



RFC 26 - An Execution Environment (J2ME CDC/FP)

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163 Pages

Abstract

This document proposes the Java™ 2 Micro Edition Connected Device Configuration/Foundation Profile (J2ME™ CDC/Foundation Profile) as an OSGi standard Execution Environment for bundles.

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0.2 Status

This document specifies the J2ME CDC Foundation Profile as an Execution Environment for bundles for the Open Services Gateway Initiative, and requests discussion and suggestions for improvements. Distribution of this document is unlimited within OSGi.

0.3 Acknowledgement

0.4 Terminology and Document Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “NOT RECOMMENDED”, “MAY” and “OPTIONAL” in this document are to be interpreted as described in [1].

Source code is shown in this typeface.

0.5 Revision History

The last named individual in this history is currently responsible for this document.

Revision	Date	Comments
Initial draft based on CDC	Jun 12, 2001	David Bowen, Sun Microsystems, Inc.
Re-submission draft based on CDC/Foundation Profile	Dec 06 2001	Kirk Chen, Sun Microsystems, Inc.

1 Introduction

This document proposes the Java 2 Micro Edition (J2ME) Connected Device Configuration (CDC) [2] Foundation Profile [3] 1.0 as an Execution Environment for OSGi bundles.

2 Motivation and Rationale

It is the goal of OSGi to define one or more “platforms” such that implementations can be certified as conformant to the platform, and bundle developers can write bundles that can be expected to run on any conformant implementation. Any such platform must specify a required subset of the core Java libraries. RFC 6 [4] defines the concept of an Execution Environment, which is a formal way of specifying such a subset, and this document proposes that we standardize on one comprising the APIs in J2ME CDC/Foundation Profile version 1.0. The Execution Environment itself is a set of Java source files. This RFC does not list all those source files, but instead lists their public/protected APIs in a more readable and concise format. The actual Execution Environment can be regarded as an implementation of this RFC.

The advantages for OSGi to specify CDC/Foundation Profile as the Execution Environment are the following:

- J2ME CDC/Foundation Profile is developed by JCP (<http://www.jcp.org>), an open process not controlled by any one company, including Sun.
- CDC/Foundation Profile is bigger than RFC 39, but the additional features are important. For example, during deployment we may need to look beyond the gateways for an end-to-end solution that includes management and provisioning. Then the `java.security` classes are needed for using certificates and public key crypto to ensure security between backend servers and the gateways.
- Our experience here at Sun shows that it takes time for compatibility tests of a platform to mature. This work has already been done for CDC/Foundation Profile. This can be considerable savings in effort for OSGi to have a predictable and unambiguous Java platform from both technical and legal perspectives.
- Having additional functionality makes the platform future-proof. We can measure the bundles that have been developed as of today, but not those that have not been written. Ultimately the competition will be the key force driving down the cost, rather than 1 mb more or less in memory capacity. Feature-rich bundles are probably essential for that market to emerge.

3 Technical Discussion

The J2ME CDC/Foundation Profile is a subset of Java™ 2 Standard Edition 1.3 API [5], except for support for the Generic Connections framework from J2ME CLDC. The Generic Connection framework is a small library, originally designed to allow support for a variety of communications protocols on very small devices such as cell phones. The required protocols in CDC/Foundation Profile are “file:”, “socket:”, and “http:”. The Foundation Profile contains 429 classes, while J2SE™ has 1946 and CDC has 305 classes respectively.

The following table compares the classes in the Foundation Profile with J2SE by package. If the only differences from J2SE are the removed deprecated APIs, we consider the Foundation Profile package to be complete.

Package	Comparison with J2SE
<code>java.io</code>	complete
<code>java.lang</code>	complete
<code>java.lang.ref</code>	complete
<code>java.lang.reflect</code>	complete

java.math	BigInteger included, BigDecimal removed
java.net	complete
java.security	complete
java.security.acl	complete
java.security.cert	complete
java.security.interfaces	complete
java.security.spec	complete
java.text	complete
java.util	complete
java.util.jar	complete
java.util.zip	complete
javax.microedition.io	not in J2SE

3.1 Package java.io

3.1.1 java.io.BufferedInputStream

public class java.io.BufferedInputStream extends java.io.FilterInputStream	
protected byte	buf
protected int	count
protected int	marklimit
protected int	markpos
protected int	pos
public	BufferedInputStream (java.io.InputStream)
public	BufferedInputStream (java.io.InputStream, int)
public int	available() throws java.io.IOException
public void	close() throws java.io.IOException
public void	mark (int)
public boolean	markSupported()
public int	read() throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
public void	reset() throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.1.2 java.io.BufferedOutputStream

public class java.io.BufferedOutputStream extends java.io.FilterOutputStream	
protected byte	buf
protected int	count
public	BufferedOutputStream (java.io.OutputStream)
public	BufferedOutputStream (java.io.OutputStream, int)
public void	flush() throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.1.3 java.io.BufferedReader

public class java.io.BufferedReader extends java.io.Reader	
public	BufferedReader (java.io.Reader, int)
public	BufferedReader (java.io.Reader)
public void	close () throws java.io.IOException
public void	mark (int) throws java.io.IOException
public boolean	markSupported ()
public int	read () throws java.io.IOException
public int	read (char[], int, int) throws java.io.IOException
public java.lang.String	readLine () throws java.io.IOException
public boolean	ready () throws java.io.IOException
public void	reset () throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.1.4 java.io.BufferedWriter

public class java.io.BufferedWriter extends java.io.Writer	
public	BufferedWriter (java.io.Writer)
public	BufferedWriter (java.io.Writer, int)
public void	close () throws java.io.IOException
public void	flush () throws java.io.IOException
public void	newLine () throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (char[], int, int) throws java.io.IOException
public void	write (java.lang.String, int, int) throws java.io.IOException

3.1.5 java.io.ByteArrayInputStream

public class java.io.ByteArrayInputStream extends java.io.InputStream	
protected byte	buf
protected int	count
protected int	mark
protected int	pos
public	ByteArrayInputStream (byte[])
public	ByteArrayInputStream (byte[], int, int)
public int	available ()
public void	close () throws java.io.IOException
public void	mark (int)
public boolean	markSupported ()
public int	read ()
public int	read (byte[], int, int)
public void	reset ()



public long	skip (long)
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3.1.6 java.io.ByteArrayOutputStream

public class java.io.ByteArrayOutputStream extends java.io.OutputStream	
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protected byte	buf
protected int	count
public	ByteArrayOutputStream()
public	ByteArrayOutputStream(int)
public void	close() throws java.io.IOException
public void	reset()
public int	size()
public byte	toByteArray()
public java.lang.String	toString()
public java.lang.String	toString(java.lang.String) throws java.io.UnsupportedEncodingException
public void	write(int)
public void	write(byte[], int, int)
public void	writeTo(java.io.OutputStream) throws java.io.IOException

3.1.7 java.io.CharArrayReader

public class java.io.CharArrayReader extends java.io.Reader	
--	--

protected char	buf
protected int	count
protected int	markedPos
protected int	pos
public	CharArrayReader(char[])
public	CharArrayReader(char[], int, int)
public void	close()
public void	mark(int) throws java.io.IOException
public boolean	markSupported()
public int	read() throws java.io.IOException
public int	read(char[], int, int) throws java.io.IOException
public boolean	ready() throws java.io.IOException
public void	reset() throws java.io.IOException
public long	skip(long) throws java.io.IOException

3.1.8 java.io.CharArrayWriter

public class java.io.CharArrayWriter extends java.io.Writer	
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protected char	buf
protected int	count
public	CharArrayWriter()

public	CharArrayWriter (int)
public void	close ()
public void	flush ()
public void	reset ()
public int	size ()
public char	toCharArray ()
public java.lang.String	toString ()
public void	write (int)
public void	write (char[], int, int)
public void	write (java.lang.String, int, int)
public void	writeTo (java.io.Writer) throws java.io.IOException

3.1.9 java.io.CharConversionException

public class java.io.CharConversionException extends java.io.IOException	
public	CharConversionException ()
public	CharConversionException (java.lang.String)

3.1.10 java.io.DataInput

public abstract interface java.io.DataInput	
public boolean	readBoolean () throws java.io.IOException
public byte	readByte () throws java.io.IOException
public char	readChar () throws java.io.IOException
public double	readDouble () throws java.io.IOException
public float	readFloat () throws java.io.IOException
public void	readFully (byte[]) throws java.io.IOException
public void	readFully (byte[], int, int) throws java.io.IOException
public int	readInt () throws java.io.IOException
public java.lang.String	readLine () throws java.io.IOException
public long	readLong () throws java.io.IOException
public short	readShort () throws java.io.IOException
public java.lang.String	readUTF () throws java.io.IOException
public int	readUnsignedByte () throws java.io.IOException
public int	readUnsignedShort () throws java.io.IOException
public int	skipBytes (int) throws java.io.IOException

