=US
Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
Subject: CN=Certainly Root E1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151  
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277  
\314\370

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006  
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060  
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003  
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032  
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156  
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061  
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060  
\064\060\061\060\060\060\060\060\060\132\060\075\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125  
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060  
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154  
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212  
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142  
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033  
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066  
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004  
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344  
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070  
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003  
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031  
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346  
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322  
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135  
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206  
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173  
\125\330\001\056\175\005\144\016\206\270\221

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

Trust for "Certainly Root E1"
Issuer: CN=Certainly
 Root E1,O=Certainly,C=US
Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
Subject: CN=Certainly Root E1,O=Certainly,C=US
Not Valid Before: Thu Apr 01 00:00:00 2021
Not Valid After : Sun Apr 01 00:00:00 2046
Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "E-Tugra Global Root CA RSA v3"
#
Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:07:17 2020
Not Valid After : Sun Mar 12 09:07:17 2045

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```
Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
Fingerprint (SHA1):
E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_VALUE MULTILINE_OCTAL
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\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060
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\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122  
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060  
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071  
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006  
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023  
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123  
\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165  
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162  
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147  
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173  
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215  
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056  
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061  
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135  
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075  
\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174  
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047  
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364  
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277  
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061  
\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076  
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113  
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145  
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061  
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306  
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006  
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323  
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\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276  
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126  
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116  
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151  
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065  
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012  
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133  
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207  
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007  
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336  
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005  
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250  
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124  
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143  
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003

\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123  
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262  
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041  
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030  
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232  
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220  
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161  
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057  
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174  
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006  
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165  
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320  
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167  
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357  
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344  
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242  
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203  
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375  
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220  
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175  
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320  
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015  
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303  
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000  
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076  
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170  
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305  
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257  
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261  
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014  
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122  
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060  
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074  
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221  
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040  
\317\073\357\201\161\203\131

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA RSA v3"

# Issuer: CN=E-Tugra

```
Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:07:17 2020
Not Valid After : Sun Mar 12 09:07:17 2045
Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "E-Tugra Global Root CA ECC v3"
#
Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
```



```
Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:46:58 2020
Not Valid After : Sun Mar 12 09:46:58 2045
Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141
```

\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147  
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006  
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162  
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003  
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157  
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040  
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066  
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065  
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105  
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051  
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020  
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303  
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107  
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012  
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342  
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377  
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245  
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202  
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220  
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151  
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313  
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232  
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372  
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145  
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307  
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161  
\276\150\344\043\244\331\255\241\067

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA ECC v3"

# Issuer: CN=E-Tugra Global

Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

```
Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:46:58 2020
Not Valid After : Sun Mar 12 09:46:58 2045
Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"
#
Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
Serial
Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 10:50:34 2021
```

```
Not Valid After : Mon Jan 15 10:50:34 2046
Fingerprint (SHA-256):
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041
```

\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164  
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141  
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111  
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122  
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323  
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170  
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134  
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250  
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350  
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366  
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032  
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056  
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045  
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147  
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010  
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140  
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042  
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365  
\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320  
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205  
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061  
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115  
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004  
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012  
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204  
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245  
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047  
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307  
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076  
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160  
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267  
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132  
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121  
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363  
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316  
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030  
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001  
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026  
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024  
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004  
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332  
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001  
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370  
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341

\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360  
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322  
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363  
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065  
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111  
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004  
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177  
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240  
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124  
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150  
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171  
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205  
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153  
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324  
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111  
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127  
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072  
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233  
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156  
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047  
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244  
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004  
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025  
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001  
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054  
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216  
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256  
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040  
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066  
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236  
\176\113\144\244\125\135\053\027\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

#

Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
Not Valid Before: Thu Jan 21 11:07:50 2021
Not Valid After : Mon Jan 15 11:07:50 2046
Fingerprint
(SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055  
\344\353\372\235\266\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066  
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372  
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060  
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052  
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154  
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157  
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003  
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116  
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104  
\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061\061  
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061  
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104  
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151  
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154  
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124  
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117  
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215  
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111  
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311  
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206



```
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314
\065\352\216\044\233\345\010\131\307\004\214\163\170\376
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 11:07:50 2021

# Not Valid After : Mon Jan 15 11:07:50 2046

# Fingerprint (SHA-256):

26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE

# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000
\057\322\112\212
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
```

```
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Security Communication RootCA3"

#

#

Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:e1:7c:37:40:fd:1b:fe:67

# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 06:17:16 2016

# Not Valid After : Mon Jan 18 06:17:16 2038

# Fingerprint (SHA-256):

24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94

# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
```

\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\011\000\341\174\067\100\375\033\376\147  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000  
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060  
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122  
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066  
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060  
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004  
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034  
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164  
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045  
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040  
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157  
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251  
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065  
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053  
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371  
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164  
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300  
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064  
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120  
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006  
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301  
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075  
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173  
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132  
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041  
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273  
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124  
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374  
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270  
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021  
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340  
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036  
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017  
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355  
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055

\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270  
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055  
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314  
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137  
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115  
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320  
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122  
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021  
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162  
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202  
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322  
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151  
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132  
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300  
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311  
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115  
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235  
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255  
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065  
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010  
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072  
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112  
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076  
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134  
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010  
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036  
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047  
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156  
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337  
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074  
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062  
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025  
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273  
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123  
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303  
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166  
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020  
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377  
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076  
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045  
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235  
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063  
\235\115\146

END

```

CKA_NSS_MOZILLA_CA_POLICY
CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication RootCA3"
Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number:00:e1:7c:37:40:fd:1b:fe:67
Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 06:17:16 2016
Not Valid After : Mon Jan 18 06:17:16 2038
Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
#
Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
Certificate "Security Communication ECC RootCA1"
#
Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

```

```
Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Thu Jun 16 05:15:28 2016
Not Valid After : Mon Jan 18 05:15:28 2038
Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070
```

\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060  
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105  
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053  
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216  
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145  
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136  
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334  
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112  
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243  
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004  
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356  
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052  
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375  
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016  
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104  
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142  
\033\022\372\026\115\045\113\143\275\036\067\331

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication ECC RootCA1"

# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb

# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 05:15:28 2016

# Not Valid After : Mon Jan 18 05:15:28 2038

# Fingerprint (SHA-256):

E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11

# Fingerprint (SHA1):

B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication ECC RootCA1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366  
\035\015\101\101

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023  
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164  
\103\101\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\326\135\233\263\170\201\056\353

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "BJCA Global Root CA1"

#

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:16:17 2019

# Not Valid After : Mon Dec 12 03:16:17 2044

# Fingerprint (SHA-256):

F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE

# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "BJCA Global Root CA1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116  
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125  
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003  
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157  
\157\164\040\103\101\061



END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116  
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125  
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003  
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157  
\157\164\040\103\101\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300  
\154\040

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125  
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060  
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040  
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110  
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024  
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063  
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061  
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023  
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105  
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124  
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006  
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141  
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331  
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372  
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210  
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031  
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206  
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176  
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271  
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077  
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372  
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021  
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124  
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027  
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145  
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260  
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144

\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352  
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056  
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023  
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312  
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157  
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050  
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277  
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203  
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350  
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116  
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127  
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361  
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347  
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211  
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125  
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376  
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300  
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305  
\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223  
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362  
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270  
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014  
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002  
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142  
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301  
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251  
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156  
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310  
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313  
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074  
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363  
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375  
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015  
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072  
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204  
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250  
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322  
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161  
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310  
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361  
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074  
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163  
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342  
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362

```
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362
\257\376\263\160\054\056\246\362
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA1"

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:16:17

2019

# Not Valid After : Mon Dec 12 03:16:17 2044

# Fingerprint (SHA-256):

F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE

# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "BJCA Global Root CA1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
```

```

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

#
Certificate "BJCA Global Root CA2"
#
Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
Not Valid Before: Thu Dec 19 03:18:21 2019
Not Valid After : Mon Dec 12 03:18:21 2044
Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054

```

\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060  
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060  
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003  
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122  
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111  
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103  
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101  
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062  
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061  
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116  
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111  
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101  
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004  
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235  
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101  
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213  
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103  
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276  
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347  
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112  
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324  
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003  
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112  
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200  
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261  
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337  
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301  
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253  
\074\310\100\332\141\367\123\243\367

END

CKA\_NSS\_Mozilla\_CA\_POLICY

CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA2"

# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb

# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:18:21 2019

# Not Valid After : Mon Dec 12 03:18:21 2044

# Fingerprint (SHA-256):

57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82

```

Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

Found in path(s):