3.1.11 java.io.DataInputStream

public class java.io.DataInputStream extends java.io.FilterInputStream implements java.io.DataInput	
public	DataInputStream (java.io.InputStream)
public final int	read (byte[]) throws java.io.IOException
public final int	read (byte[], int, int) throws java.io.IOException

public final boolean	readBoolean() throws java.io.IOException
public final byte	readByte() throws java.io.IOException
public final char	readChar() throws java.io.IOException
public final double	readDouble() throws java.io.IOException
public final float	readFloat() throws java.io.IOException
public final void	readFully(byte[]) throws java.io.IOException
public final void	readFully(byte[], int, int) throws java.io.IOException
public final int	readInt() throws java.io.IOException
public final java.lang.String	readLine() throws java.io.IOException
public final long	readLong() throws java.io.IOException
public final short	readShort() throws java.io.IOException
public final java.lang.String	readUTF() throws java.io.IOException
public static final java.lang.String	readUTF(java.io.DataInput) throws java.io.IOException
public final int	readUnsignedByte() throws java.io.IOException
public final int	readUnsignedShort() throws java.io.IOException
public final int	skipBytes(int) throws java.io.IOException

3.1.12 java.io.DataOutput

public abstract interface java.io.DataOutput	
public void	write(int) throws java.io.IOException
public void	write(byte[]) throws java.io.IOException
public void	write(byte[], int, int) throws java.io.IOException
public void	writeBoolean(boolean) throws java.io.IOException
public void	writeByte(int) throws java.io.IOException
public void	writeBytes(java.lang.String) throws java.io.IOException
public void	writeChar(int) throws java.io.IOException
public void	writeChars(java.lang.String) throws java.io.IOException
public void	writeDouble(double) throws java.io.IOException
public void	writeFloat(float) throws java.io.IOException
public void	writeInt(int) throws java.io.IOException
public void	writeLong(long) throws java.io.IOException
public void	writeShort(int) throws java.io.IOException
public void	writeUTF(java.lang.String) throws java.io.IOException

3.1.13 java.io.DataOutputStream

public class java.io.DataOutputStream extends java.io.FilterOutputStream implements java.io.DataOutput	
protected int	written
public	DataOutputStream(java.io.OutputStream)
public void	flush() throws java.io.IOException
public final int	size()



public void	write (int) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException
public final void	writeBoolean (boolean) throws java.io.IOException
public final void	writeByte (int) throws java.io.IOException
public final void	writeBytes (java.lang.String) throws java.io.IOException
public final void	writeChar (int) throws java.io.IOException
public final void	writeChars (java.lang.String) throws java.io.IOException
public final void	writeDouble (double) throws java.io.IOException
public final void	writeFloat (float) throws java.io.IOException
public final void	writeInt (int) throws java.io.IOException
public final void	writeLong (long) throws java.io.IOException
public final void	writeShort (int) throws java.io.IOException
public final void	writeUTF (java.lang.String) throws java.io.IOException

3.1.14 java.io.EOFException

public class java.io.EOFException extends java.io.IOException	
public	EOFException ()
public	EOFException (java.lang.String)

3.1.15 java.io.Externalizable

public abstract interface java.io.Externalizable extends java.io.Serializable	
public void	readExternal (java.io.ObjectInput) throws java.io.IOException, java.lang.ClassNotFoundException
public void	writeExternal (java.io.ObjectOutput) throws java.io.IOException

3.1.16 java.io.File

public class java.io.File extends java.lang.Object implements java.io.Serializable, java.lang.Comparable	
public static final java.lang.String	pathSeparator
public static final char	pathSeparatorChar
public static final java.lang.String	separator
public static final char	separatorChar
public	File (java.lang.String)
public	File (java.lang.String, java.lang.String)
public	File (java.io.File, java.lang.String)
public boolean	canRead ()
public boolean	canWrite ()
public int	compareTo (java.io.File)
public int	compareTo (java.lang.Object)
public boolean	createNewFile () throws java.io.IOException
public static java.io.File	createTempFile (java.lang.String, java.lang.String, java.io.File) throws java.io.IOException



public static java.io.File	createTempFile (java.lang.String, java.lang.String) throws java.io.IOException
public boolean	delete ()
public void	deleteOnExit ()
public boolean	equals (java.lang.Object)
public boolean	exists ()
public java.io.File	getAbsoluteFile ()
public java.lang.String	getAbsolutePath ()
public java.io.File	getCanonicalFile () throws java.io.IOException
public java.lang.String	getCanonicalPath () throws java.io.IOException
public java.lang.String	getName ()
public java.lang.String	getParent ()
public java.io.File	getParentFile ()
public java.lang.String	getPath ()
public int	hashCode ()
public boolean	isAbsolute ()
public boolean	isDirectory ()
public boolean	isFile ()
public boolean	isHidden ()
public long	lastModified ()
public long	length ()
public java.lang.String	list ()
public java.lang.String	list (java.io FilenameFilter)
public java.io.File	listFiles ()
public java.io.File	listFiles (java.io FilenameFilter)
public java.io.File	listFiles (java.io FileFilter)
public static java.io.File	listRoots ()
public boolean	mkdir ()
public boolean	makedirs ()
public boolean	renameTo (java.io.File)
public boolean	setLastModified (long)
public boolean	setReadOnly ()
public java.lang.String	toString ()
public java.net.URL	toURL () throws java.net.MalformedURLException

3.1.17 java.io.FileDescriptor

public final class java.io.FileDescriptor extends java.lang.Object	
public static final java.io.FileDescriptor	err
public static final java.io.FileDescriptor	in



public static final java.io.FileDescriptor	out
public	FileDescriptor()
public void	sync() throws java.io.SyncFailedException
public boolean	valid()

3.1.18 java.io.FileFilter

public abstract interface java.io.FileFilter	
public boolean	accept (java.io.File)

3.1.19 java.io.FileInputStream

public class java.io.FileInputStream extends java.io.InputStream	
public	FileInputStream (java.lang.String) throws java.io.FileNotFoundException
public	FileInputStream (java.io.File) throws java.io.FileNotFoundException
public	FileInputStream (java.io.FileDescriptor)
public int	available() throws java.io.IOException
public void	close() throws java.io.IOException
protected void	finalize() throws java.io.IOException
public final java.io.FileDescriptor	getFD() throws java.io.IOException
public int	read() throws java.io.IOException
public int	read (byte[]) throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.1.20 java.io.FileNotFoundException

public class java.io.FileNotFoundException extends java.io.IOException	
public	FileNotFoundException()
public	FileNotFoundException (java.lang.String)

3.1.21 java.io.FileOutputStream

public class java.io.FileOutputStream extends java.io.OutputStream	
public	FileOutputStream (java.lang.String) throws java.io.FileNotFoundException
public	FileOutputStream (java.lang.String, boolean) throws java.io.FileNotFoundException
public	FileOutputStream (java.io.File) throws java.io.FileNotFoundException
public	FileOutputStream (java.io.FileDescriptor)
public void	close() throws java.io.IOException
protected void	finalize() throws java.io.IOException
public final java.io.FileDescriptor	getFD() throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (byte[]) throws java.io.IOException

public void	write (byte[], int, int) throws java.io.IOException
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3.1.22 java.io.FilePermission

public final class java.io.FilePermission extends java.security.Permission implements java.io.Serializable

public	FilePermission (java.lang.String, java.lang.String)
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public boolean	equals (java.lang.Object)
----------------	----------------------------------

public java.lang.String	getActions ()
-------------------------	----------------------

public int	hashCode ()
------------	--------------------

public boolean	implies (java.security.Permission)
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public java.security.PermissionCollectio n	newPermissionCollection ()
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3.1.23 java.io.FileReader

public class java.io.FileReader extends java.io.InputStreamReader

public	FileReader (java.lang.String) throws java.io.FileNotFoundException
--------	---

public	FileReader (java.io.File) throws java.io.FileNotFoundException
--------	---

public	FileReader (java.io.FileDescriptor)
--------	--

3.1.24 java.io.FileWriter

public class java.io.FileWriter extends java.io.OutputStreamWriter

public	FileWriter (java.lang.String) throws java.io.IOException
--------	---

public	FileWriter (java.lang.String, boolean) throws java.io.IOException
--------	--

public	FileWriter (java.io.File) throws java.io.IOException
--------	---

public	FileWriter (java.io.FileDescriptor)
--------	--

3.1.25 java.io FilenameFilter

public abstract interface java.io FilenameFilter

public boolean	accept (java.io.File, java.lang.String)
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3.1.26 java.io.FilterInputStream

public class java.io.FilterInputStream extends java.io.InputStream

protected java.io.InputStream	in
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protected	FilterInputStream (java.io.InputStream)
-----------	--

public int	available () throws java.io.IOException
------------	--

public void	close () throws java.io.IOException
-------------	--

public void	mark (int)
-------------	-------------------

public boolean	markSupported ()
----------------	-------------------------

public int	read () throws java.io.IOException
------------	---

public int	read (byte[]) throws java.io.IOException
------------	---

public int	read (byte[], int, int) throws java.io.IOException
------------	---

public void	reset () throws java.io.IOException
-------------	--

public long	skip (long) throws java.io.IOException
-------------	---

3.1.27 java.io.FilterOutputStream

public class java.io.FilterOutputStream extends java.io.OutputStream	
protected java.io.OutputStream	out
public	FilterOutputStream (java.io.OutputStream)
public void	close () throws java.io.IOException
public void	flush () throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (byte[]) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.1.28 java.io.FilterReader

public abstract class java.io.FilterReader extends java.io.Reader	
protected java.io.Reader	in
protected	FilterReader (java.io.Reader)
public void	close () throws java.io.IOException
public void	mark (int) throws java.io.IOException
public boolean	markSupported ()
public int	read () throws java.io.IOException
public int	read (char[], int, int) throws java.io.IOException
public boolean	ready () throws java.io.IOException
public void	reset () throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.1.29 java.io.FilterWriter

public abstract class java.io.FilterWriter extends java.io.Writer	
protected java.io.Writer	out
protected	FilterWriter (java.io.Writer)
public void	close () throws java.io.IOException
public void	flush () throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (char[], int, int) throws java.io.IOException
public void	write (java.lang.String, int, int) throws java.io.IOException

3.1.30 java.io.IOException

public class java.io.IOException extends java.lang.Exception	
public	IOException ()
public	IOException (java.lang.String)

3.1.31 java.io.InputStream

public abstract class java.io.InputStream extends java.lang.Object	
public	InputStream()
public int	available() throws java.io.IOException
public void	close() throws java.io.IOException
public void	mark(int)
public boolean	markSupported()
public abstract int	read() throws java.io.IOException
public int	read(byte[]) throws java.io.IOException
public int	read(byte[], int, int) throws java.io.IOException
public void	reset() throws java.io.IOException
public long	skip(long) throws java.io.IOException

3.1.32 java.io.InputStreamReader

public class java.io.InputStreamReader extends java.io.Reader	
public	InputStreamReader(java.io.InputStream)
public	InputStreamReader(java.io.InputStream, java.lang.String) throws java.io.UnsupportedEncodingException
public void	close() throws java.io.IOException
public java.lang.String	getEncoding()
public int	read() throws java.io.IOException
public int	read(char[], int, int) throws java.io.IOException
public boolean	ready() throws java.io.IOException

3.1.33 java.io.InterruptedIOException

public class java.io.InterruptedIOException extends java.io.IOException	
public int	bytesTransferred
public	InterruptedIOException()
public	InterruptedIOException(java.lang.String)

3.1.34 java.io.InvalidClassException

public class java.io.InvalidClassException extends java.io.ObjectStreamException	
public java.lang.String	classname
public	InvalidClassException(java.lang.String)
public	InvalidClassException(java.lang.String, java.lang.String)
public java.lang.String	getMessage()

3.1.35 java.io.InvalidObjectException

public class java.io.InvalidObjectException extends java.io.ObjectStreamException	
public	InvalidObjectException(java.lang.String)

3.1.36 java.io.LineNumberReader

public class java.io.LineNumberReader extends java.io.BufferedReader	
public	LineNumberReader (java.io.Reader)
public	LineNumberReader (java.io.Reader, int)
public int	getLineNumber ()
public void	mark (int) throws java.io.IOException
public int	read () throws java.io.IOException
public int	read (char[], int, int) throws java.io.IOException
public java.lang.String	readLine () throws java.io.IOException
public void	reset () throws java.io.IOException
public void	setLineNumber (int)
public long	skip (long) throws java.io.IOException

3.1.37 java.io.NotActiveException

public class java.io.NotActiveException extends java.io.ObjectStreamException	
public	NotActiveException (java.lang.String)
public	NotActiveException ()

3.1.38 java.io.NotSerializableException

public class java.io.NotSerializableException extends java.io.ObjectStreamException	
public	NotSerializableException (java.lang.String)
public	NotSerializableException ()

3.1.39 java.io.ObjectInput

public abstract interface java.io.ObjectInput extends java.io.DataInput	
public int	available () throws java.io.IOException
public void	close () throws java.io.IOException
public int	read () throws java.io.IOException
public int	read (byte[]) throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
public java.lang.Object	readObject () throws java.lang.ClassNotFoundException, java.io.IOException
public long	skip (long) throws java.io.IOException

3.1.40 java.io.ObjectInputStream

public class java.io.ObjectInputStream extends java.io.InputStream implements java.io.ObjectInput, java.io.ObjectStreamConstants	
public	ObjectInputStream (java.io.InputStream) throws java.io.IOException, java.io.StreamCorruptedException
protected	ObjectInputStream () throws java.io.IOException, java.lang.SecurityException
public int	available () throws java.io.IOException
public void	close () throws java.io.IOException

public void	defaultReadObject() throws java.io.IOException, java.lang.ClassNotFoundException, java.io.NotActiveException
protected boolean	enableResolveObject(boolean) throws java.lang.SecurityException
public int	read() throws java.io.IOException
public int	read(byte[], int, int) throws java.io.IOException
public boolean	readBoolean() throws java.io.IOException
public byte	readByte() throws java.io.IOException
public char	readChar() throws java.io.IOException
protected java.io.ObjectStreamClass	readClassDescriptor() throws java.io.IOException, java.lang.ClassNotFoundException
public double	readDouble() throws java.io.IOException
public java.io.ObjectInputStream.GetField	readFields() throws java.io.IOException, java.lang.ClassNotFoundException, java.io.NotActiveException
public float	readFloat() throws java.io.IOException
public void	readFully(byte[]) throws java.io.IOException
public void	readFully(byte[], int, int) throws java.io.IOException
public int	readInt() throws java.io.IOException
public java.lang.String	readLine() throws java.io.IOException
public long	readLong() throws java.io.IOException
public final java.lang.Object	readObject() throws java.io.OptionalDataException, java.lang.ClassNotFoundException, java.io.IOException
protected java.lang.Object	readObjectOverride() throws java.io.OptionalDataException, java.lang.ClassNotFoundException, java.io.IOException
public short	readShort() throws java.io.IOException
protected void	readStreamHeader() throws java.io.IOException, java.io.StreamCorruptedException
public java.lang.String	readUTF() throws java.io.IOException
public int	readUnsignedByte() throws java.io.IOException
public int	readUnsignedShort() throws java.io.IOException
public void	registerValidation(java.io.ObjectInputValidation, int) throws java.io.NotActiveException, java.io.InvalidObjectException
protected java.lang.Class	resolveClass(java.io.ObjectStreamClass) throws java.io.IOException, java.lang.ClassNotFoundException
protected java.lang.Object	resolveObject(java.lang.Object) throws java.io.IOException
protected java.lang.Class	resolveProxyClass(java.lang.String[]) throws java.io.IOException, java.lang.ClassNotFoundException
public int	skipBytes(int) throws java.io.IOException

3.1.41 java.io.ObjectInputStream.GetField

public abstract class java.io.ObjectInputStream.GetField extends java.lang.Object	
public	ObjectInputStream.GetField()
public abstract boolean	defaulted(java.lang.String) throws java.io.IOException.

	<code>java.lang.IllegalArgumentException</code>
public abstract boolean	get (<code>java.lang.String</code> , boolean) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract char	get (<code>java.lang.String</code> , char) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract byte	get (<code>java.lang.String</code> , byte) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract short	get (<code>java.lang.String</code> , short) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract int	get (<code>java.lang.String</code> , int) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract long	get (<code>java.lang.String</code> , long) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract float	get (<code>java.lang.String</code> , float) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract double	get (<code>java.lang.String</code> , double) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract <code>java.lang.Object</code>	get (<code>java.lang.String</code> , <code>java.lang.Object</code>) throws <code>java.io.IOException</code> , <code>java.lang.IllegalArgumentException</code>
public abstract <code>java.io.ObjectStreamClass</code>	getObjectStreamClass ()

3.1.42 `java.io.ObjectInputValidation`

public abstract interface <code>java.io.ObjectInputValidation</code>	
public void	validateObject () throws <code>java.io.InvalidObjectException</code>

3.1.43 `java.io.ObjectOutput`

public abstract interface <code>java.io.ObjectOutput</code> extends <code>java.io.DataOutput</code>	
public void	close () throws <code>java.io.IOException</code>
public void	flush () throws <code>java.io.IOException</code>
public void	write (int) throws <code>java.io.IOException</code>
public void	write (<code>byte[]</code>) throws <code>java.io.IOException</code>
public void	write (<code>byte[]</code> , int, int) throws <code>java.io.IOException</code>
public void	writeObject (<code>java.lang.Object</code>) throws <code>java.io.IOException</code>

3.1.44 `java.io.ObjectOutputStream`

public class <code>java.io.ObjectOutputStream</code> extends <code>java.io.OutputStream</code> implements <code>java.io.ObjectOutput</code>, <code>java.io.ObjectStreamConstants</code>	
public	ObjectOutputStream (<code>java.io.OutputStream</code>) throws <code>java.io.IOException</code>
protected	ObjectOutputStream () throws <code>java.io.IOException</code> , <code>java.lang.SecurityException</code>
protected void	annotateClass (<code>java.lang.Class</code>) throws <code>java.io.IOException</code>
protected void	annotateProxyClass (<code>java.lang.Class</code>) throws <code>java.io.IOException</code>
public void	close () throws <code>java.io.IOException</code>

public void	defaultWriteObject() throws java.io.IOException
protected void	drain() throws java.io.IOException
protected boolean	enableReplaceObject(boolean) throws java.lang.SecurityException
public void	flush() throws java.io.IOException
public java.io.ObjectOutputStream.PutField	putFields() throws java.io.IOException
protected java.lang.Object	replaceObject(java.lang.Object) throws java.io.IOException
public void	reset() throws java.io.IOException
public void	useProtocolVersion(int) throws java.io.IOException
public void	write(int) throws java.io.IOException
public void	write(byte[]) throws java.io.IOException
public void	write(byte[], int, int) throws java.io.IOException
public void	writeBoolean(boolean) throws java.io.IOException
public void	writeByte(int) throws java.io.IOException
public void	writeBytes(java.lang.String) throws java.io.IOException
public void	writeChar(int) throws java.io.IOException
public void	writeChars(java.lang.String) throws java.io.IOException
protected void	writeClassDescriptor(java.io.ObjectStreamClass) throws java.io.IOException
public void	writeDouble(double) throws java.io.IOException
public void	writeFields() throws java.io.IOException
public void	writeFloat(float) throws java.io.IOException
public void	writeInt(int) throws java.io.IOException
public void	writeLong(long) throws java.io.IOException
public final void	writeObject(java.lang.Object) throws java.io.IOException
protected void	writeObjectOverride(java.lang.Object) throws java.io.IOException
public void	writeShort(int) throws java.io.IOException
protected void	writeStreamHeader() throws java.io.IOException
public void	writeUTF(java.lang.String) throws java.io.IOException