```

* /opt/cola/permits/1939000431_1710807763.614011/0/ca-certificates-bundle-20230506-r0-os-alpine-3-18-0-tar-
xz/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt

```

# 1.325 grpc-netty 1.62.2

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Found in path(s):

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/AbstractHttp2Headers.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/GrpcHttp2OutboundHeaders.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/StreamIdHolder.java  
\*  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/ForcefulCloseCommand.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/GracefulCloseCommand.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/GrpcHttp2ConnectionHandler.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/InternalNettyServerBuilder.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/ClientTransportLifecycleManager.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/InternalNettyChannelBuilder.java  
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Found in path(s):

```
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/NettySslContextServerCredentials.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/InternalNettyChannelCredentials.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/InternalNettyServerCredentials.java
*
/opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/NettyAdaptiveCumulator.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/InsecureFromHttp1ChannelCredentials.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/NettySslContextChannelCredentials.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/NettyChannelCredentials.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/NettyServerCredentials.java
```

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```
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/UnhelpfulSecurityProvider.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/FixedKeyManagerFactory.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/InternalGracefulServerCloseCommand.java
*
/opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/FixedTrustManagerFactory.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/GracefulServerCloseCommand.java
```



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```
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/UdsNameResolverProvider.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/UdsNameResolver.java
```

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```
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/InternalProtocolNegotiators.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/InternalProtocolNegotiationEvent.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/WriteBufferingAndExceptionHandler.java
```

\*  
/opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/ProtocolNegotiationEvent.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/InternalProtocolNegotiator.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/InternalWriteBufferingAndExceptionHandlerUtils.java  
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\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyReadableBuffer.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/SendGrpcFrameCommand.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyServerHandler.java  
\*  
/opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NegotiationType.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyClientHandler.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyServerBuilder.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyChannelBuilder.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyServerTransport.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/Utils.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyServer.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/SendResponseHeadersCommand.java

\*  
/opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyServerStream.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyClientTransport.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/CancelClientStreamCommand.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/CreateStreamCommand.java  
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\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/InternalNettySocketSupport.java  
\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettySocketSupport.java  
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\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/Http2ControlFrameLimitEncoder.java

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\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/GrpcSslContexts.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/package-info.java

\*

/opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyWritableBuffer.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/ProtocolNegotiator.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyWritableBufferAllocator.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/UdsNettyChannelProvider.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/JettyTlsUtil.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/SendPingCommand.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/CancelServerStreamCommand.java

\* /opt/cola/permits/1939736452\_1710848910.8257916/0/grpc-netty-1-62-2-sources-jar/io/grpc/netty/NettyClientStream.java

\*

```
/opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/WriteQueue.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/ProtocolNegotiators.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/AbstractNettyHandler.java
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/NettyServerProvider.java
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```
* /opt/cola/permits/1939736452_1710848910.8257916/0/grpc-netty-1-62-2-sources-
jar/io/grpc/netty/GrpcHttp2HeadersUtils.java
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# 1.326 grpc-util 1.62.2

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Found in path(s):

```
* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-jar/io/grpc/util/package-info.java
* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
jar/io/grpc/util/TransmitStatusRuntimeExceptionInterceptor.java
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```
* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
jar/io/grpc/util/OutlierDetectionLoadBalancer.java
* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
```

jar/io/grpc/util/OutlierDetectionLoadBalancerProvider.java

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\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-jar/io/grpc/util/ForwardingLoadBalancerHelper.java

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-jar/io/grpc/util/ForwardingLoadBalancer.java

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-jar/io/grpc/util/SecretRoundRobinLoadBalancerProvider.java

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\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-jar/io/grpc/util/AdvancedTlsX509KeyManager.java

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-

jar/io/grpc/util/CertificateUtils.java

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-

jar/io/grpc/util/AdvancedTlsX509TrustManager.java

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Found in path(s):

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-

jar/io/grpc/util/RoundRobinLoadBalancer.java

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Found in path(s):

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-

jar/io/grpc/util/HealthProducerHelper.java

\* /opt/cola/permits/1939736462\_1710848908.4418268/0/grpc-util-1-62-2-sources-

jar/io/grpc/util/MultiChildLoadBalancer.java



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* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
jar/io/grpc/util/GracefulSwitchLoadBalancer.java
* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
jar/io/grpc/util/ForwardingSubchannel.java
* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
jar/io/grpc/util/ForwardingClientStreamTracer.java
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* /opt/cola/permits/1939736462_1710848908.4418268/0/grpc-util-1-62-2-sources-
jar/io/grpc/util/MutableHandlerRegistry.java
```