3.1.45 java.io.ObjectOutputStream.PutField

public abstract class java.io.ObjectOutputStream.PutField extends java.lang.Object	
public	ObjectOutputStream.PutField()
public abstract void	put(java.lang.String, boolean)
public abstract void	put(java.lang.String, char)
public abstract void	put(java.lang.String, byte)
public abstract void	put(java.lang.String, short)
public abstract void	put(java.lang.String, int)
public abstract void	put(java.lang.String, long)
public abstract void	put(java.lang.String, float)

public abstract void	put (java.lang.String, double)
public abstract void	put (java.lang.String, java.lang.Object)
public abstract void	write (java.io.ObjectOutput) throws java.io.IOException

3.1.46 java.io.ObjectStreamClass

public class java.io.ObjectStreamClass extends java.lang.Object implements java.io.Serializable	
public static final java.io.ObjectStreamField	NO_FIELDS
public java.lang.Class	forClass ()
public java.io.ObjectStreamField	getField (java.lang.String)
public java.io.ObjectStreamField	getFields ()
public java.lang.String	getName ()
public long	getSerialVersionUID ()
public static java.io.ObjectStreamClass	lookup (java.lang.Class)
public java.lang.String	toString ()

3.1.47 java.io.ObjectStreamConstants

public abstract interface java.io.ObjectStreamConstants	
public static final int	PROTOCOL_VERSION_1
public static final int	PROTOCOL_VERSION_2
public static final byte	SC_BLOCK_DATA
public static final byte	SC_EXTERNALIZABLE
public static final byte	SC_SERIALIZABLE
public static final byte	SC_WRITE_METHOD
public static final short	STREAM_MAGIC
public static final short	STREAM_VERSION
public static final java.io.SerializablePermission	SUBCLASS_IMPLEMENTATION_PERMISSION
public static final java.io.SerializablePermission	SUBSTITUTION_PERMISSION
public static final byte	TC_ARRAY
public static final byte	TC_BASE
public static final byte	TC_BLOCKDATA
public static final byte	TC_BLOCKDATA_LONG
public static final byte	TC_CLASS
public static final byte	TC_CLASSDESC
public static final byte	TC_ENDBLOCKDATA
public static final byte	TC_EXCEPTION
public static final byte	TC_LONGSTRING
public static final byte	TC_MAX

public static final byte	TC_NULL
public static final byte	TC_OBJECT
public static final byte	TC_PROXYCLASSDESC
public static final byte	TC_REFERENCE
public static final byte	TC_RESET
public static final byte	TC_STRING
public static final int	baseWireHandle

3.1.48 java.io.ObjectStreamException

public abstract class java.io.ObjectStreamException extends java.io.IOException	
protected	ObjectStreamException (java.lang.String)
protected	ObjectStreamException ()

3.1.49 java.io.ObjectStreamField

public class java.io.ObjectStreamField extends java.lang.Object implements java.lang.Comparable	
public	ObjectStreamField (java.lang.String, java.lang.Class)
public int	compareTo (java.lang.Object)
public java.lang.String	getName ()
public int	getOffset ()
public java.lang.Class	getType ()
public char	getTypeCode ()
public java.lang.String	getTypeString ()
public boolean	isPrimitive ()
protected void	setOffset (int)
public java.lang.String	toString ()

3.1.50 java.io.OptionalDataException

public class java.io.OptionalDataException extends java.io.ObjectStreamException	
public boolean	eof
public int	length

3.1.51 java.io.OutputStream

public abstract class java.io.OutputStream extends java.lang.Object	
public	OutputStream ()
public void	close () throws java.io.IOException
public void	flush () throws java.io.IOException
public abstract void	write (int) throws java.io.IOException
public void	write (byte[]) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.1.52 java.io.OutputStreamWriter

public class java.io.OutputStreamWriter extends java.io.Writer	
public	OutputStreamWriter (java.io.OutputStream, java.lang.String) throws java.io.UnsupportedEncodingException
public	OutputStreamWriter (java.io.OutputStream)
public void	close () throws java.io.IOException
public void	flush () throws java.io.IOException
public java.lang.String	getEncoding ()
public void	write (int) throws java.io.IOException
public void	write (char[], int, int) throws java.io.IOException
public void	write (java.lang.String, int, int) throws java.io.IOException

3.1.53 java.io.PipedInputStream

public class java.io.PipedInputStream extends java.io.InputStream	
protected static final int	PIPE_SIZE
protected byte	buffer
protected int	in
protected int	out
public	PipedInputStream (java.io.PipedOutputStream) throws java.io.IOException
public	PipedInputStream ()
public int	available () throws java.io.IOException
public void	close () throws java.io.IOException
public void	connect (java.io.PipedOutputStream) throws java.io.IOException
public int	read () throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
protected void	receive (int) throws java.io.IOException

3.1.54 java.io.PipedOutputStream

public class java.io.PipedOutputStream extends java.io.OutputStream	
public	PipedOutputStream (java.io.PipedInputStream) throws java.io.IOException
public	PipedOutputStream ()
public void	close () throws java.io.IOException
public void	connect (java.io.PipedInputStream) throws java.io.IOException
public void	flush () throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.1.55 java.io.PipedReader

public class java.io.PipedReader extends java.io.Reader	
public	PipedReader (java.io.PipedWriter) throws java.io.IOException
public	PipedReader ()

public void	close() throws java.io.IOException
public void	connect (java.io.PipedWriter) throws java.io.IOException
public int	read() throws java.io.IOException
public int	read (char[], int, int) throws java.io.IOException
public boolean	ready() throws java.io.IOException

3.1.56 java.io.PipedWriter

public class java.io.PipedWriter extends java.io.Writer	
public	PipedWriter (java.io.PipedReader) throws java.io.IOException
public	PipedWriter ()
public void	close() throws java.io.IOException
public void	connect (java.io.PipedReader) throws java.io.IOException
public void	flush() throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (char[], int, int) throws java.io.IOException

3.1.57 java.io.PrintStream

public class java.io.PrintStream extends java.io.FilterOutputStream	
public	PrintStream (java.io.OutputStream)
public	PrintStream (java.io.OutputStream, boolean)
public boolean	checkError()
public void	close()
public void	flush()
public void	print (boolean)
public void	print (char)
public void	print (int)
public void	print (long)
public void	print (float)
public void	print (double)
public void	print (char[])
public void	print (java.lang.String)
public void	print (java.lang.Object)
public void	println()
public void	println (boolean)
public void	println (char)
public void	println (int)
public void	println (long)
public void	println (float)
public void	println (double)
public void	println (char[])



public void	println (java.lang.String)
public void	println (java.lang.Object)
protected void	setError ()
public void	write (int)
public void	write (byte[], int, int)

3.1.58 java.io.PrintWriter

public class java.io.PrintWriter extends java.io.Writer	
protected java.io.Writer	out
public	PrintWriter (java.io.Writer)
public	PrintWriter (java.io.Writer, boolean)
public	PrintWriter (java.io.OutputStream)
public	PrintWriter (java.io.OutputStream, boolean)
public boolean	checkError ()
public void	close ()
public void	flush ()
public void	print (boolean)
public void	print (char)
public void	print (int)
public void	print (long)
public void	print (float)
public void	print (double)
public void	print (char[])
public void	print (java.lang.String)
public void	print (java.lang.Object)
public void	println ()
public void	println (boolean)
public void	println (char)
public void	println (int)
public void	println (long)
public void	println (float)
public void	println (double)
public void	println (char[])
public void	println (java.lang.String)
public void	println (java.lang.Object)
protected void	setError ()
public void	write (int)
public void	write (char[], int, int)
public void	write (char[])

public void	write (java.lang.String, int, int)
public void	write (java.lang.String)

3.1.59 java.io.PushbackInputStream

public class java.io.PushbackInputStream extends java.io.FilterInputStream	
protected byte	buf
protected int	pos
public	PushbackInputStream (java.io.InputStream, int)
public	PushbackInputStream (java.io.InputStream)
public int	available () throws java.io.IOException
public void	close () throws java.io.IOException
public boolean	markSupported ()
public int	read () throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
public long	skip (long) throws java.io.IOException
public void	unread (int) throws java.io.IOException
public void	unread (byte[], int, int) throws java.io.IOException
public void	unread (byte[]) throws java.io.IOException

3.1.60 java.io.PushbackReader

public class java.io.PushbackReader extends java.io.FilterReader	
public	PushbackReader (java.io.Reader, int)
public	PushbackReader (java.io.Reader)
public void	close () throws java.io.IOException
public void	mark (int) throws java.io.IOException
public boolean	markSupported ()
public int	read () throws java.io.IOException
public int	read (char[], int, int) throws java.io.IOException
public boolean	ready () throws java.io.IOException
public void	reset () throws java.io.IOException
public void	unread (int) throws java.io.IOException
public void	unread (char[], int, int) throws java.io.IOException
public void	unread (char[]) throws java.io.IOException

3.1.61 java.io.RandomAccessFile

public class java.io.RandomAccessFile extends java.lang.Object implements java.io.DataOutput, java.io.DataInput	
public	RandomAccessFile (java.lang.String, java.lang.String) throws java.io.FileNotFoundException
public	RandomAccessFile (java.io.File, java.lang.String) throws java.io.FileNotFoundException



public void	close() throws java.io.IOException
public final java.io.FileDescriptor	getFD() throws java.io.IOException
public long	getFilePointer() throws java.io.IOException
public long	length() throws java.io.IOException
public int	read() throws java.io.IOException
public int	read(byte[], int, int) throws java.io.IOException
public int	read(byte[]) throws java.io.IOException
public final boolean	readBoolean() throws java.io.IOException
public final byte	readByte() throws java.io.IOException
public final char	readChar() throws java.io.IOException
public final double	readDouble() throws java.io.IOException
public final float	readFloat() throws java.io.IOException
public final void	readFully(byte[]) throws java.io.IOException
public final void	readFully(byte[], int, int) throws java.io.IOException
public final int	readInt() throws java.io.IOException
public final java.lang.String	readLine() throws java.io.IOException
public final long	readLong() throws java.io.IOException
public final short	readShort() throws java.io.IOException
public final java.lang.String	readUTF() throws java.io.IOException
public final int	readUnsignedByte() throws java.io.IOException
public final int	readUnsignedShort() throws java.io.IOException
public void	seek(long) throws java.io.IOException
public void	setLength(long) throws java.io.IOException
public int	skipBytes(int) throws java.io.IOException
public void	write(int) throws java.io.IOException
public void	write(byte[]) throws java.io.IOException
public void	write(byte[], int, int) throws java.io.IOException
public final void	writeBoolean(boolean) throws java.io.IOException
public final void	writeByte(int) throws java.io.IOException
public final void	writeBytes(java.lang.String) throws java.io.IOException
public final void	writeChar(int) throws java.io.IOException
public final void	writeChars(java.lang.String) throws java.io.IOException
public final void	writeDouble(double) throws java.io.IOException
public final void	writeFloat(float) throws java.io.IOException
public final void	writeInt(int) throws java.io.IOException
public final void	writeLong(long) throws java.io.IOException
public final void	writeShort(int) throws java.io.IOException
public final void	writeUTF(java.lang.String) throws java.io.IOException

3.1.62 java.io.Reader

public abstract class java.io.Reader extends java.lang.Object	
protected java.lang.Object	lock
protected	Reader()
protected	Reader(java.lang.Object)
public abstract void	close() throws java.io.IOException
public void	mark(int) throws java.io.IOException
public boolean	markSupported()
public int	read() throws java.io.IOException
public int	read(char[]) throws java.io.IOException
public abstract int	read(char[], int, int) throws java.io.IOException
public boolean	ready() throws java.io.IOException
public void	reset() throws java.io.IOException
public long	skip(long) throws java.io.IOException

3.1.63 java.io.SequenceInputStream

public class java.io.SequenceInputStream extends java.io.InputStream	
public	SequenceInputStream(java.util.Enumeration)
public	SequenceInputStream(java.io.InputStream, java.io.InputStream)
public int	available() throws java.io.IOException
public void	close() throws java.io.IOException
public int	read() throws java.io.IOException
public int	read(byte[], int, int) throws java.io.IOException

3.1.64 java.io.Serializable

public abstract interface java.io.Serializable	
---	--

3.1.65 java.io.SerializablePermission

public final class java.io.SerializablePermission extends java.security.BasicPermission	
public	SerializablePermission(java.lang.String)
public	SerializablePermission(java.lang.String, java.lang.String)

3.1.66 java.io.StreamCorruptedException

public class java.io.StreamCorruptedException extends java.io.ObjectStreamException	
public	StreamCorruptedException(java.lang.String)
public	StreamCorruptedException()

3.1.67 java.io.StreamTokenizer

public class java.io.StreamTokenizer extends java.lang.Object	
public static final int	TT_EOF
public static final int	TT_EOL



public static final int	TT_NUMBER
public static final int	TT_WORD
public double	nval
public java.lang.String	sval
public int	ttype
public	StreamTokenizer (java.io.Reader)
public void	commentChar (int)
public void	eollsSignificant (boolean)
public int	lineno ()
public void	lowerCaseMode (boolean)
public int	nextToken () throws java.io.IOException
public void	ordinaryChar (int)
public void	ordinaryChars (int, int)
public void	parseNumbers ()
public void	pushBack ()
public void	quoteChar (int)
public void	resetSyntax ()
public void	slashSlashComments (boolean)
public void	slashStarComments (boolean)
public java.lang.String	toString ()
public void	whitespaceChars (int, int)
public void	wordChars (int, int)

3.1.68 java.io.StringReader

public class java.io.StringReader extends java.io.Reader	
public	StringReader (java.lang.String)
public void	close ()
public void	mark (int) throws java.io.IOException
public boolean	markSupported ()
public int	read () throws java.io.IOException
public int	read (char[], int, int) throws java.io.IOException
public boolean	ready () throws java.io.IOException
public void	reset () throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.1.69 java.io.StringWriter

public class java.io.StringWriter extends java.io.Writer	
public	StringWriter ()
public	StringWriter (int)
public void	close () throws java.io.IOException

public void	flush()
public java.lang.StringBuffer	getBuffer()
public java.lang.String	toString()
public void	write(int)
public void	write(char[], int, int)
public void	write(java.lang.String)
public void	write(java.lang.String, int, int)

3.1.70 java.io.SyncFailedException

public class java.io.SyncFailedException extends java.io.IOException	
public	SyncFailedException(java.lang.String)

3.1.71 java.io.UTFDataFormatException

public class java.io.UTFDataFormatException extends java.io.IOException	
public	UTFDataFormatException()
public	UTFDataFormatException(java.lang.String)

3.1.72 java.io.UnsupportedEncodingException

public class java.io.UnsupportedEncodingException extends java.io.IOException	
public	UnsupportedEncodingException()
public	UnsupportedEncodingException(java.lang.String)

3.1.73 java.io.WriteAbortedException

public class java.io.WriteAbortedException extends java.io.ObjectStreamException	
public java.lang.Exception	detail
public	WriteAbortedException(java.lang.String, java.lang.Exception)
public java.lang.String	getMessage()

3.1.74 java.io.Writer

public abstract class java.io.Writer extends java.lang.Object	
protected java.lang.Object	lock
protected	Writer()
protected	Writer(java.lang.Object)
public abstract void	close() throws java.io.IOException
public abstract void	flush() throws java.io.IOException
public void	write(int) throws java.io.IOException
public void	write(char[]) throws java.io.IOException
public abstract void	write(char[], int, int) throws java.io.IOException
public void	write(java.lang.String) throws java.io.IOException
public void	write(java.lang.String, int, int) throws java.io.IOException



3.2 Package java.lang

3.2.1 java.lang.AbstractMethodError

public class java.lang.AbstractMethodError extends java.lang.IncompatibleClassChangeError	
--	--

public	AbstractMethodError()
--------	------------------------------

public	AbstractMethodError(java.lang.String)
--------	--

3.2.2 java.lang.ArithmeticException

public class java.lang.ArithmeticException extends java.lang.RuntimeException	
--	--

public	ArithmeticException()
--------	------------------------------

public	ArithmeticException(java.lang.String)
--------	--

3.2.3 java.lang.ArrayIndexOutOfBoundsException

public class java.lang.ArrayIndexOutOfBoundsException extends java.lang.IndexOutOfBoundsException	
--	--

public	ArrayIndexOutOfBoundsException()
--------	---

public	ArrayIndexOutOfBoundsException(int)
--------	--

public	ArrayIndexOutOfBoundsException(java.lang.String)
--------	---

3.2.4 java.lang.ArrayStoreException

public class java.lang.ArrayStoreException extends java.lang.RuntimeException	
--	--

public	ArrayStoreException()
--------	------------------------------

public	ArrayStoreException(java.lang.String)
--------	--

3.2.5 java.lang.Boolean

public final class java.lang.Boolean extends java.lang.Object implements java.io.Serializable	
--	--

public static final java.lang.Boolean	FALSE
--	--------------

public static final java.lang.Boolean	TRUE
--	-------------

public static final java.lang.Class	TYPE
-------------------------------------	-------------

public	Boolean(boolean)
--------	-------------------------

public	Boolean(java.lang.String)
--------	----------------------------------

public boolean	booleanValue()
----------------	-----------------------

public boolean	equals(java.lang.Object)
----------------	---------------------------------

public static boolean	getBoolean(java.lang.String)
-----------------------	-------------------------------------

public int	hashCode()
------------	-------------------

public java.lang.String	toString()
-------------------------	-------------------

public static java.lang.Boolean	valueOf(java.lang.String)
---------------------------------	----------------------------------