# 1.327 hazelcast-jet-kafka 5.3.6

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```

com.hazelcast.jet.kafka.impl.KafkaDataConnectionRegistration

Found in path(s):

```
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-jar/META-INF/services/com.hazelcast.dataconnection.DataConnectionRegistration
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Found in path(s):

```
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-jar/com/hazelcast/jet/kafka/impl/WriteKafkaP.java
```

```
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/impl/HazelcastJsonValueSerializer.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/impl/KafkaDataConnectionRegistration.java
*
/opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/impl/NonClosingKafkaProducer.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/impl/ResumeTransactionUtil.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/TopicsConfig.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/impl/StreamKafkaP.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/KafkaDataConnection.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/impl/HazelcastJsonValueDeserializer.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/package-info.java
*
/opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/KafkaSinks.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
jar/com/hazelcast/jet/kafka/KafkaProcessors.java
* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-
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* /opt/cola/permits/1942992369_1710969541.1455948/0/hazelcast-jet-kafka-5-3-6-sources-jar/META-
INF/maven/com.hazelcast.jet/hazelcast-jet-kafka/pom.xml
```

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Apache-2.0  
Apache Kafka:3.4.0  
LZ4 and xxHash:1.8.0  
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/opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/thread/ShutdownThread.java  
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\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/component/StopLifeCycle.java  
\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/LegacyQuotedStringTokenizer.java  
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\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/AtomicBiInteger.java  
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/opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/preventers/AWTLeakPreventer.java  
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\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/resource/MountedPathResource.java  
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\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/component/HaltLifeCycleListener.java  
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\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/thread/ExecutorThreadPool.java  
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* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/ConcurrentPool.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-jar/org/eclipse/jetty/util/IO.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/Scanner.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/CharsetStringBuilder.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/BlockingArrayQueue.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/AttributesMap.java
*
/opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/thread/PrivilegedThreadFactory.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/thread/ThreadPool.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/thread/package-info.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/preventers/package-info.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/Callback.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/thread/TimerScheduler.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/annotation/ManagedObject.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/component/Graceful.java
*
/opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/resource/Resources.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/thread/ScheduledExecutorScheduler.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/BufferUtil.java
* /opt/cola/permits/1950142083_1711455613.6336515/0/jetty-util-12-0-7-sources-
jar/org/eclipse/jetty/util/TopologicalSort.java
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/*
* @(#)UnixCrypt.java 0.9 96/11/25
*
```

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\*/

Found in path(s):

\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-  
jar/org/eclipse/jetty/util/security/UnixCrypt.java

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/\*\*

\* Ensures serial invocation of submitted tasks.

\* <p>

\* The { @link InvocationType } of the { @link Runnable } returned from this class is  
\* always { @link InvocationType#BLOCKING } since a blocking task may be added to the queue  
\* at any time.

\* <p>

\* This class was inspired by the public domain class

\* <a href="https://github.com/jroper/reactive-streams-servlet/blob/master/reactive-streams-  
servlet/src/main/java/org/reactivestreams/servlet/NonBlockingMutexExecutor.java">NonBlockingMutexExecutor</  
a>

\* </p>

\*/

Found in path(s):

\* /opt/cola/permits/1950142083\_1711455613.6336515/0/jetty-util-12-0-7-sources-  
jar/org/eclipse/jetty/util/thread/SerializedInvoker.java

## 1.330 jetty-security 12.0.7

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Found in path(s):

\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/JDBCLoginService.java

\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-

```

jar/org/eclipse/jetty/security/jaas/spi/package-info.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/AbstractLoginService.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/authentication/SessionAuthentication.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/spi/AbstractDatabaseLoginModule.java
*
/opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/spi/PropertyFileLoginModule.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/RolePrincipal.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/callback/RequestCallback.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/SPNEGOUserPrincipal.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/SPNEGOLoginService.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/spi/DataSourceLoginModule.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/UserPrincipal.java
*
/opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/internal/RoleRunAsToken.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/DefaultAuthenticatorFactory.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/package-info.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/PropertyUserStoreManager.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/spi/JDBCLoginModule.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/JAASPrincipal.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/authentication/BasicAuthenticator.java
*
/opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/authentication/SslClientCertAuthenticator.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/internal/DeferredAuthenticationState.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-jar/module-info.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/callback/ObjectCallback.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/jaas/callback/package-info.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-