3.2.6 java.lang.Byte

public final class java.lang.Byte extends java.lang.Number implements java.lang.Comparable	
---	--

public static final byte	MAX_VALUE
--------------------------	------------------

public static final byte	MIN_VALUE
public static final java.lang.Class	TYPE
public	Byte (byte)
public	Byte (java.lang.String) throws java.lang.NumberFormatException
public byte	byteValue ()
public int	compareTo (java.lang.Byte)
public int	compareTo (java.lang.Object)
public static java.lang.Byte	decode (java.lang.String) throws java.lang.NumberFormatException
public double	doubleValue ()
public boolean	equals (java.lang.Object)
public float	floatValue ()
public int	hashCode ()
public int	intValue ()
public long	longValue ()
public static byte	parseByte (java.lang.String) throws java.lang.NumberFormatException
public static byte	parseByte (java.lang.String, int) throws java.lang.NumberFormatException
public short	shortValue ()
public static java.lang.String	toString (byte)
public java.lang.String	toString ()
public static java.lang.Byte	valueOf (java.lang.String, int) throws java.lang.NumberFormatException
public static java.lang.Byte	valueOf (java.lang.String) throws java.lang.NumberFormatException

3.2.7 java.lang.Character

public final class java.lang.Character extends java.lang.Object implements java.io.Serializable, java.lang.Comparable

public static final byte	COMBINING_SPACING_MARK
public static final byte	CONNECTOR_PUNCTUATION
public static final byte	CONTROL
public static final byte	CURRENCY_SYMBOL
public static final byte	DASH_PUNCTUATION
public static final byte	DECIMAL_DIGIT_NUMBER
public static final byte	ENCLOSING_MARK
public static final byte	END_PUNCTUATION
public static final byte	FORMAT
public static final byte	LETTER_NUMBER
public static final byte	LINE_SEPARATOR
public static final byte	LOWERCASE_LETTER
public static final byte	MATH_SYMBOL
public static final int	MAX_RADIX
public static final char	MAX_VALUE



public static final int	MIN_RADIX
public static final char	MIN_VALUE
public static final byte	MODIFIER_LETTER
public static final byte	MODIFIER_SYMBOL
public static final byte	NON_SPACING_MARK
public static final byte	OTHER_LETTER
public static final byte	OTHER_NUMBER
public static final byte	OTHER_PUNCTUATION
public static final byte	OTHER_SYMBOL
public static final byte	PARAGRAPH_SEPARATOR
public static final byte	PRIVATE_USE
public static final byte	SPACE_SEPARATOR
public static final byte	START_PUNCTUATION
public static final byte	SURROGATE
public static final byte	TITLECASE_LETTER
public static final java.lang.Class	TYPE
public static final byte	UNASSIGNED
public static final byte	UPPERCASE_LETTER
public	Character(char)
public char	charValue()
public int	compareTo(java.lang.Character)
public int	compareTo(java.lang.Object)
public static int	digit(char, int)
public boolean	equals(java.lang.Object)
public static char	forDigit(int, int)
public static int	getNumericValue(char)
public static int	getType(char)
public int	hashCode()
public static boolean	isDefined(char)
public static boolean	isDigit(char)
public static boolean	isISOControl(char)
public static boolean	isIdentifierIgnorable(char)
public static boolean	isJavaIdentifierPart(char)
public static boolean	isJavaIdentifierStart(char)
public static boolean	isLetter(char)
public static boolean	isLetterOrDigit(char)
public static boolean	isLowerCase(char)
public static boolean	isSpaceChar(char)
public static boolean	isTitleCase(char)

public static boolean	isUnicodeIdentifierPart (char)
public static boolean	isUnicodeIdentifierStart (char)
public static boolean	isUpperCase (char)
public static boolean	isWhitespace (char)
public static char	toLowerCase (char)
public java.lang.String	toString ()
public static char	toUpperCase (char)
public static char	toUpperCase (char)

3.2.8 java.lang.Character.Subset

public class java.lang.Character.Subset extends java.lang.Object	
protected	Character.Subset (java.lang.String)
public final boolean	equals (java.lang.Object)
public final int	hashCode ()
public final java.lang.String	toString ()

3.2.9 java.lang.Character.UnicodeBlock

public final class java.lang.Character.UnicodeBlock extends java.lang.Character.Subset	
public static final java.lang.Character.UnicodeBlock	ALPHABETIC_PRESENTATION_FORMS
public static final java.lang.Character.UnicodeBlock	ARABIC
public static final java.lang.Character.UnicodeBlock	ARABIC_PRESENTATION_FORMS_A
public static final java.lang.Character.UnicodeBlock	ARABIC_PRESENTATION_FORMS_B
public static final java.lang.Character.UnicodeBlock	ARMENIAN
public static final java.lang.Character.UnicodeBlock	ARROWS
public static final java.lang.Character.UnicodeBlock	BASIC_LATIN
public static final java.lang.Character.UnicodeBlock	BENGALI
public static final java.lang.Character.UnicodeBlock	BLOCK_ELEMENTS
public static final java.lang.Character.UnicodeBlock	BOPOMOFO
public static final java.lang.Character.UnicodeBlock	BOX_DRAWING
public static final java.lang.Character.UnicodeBlock	CJK_COMPATIBILITY
public static final	CJK_COMPATIBILITY_FORMS



java.lang.Character.UnicodeBlock	
public static final java.lang.Character.UnicodeBlock	CJK_COMPATIBILITY_IDEOGRAPHS
public static final java.lang.Character.UnicodeBlock	CJK_SYMBOLS_AND_PUNCTUATION
public static final java.lang.Character.UnicodeBlock	CJK_UNIFIED_IDEOGRAPHS
public static final java.lang.Character.UnicodeBlock	COMBINING_DIACRITICAL_MARKS
public static final java.lang.Character.UnicodeBlock	COMBINING_HALF_MARKS
public static final java.lang.Character.UnicodeBlock	COMBINING_MARKS_FOR_SYMBOLS
public static final java.lang.Character.UnicodeBlock	CONTROL_PICTURES
public static final java.lang.Character.UnicodeBlock	CURRENCY_SYMBOLS
public static final java.lang.Character.UnicodeBlock	CYRILLIC
public static final java.lang.Character.UnicodeBlock	DEVANAGARI
public static final java.lang.Character.UnicodeBlock	DINGBATS
public static final java.lang.Character.UnicodeBlock	ENCLOSED_ALPHANUMERICS
public static final java.lang.Character.UnicodeBlock	ENCLOSED_CJK_LETTERS_AND_MONTHS
public static final java.lang.Character.UnicodeBlock	GENERAL_PUNCTUATION
public static final java.lang.Character.UnicodeBlock	GEOMETRIC_SHAPES
public static final java.lang.Character.UnicodeBlock	GEORGIAN
public static final java.lang.Character.UnicodeBlock	GREEK
public static final java.lang.Character.UnicodeBlock	GREEK_EXTENDED
public static final java.lang.Character.UnicodeBlock	GUJARATI
public static final java.lang.Character.UnicodeBlock	GURMUKHI
public static final java.lang.Character.UnicodeBlock	HALFWIDTH_AND_FULLWIDTH_FORMS
public static final java.lang.Character.UnicodeBlock	HANGUL_COMPATIBILITY_JAMO



public static final java.lang.Character.UnicodeBlock	HANGUL_JAMO
public static final java.lang.Character.UnicodeBlock	HANGUL_SYLLABLES
public static final java.lang.Character.UnicodeBlock	HEBREW
public static final java.lang.Character.UnicodeBlock	HIRAGANA
public static final java.lang.Character.UnicodeBlock	IPA_EXTENSIONS
public static final java.lang.Character.UnicodeBlock	KANBUN
public static final java.lang.Character.UnicodeBlock	KANNADA
public static final java.lang.Character.UnicodeBlock	KATAKANA
public static final java.lang.Character.UnicodeBlock	LAO
public static final java.lang.Character.UnicodeBlock	LATIN_1_SUPPLEMENT
public static final java.lang.Character.UnicodeBlock	LATIN_EXTENDED_A
public static final java.lang.Character.UnicodeBlock	LATIN_EXTENDED_ADDITIONAL
public static final java.lang.Character.UnicodeBlock	LATIN_EXTENDED_B
public static final java.lang.Character.UnicodeBlock	LETTERLIKE_SYMBOLS
public static final java.lang.Character.UnicodeBlock	MALAYALAM
public static final java.lang.Character.UnicodeBlock	MATHEMATICAL_OPERATORS
public static final java.lang.Character.UnicodeBlock	MISCELLANEOUS_SYMBOLS
public static final java.lang.Character.UnicodeBlock	MISCELLANEOUS_TECHNICAL
public static final java.lang.Character.UnicodeBlock	NUMBER_FORMS
public static final java.lang.Character.UnicodeBlock	OPTICAL_CHARACTER_RECOGNITION
public static final java.lang.Character.UnicodeBlock	ORIYA
public static final java.lang.Character.UnicodeBlock	PRIVATE_USE_AREA
public static final	SMALL_FORM_VARIANTS

java.lang.Character.UnicodeBlock	
public static final java.lang.Character.UnicodeBlock	SPACING_MODIFIER_LETTERS
public static final java.lang.Character.UnicodeBlock	SPECIALS
public static final java.lang.Character.UnicodeBlock	SUPERSCRIPTS_AND_SUBSCRIPTS
public static final java.lang.Character.UnicodeBlock	SURROGATES_AREA
public static final java.lang.Character.UnicodeBlock	TAMIL
public static final java.lang.Character.UnicodeBlock	TELUGU
public static final java.lang.Character.UnicodeBlock	THAI
public static final java.lang.Character.UnicodeBlock	TIBETAN
public static java.lang.Character.UnicodeBlock	of(char)

3.2.10 java.lang.Class

public final class java.lang.Class extends java.lang.Object implements java.io.Serializable	
public static java.lang.Class	forName (java.lang.String) throws java.lang.ClassNotFoundException
public static java.lang.Class	forName (java.lang.String, boolean, java.lang.ClassLoader) throws java.lang.ClassNotFoundException
public java.lang.ClassLoader	getClassLoader ()
public java.lang.Class	getClasses ()
public java.lang.Class	getComponentType ()
public java.lang.reflect.Constructor	getConstructor (java.lang.Class[]) throws java.lang.NoSuchMethodException, java.lang.SecurityException
public java.lang.reflect.Constructor	getConstructors () throws java.lang.SecurityException
public java.lang.Class	getDeclaredClasses () throws java.lang.SecurityException
public java.lang.reflect.Constructor	getDeclaredConstructor (java.lang.Class[]) throws java.lang.NoSuchMethodException, java.lang.SecurityException
public java.lang.reflect.Constructor	getDeclaredConstructors () throws java.lang.SecurityException
public java.lang.reflect.Field	getDeclaredField (java.lang.String) throws java.lang.NoSuchFieldException, java.lang.SecurityException
public java.lang.reflect.Field	getDeclaredFields () throws java.lang.SecurityException
public java.lang.reflect.Method	getDeclaredMethod (java.lang.String, java.lang.Class[]) throws java.lang.NoSuchMethodException, java.lang.SecurityException
public java.lang.reflect.Method	getDeclaredMethods () throws java.lang.SecurityException
public java.lang.Class	getDeclaringClass ()

public java.lang.reflect.Field	getField (java.lang.String) throws java.lang.NoSuchFieldException, java.lang.SecurityException
public java.lang.reflect.Field	getFields () throws java.lang.SecurityException
public java.lang.Class	getInterfaces ()
public java.lang.reflect.Method	getMethod (java.lang.String, java.lang.Class[]) throws java.lang.NoSuchMethodException, java.lang.SecurityException
public java.lang.reflect.Method	getMethods () throws java.lang.SecurityException
public int	getModifiers ()
public java.lang.String	getName ()
public java.lang.Package	getPackage ()
public java.security.ProtectionDomain	getProtectionDomain ()
public java.net.URL	getResource (java.lang.String)
public java.io.InputStream	getResourceAsStream (java.lang.String)
public java.lang.Object	getSigners ()
public java.lang.Class	getSuperclass ()
public boolean	isArray ()
public boolean	isAssignableFrom (java.lang.Class)
public boolean	isInstance (java.lang.Object)
public boolean	isInterface ()
public boolean	isPrimitive ()
public java.lang.Object	newInstance () throws java.lang.InstantiationException, java.lang.IllegalAccessException
public java.lang.String	toString ()

3.2.11 java.lang.ClassCastException

public class java.lang.ClassCastException extends java.lang.RuntimeException	
public	ClassCastException ()
public	ClassCastException (java.lang.String)

3.2.12 java.lang.ClassCircularityError

public class java.lang.ClassCircularityError extends java.lang.LinkageError	
public	ClassCircularityError ()
public	ClassCircularityError (java.lang.String)

3.2.13 java.lang.ClassFormatError

public class java.lang.ClassFormatError extends java.lang.LinkageError	
public	ClassFormatError ()
public	ClassFormatError (java.lang.String)

3.2.14 java.lang.ClassLoader

public abstract class java.lang.ClassLoader extends java.lang.Object	
---	--



protected	ClassLoader (java.lang.ClassLoader)
protected	ClassLoader ()
protected final java.lang.Class	defineClass (java.lang.String, byte[], int, int) throws java.lang.ClassFormatError
protected final java.lang.Class	defineClass (java.lang.String, byte[], int, int, java.security.ProtectionDomain) throws java.lang.ClassFormatError
protected java.lang.Package	definePackage (java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.net.URL) throws java.lang.IllegalArgumentException
protected java.lang.Class	findClass (java.lang.String) throws java.lang.ClassNotFoundException
protected java.lang.String	findLibrary (java.lang.String)
protected final java.lang.Class	findLoadedClass (java.lang.String)
protected java.net.URL	findResource (java.lang.String)
protected java.util.Enumeration	findResources (java.lang.String) throws java.io.IOException
protected final java.lang.Class	findSystemClass (java.lang.String) throws java.lang.ClassNotFoundException
protected java.lang.Package	getPackage (java.lang.String)
protected java.lang.Package	getPackages ()
public final java.lang.ClassLoader	getParent ()
public java.net.URL	getResource (java.lang.String)
public java.io.InputStream	getResourceAsStream (java.lang.String)
public final java.util.Enumeration	getResources (java.lang.String) throws java.io.IOException
public static java.lang.ClassLoader	getSystemClassLoader ()
public static java.net.URL	getSystemResource (java.lang.String)
public static java.io.InputStream	getSystemResourceAsStream (java.lang.String)
public static java.util.Enumeration	getSystemResources (java.lang.String) throws java.io.IOException
public java.lang.Class	loadClass (java.lang.String) throws java.lang.ClassNotFoundException
protected java.lang.Class	loadClass (java.lang.String, boolean) throws java.lang.ClassNotFoundException
protected final void	resolveClass (java.lang.Class)
protected final void	setSigners (java.lang.Class, java.lang.Object[])

3.2.15 java.lang.ClassNotFoundException

public class java.lang.ClassNotFoundException extends java.lang.Exception	
public	ClassNotFoundException ()
public	ClassNotFoundException (java.lang.String)
public	ClassNotFoundException (java.lang.String, java.lang.Throwable)
public java.lang.Throwable	getException ()
public void	printStackTrace ()
public void	printStackTrace (java.io.PrintStream)
public void	printStackTrace (java.io.PrintWriter)

3.2.16 java.lang.CloneNotSupportedException

```
public class java.lang.CloneNotSupportedException extends java.lang.Exception
```

```
public CloneNotSupportedException()
```

```
public CloneNotSupportedException(java.lang.String)
```

3.2.17 java.lang.Cloneable

```
public abstract interface java.lang.Cloneable
```

3.2.18 java.lang.Comparable

```
public abstract interface java.lang.Comparable
```

```
public int compareTo(java.lang.Object)
```

3.2.19 java.lang.Compiler

```
public final class java.lang.Compiler extends java.lang.Object
```

```
public static java.lang.Object command(java.lang.Object)
```

```
public static boolean compileClass(java.lang.Class)
```

```
public static boolean compileClasses(java.lang.String)
```

```
public static void disable()
```

```
public static void enable()
```

3.2.20 java.lang.Double

```
public final class java.lang.Double extends java.lang.Number implements java.lang.Comparable
```

```
public static final double MAX_VALUE
```

```
public static final double MIN_VALUE
```

```
public static final double NEGATIVE_INFINITY
```

```
public static final double NaN
```

```
public static final double POSITIVE_INFINITY
```

```
public static final java.lang.Class TYPE
```

```
public Double(double)
```

```
public Double(java.lang.String) throws java.lang.NumberFormatException
```

```
public byte byteValue()
```

```
public int compareTo(java.lang.Double)
```

```
public int compareTo(java.lang.Object)
```

```
public static long doubleToLongBits(double)
```

```
public static long doubleToRawLongBits(double)
```

```
public double doubleValue()
```

```
public boolean equals(java.lang.Object)
```

```
public float floatValue()
```

```
public int hashCode()
```

```
public int intValue()
```

```
public static boolean isInfinite(double)
```



public boolean	isInfinite()
public static boolean	isNaN(double)
public boolean	isNaN()
public static double	longBitsToDouble(long)
public long	longValue()
public static double	parseDouble(java.lang.String) throws java.lang.NumberFormatException
public short	shortValue()
public static java.lang.String	toString(double)
public java.lang.String	toString()
public static java.lang.Double	valueOf(java.lang.String) throws java.lang.NumberFormatException

3.2.21 java.lang.Error

public class java.lang.Error extends java.lang.Throwable	
public	Error()
public	Error(java.lang.String)

3.2.22 java.lang.Exception

public class java.lang.Exception extends java.lang.Throwable	
public	Exception()
public	Exception(java.lang.String)

3.2.23 java.lang.ExceptionInInitializerError

public class java.lang.ExceptionInInitializerError extends java.lang.LinkageError	
public	ExceptionInInitializerError()
public	ExceptionInInitializerError(java.lang.Throwable)
public	ExceptionInInitializerError(java.lang.String)
public java.lang.Throwable	getException()
public void	printStackTrace()
public void	printStackTrace(java.io.PrintStream)
public void	printStackTrace(java.io.PrintWriter)

3.2.24 java.lang.Float

public final class java.lang.Float extends java.lang.Number implements java.lang.Comparable	
public static final float	MAX_VALUE
public static final float	MIN_VALUE
public static final float	NEGATIVE_INFINITY
public static final float	NaN
public static final float	POSITIVE_INFINITY
public static final java.lang.Class	TYPE
public	Float(float)
public	Float(double)



public	Float (java.lang.String) throws java.lang.NumberFormatException
public byte	byteValue ()
public int	compareTo (java.lang.Float)
public int	compareTo (java.lang.Object)
public double	doubleValue ()
public boolean	equals (java.lang.Object)
public static int	floatToIntBits (float)
public static int	floatToRawIntBits (float)
public float	floatValue ()
public int	hashCode ()
public static float	intBitsToFloat (int)
public int	intValue ()
public static boolean	isInfinite (float)
public boolean	isInfinite ()
public static boolean	isNaN (float)
public boolean	isNaN ()
public long	longValue ()
public static float	parseFloat (java.lang.String) throws java.lang.NumberFormatException
public short	shortValue ()
public static java.lang.String	toString (float)
public java.lang.String	toString ()
public static java.lang.Float	valueOf (java.lang.String) throws java.lang.NumberFormatException