```

jar/org/eclipse/jetty/security/jaas/JAASLoginService.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/callback/DefaultCallbackHandler.java  
\*  
/opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/package-info.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/spi/LdapLoginModule.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/HashLoginService.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/JAASRole.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/authentication/package-info.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/callback/RequestParameterCallback.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/Authenticator.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/AuthenticationState.java  
\*  
/opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/UserIdentity.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/internal/DefaultUserIdentity.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/PropertyUserStore.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/callback/AbstractCallbackHandler.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/EmptyLoginService.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/SecurityHandler.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/spi/AbstractLoginModule.java  
\*  
/opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/RoleDelegateUserIdentity.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/jaas/JAASUserPrincipal.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/ServerAuthException.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/authentication/DigestAuthenticator.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/LoginService.java  
\* /opt/cola/permits/1950142090\_1711455671.588662/0/jetty-security-12-0-7-sources-  
jar/org/eclipse/jetty/security/authentication/LoginAuthenticator.java

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* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/Constraint.java
*
/opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/authentication/FormAuthenticator.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/authentication/SPNEGOAuthenticator.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/DefaultIdentityService.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/IdentityService.java
* /opt/cola/permits/1950142090_1711455671.588662/0/jetty-security-12-0-7-sources-
jar/org/eclipse/jetty/security/UserStore.java
```

## 1.331 jetty 12.0.7

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```

Found in path(s):

```
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/ByteBufferPool.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/SocketChannelEndPoint.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/AbstractEndPoint.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/content/ContentSinkSubscriber.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/content/OutputStreamContentSource.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/SelectorManager.java
*
/opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/internal/ContentSourceString.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/WriteFlusher.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/ssl/SslConnection.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/ByteBufferAggregator.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/CyclicTimeouts.java
```

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/IdleTimeout.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ClientConnector.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/Retainable.java

\*

/opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/EofException.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ByteBufferOutputStream2.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ClientConnectionFactory.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/NetworkTrafficSocketChannelEndPoint.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/ContentSinkOutputStream.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/jmx/ConnectionStatisticsMBean.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/package-info.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/AbstractConnection.java

\*

/opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ByteBufferOutputStream.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ByteBufferCallbackAccumulator.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/ContentSourceCompletableFuture.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/ByteBufferContentSource.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ssl/SslHandshakeListener.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/AsyncContent.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ConnectionStatistics.java

\*

/opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/Connection.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/ContentSourceInputStream.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/RuntimeIOException.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ssl/SslClientConnectionFactory.java

\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-

```

jar/org/eclipse/jetty/io/ssl/ALPNProcessor.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/module-info.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/ByteBufferInputStream.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/ArrayByteBufferPool.java
*
/opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/DatagramChannelEndPoint.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/NetworkTrafficListener.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/SelectableChannelEndPoint.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/WriteThroughWriter.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/internal/QueuedPool.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ssl/package-
info.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/Transport.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/QuietException.java
*
/opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/Content.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/internal/ContentSourceConsumer.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/NegotiatingClientConnectionFactory.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/NegotiatingClientConnection.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/AbstractRetainableByteBuffer.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/internal/ContentCopier.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/content/PathContentSource.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/EndPoint.java
*
/opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/internal/ContentSourceByteBuffer.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/content/ContentSourcePublisher.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/content/ChunksContentSource.java
* /opt/cola/permits/1950142076_1711455667.9896338/0/jetty-io-12-0-7-sources-
jar/org/eclipse/jetty/io/CyclicTimeout.java

```



\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/internal/ByteBufferChunk.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/internal/CompoundPool.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ChunkAccumulator.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/internal/NonRetainableByteBuffer.java  
\*  
/opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/WriterOutputStream.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/FillInterest.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ManagedSelector.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/ContentSourceTransformer.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/BufferedContentSink.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/RetainableByteBuffer.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/MemoryEndPointPipe.java  
\*  
/opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/content/InputStreamContentSource.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ByteBufferAccumulator.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/IncludeExcludeConnectionStatistics.java  
\* /opt/cola/permits/1950142076\_1711455667.9896338/0/jetty-io-12-0-7-sources-jar/org/eclipse/jetty/io/ByteArrayEndPoint.java

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