3.2.25 java.lang.IllegalAccessError

public class java.lang.IllegalAccessError extends java.lang.IncompatibleClassChangeError	
public	IllegalAccessError ()
public	IllegalAccessError (java.lang.String)

3.2.26 java.lang.IllegalAccessException

public class java.lang.IllegalAccessException extends java.lang.Exception	
public	IllegalAccessException ()
public	IllegalAccessException (java.lang.String)

3.2.27 java.lang.IllegalArgumentException

public class java.lang.IllegalArgumentException extends java.lang.RuntimeException	
public	IllegalArgumentException ()
public	IllegalArgumentException (java.lang.String)

3.2.28 java.lang.IllegalMonitorStateException

public class java.lang.IllegalMonitorStateException extends java.lang.RuntimeException	
public	IllegalMonitorStateException ()

public	IllegalMonitorStateException (java.lang.String)
--------	--

3.2.29 java.lang.IllegalStateException

public class java.lang.IllegalStateException extends java.lang.RuntimeException	
--	--

public	IllegalStateException ()
--------	---------------------------------

public	IllegalStateException (java.lang.String)
--------	---

3.2.30 java.lang.IllegalThreadStateException

public class java.lang.IllegalThreadStateException extends java.lang.IllegalArgumentException	
--	--

public	IllegalThreadStateException ()
--------	---------------------------------------

public	IllegalThreadStateException (java.lang.String)
--------	---

3.2.31 java.lang.IncompatibleClassChangeError

public class java.lang.IncompatibleClassChangeError extends java.lang.LinkageError	
---	--

public	IncompatibleClassChangeError ()
--------	--

public	IncompatibleClassChangeError (java.lang.String)
--------	--

3.2.32 java.lang.IndexOutOfBoundsException

public class java.lang.IndexOutOfBoundsException extends java.lang.RuntimeException	
--	--

public	IndexOutOfBoundsException ()
--------	-------------------------------------

public	IndexOutOfBoundsException (java.lang.String)
--------	---

3.2.33 java.lang.InheritableThreadLocal

public class java.lang.InheritableThreadLocal extends java.lang.ThreadLocal	
--	--

public	InheritableThreadLocal ()
--------	----------------------------------

protected java.lang.Object	childValue (java.lang.Object)
----------------------------	--------------------------------------

public java.lang.Object	get ()
-------------------------	---------------

public void	set (java.lang.Object)
-------------	-------------------------------

3.2.34 java.lang.InstantiationError

public class java.lang.InstantiationError extends java.lang.IncompatibleClassChangeError	
---	--

public	InstantiationError ()
--------	------------------------------

public	InstantiationError (java.lang.String)
--------	--

3.2.35 java.lang.InstantiationException

public class java.lang.InstantiationException extends java.lang.Exception	
--	--

public	InstantiationException ()
--------	----------------------------------

public	InstantiationException (java.lang.String)
--------	--

3.2.36 java.lang.Integer

public final class java.lang.Integer extends java.lang.Number implements java.lang.Comparable	
--	--

public static final int	MAX_VALUE
-------------------------	------------------

public static final int	MIN_VALUE
public static final java.lang.Class	TYPE
public	Integer(int)
public	Integer(java.lang.String) throws java.lang.NumberFormatException
public byte	byteValue()
public int	compareTo(java.lang.Integer)
public int	compareTo(java.lang.Object)
public static java.lang.Integer	decode(java.lang.String) throws java.lang.NumberFormatException
public double	doubleValue()
public boolean	equals(java.lang.Object)
public float	floatValue()
public static java.lang.Integer	getInteger(java.lang.String)
public static java.lang.Integer	getInteger(java.lang.String, int)
public static java.lang.Integer	getInteger(java.lang.String, java.lang.Integer)
public int	hashCode()
public int	intValue()
public long	longValue()
public static int	parseInt(java.lang.String, int) throws java.lang.NumberFormatException
public static int	parseInt(java.lang.String) throws java.lang.NumberFormatException
public short	shortValue()
public static java.lang.String	toBinaryString(int)
public static java.lang.String	toHexString(int)
public static java.lang.String	toOctalString(int)
public static java.lang.String	toString(int, int)
public static java.lang.String	toString(int)
public java.lang.String	toString()
public static java.lang.Integer	valueOf(java.lang.String, int) throws java.lang.NumberFormatException
public static java.lang.Integer	valueOf(java.lang.String) throws java.lang.NumberFormatException

3.2.37 java.lang.InternalError

public class java.lang.InternalError extends java.lang.VirtualMachineError	
public	InternalError()
public	InternalError(java.lang.String)

3.2.38 java.lang.InterruptedIOException

public class java.lang.InterruptedIOException extends java.lang.Exception	
public	InterruptedIOException()
public	InterruptedIOException(java.lang.String)

3.2.39 java.lang.LinkageError

public class java.lang.LinkageError extends java.lang.Error

public	LinkageError()
public	LinkageError(java.lang.String)

3.2.40 java.lang.Long

public final class java.lang.Long extends java.lang.Number implements java.lang.Comparable

public static final long	MAX_VALUE
public static final long	MIN_VALUE
public static final java.lang.Class	TYPE
public	Long(long)
public	Long(java.lang.String) throws java.lang.NumberFormatException
public byte	byteValue()
public int	compareTo(java.lang.Long)
public int	compareTo(java.lang.Object)
public static java.lang.Long	decode (java.lang.String) throws java.lang.NumberFormatException
public double	doubleValue()
public boolean	equals(java.lang.Object)
public float	floatValue()
public static java.lang.Long	getLong(java.lang.String)
public static java.lang.Long	getLong(java.lang.String, long)
public static java.lang.Long	getLong(java.lang.String, java.lang.Long)
public int	hashCode()
public int	intValue()
public long	longValue()
public static long	parseLong (java.lang.String, int) throws java.lang.NumberFormatException
public static long	parseLong (java.lang.String) throws java.lang.NumberFormatException
public short	shortValue()
public static java.lang.String	toBinaryString (long)
public static java.lang.String	toHexString (long)
public static java.lang.String	toOctalString (long)
public static java.lang.String	toString (long, int)
public static java.lang.String	toString (long)
public java.lang.String	toString()
public static java.lang.Long	valueOf (java.lang.String, int) throws java.lang.NumberFormatException
public static java.lang.Long	valueOf (java.lang.String) throws java.lang.NumberFormatException

3.2.41 java.lang.Math

public final class java.lang.Math extends java.lang.Object

public static final double	E
----------------------------	----------



public static final double	PI
public static double	IEEEremainder (double, double)
public static int	abs (int)
public static long	abs (long)
public static float	abs (float)
public static double	abs (double)
public static double	acos (double)
public static double	asin (double)
public static double	atan (double)
public static double	atan2 (double, double)
public static double	ceil (double)
public static double	cos (double)
public static double	exp (double)
public static double	floor (double)
public static double	log (double)
public static int	max (int, int)
public static long	max (long, long)
public static float	max (float, float)
public static double	max (double, double)
public static int	min (int, int)
public static long	min (long, long)
public static float	min (float, float)
public static double	min (double, double)
public static double	pow (double, double)
public static double	random ()
public static double	rint (double)
public static int	round (float)
public static long	round (double)
public static double	sin (double)
public static double	sqrt (double)
public static double	tan (double)
public static double	toDegrees (double)
public static double	toRadians (double)

3.2.42 java.lang.NegativeArraySizeException

public class java.lang.NegativeArraySizeException extends java.lang.RuntimeException	
public	NegativeArraySizeException ()
public	NegativeArraySizeException (java.lang.String)

3.2.43 java.lang.NoClassDefFoundError

public class java.lang.NoClassDefFoundError extends java.lang.LinkageError

public NoClassDefFoundError()

public NoClassDefFoundError(java.lang.String)

3.2.44 java.lang.NoSuchFieldError

public class java.lang.NoSuchFieldError extends java.lang.IncompatibleClassChangeError

public NoSuchFieldError()

public NoSuchFieldError(java.lang.String)

3.2.45 java.lang.NoSuchFieldException

public class java.lang.NoSuchFieldException extends java.lang.Exception

public NoSuchFieldException()

public NoSuchFieldException(java.lang.String)

3.2.46 java.lang.NoSuchMethodError

public class java.lang.NoSuchMethodError extends java.lang.IncompatibleClassChangeError

public NoSuchMethodError()

public NoSuchMethodError(java.lang.String)

3.2.47 java.lang.NoSuchMethodException

public class java.lang.NoSuchMethodException extends java.lang.Exception

public NoSuchMethodException()

public NoSuchMethodException(java.lang.String)

3.2.48 java.lang.NullPointerException

public class java.lang.NullPointerException extends java.lang.RuntimeException

public NullPointerException()

public NullPointerException(java.lang.String)

3.2.49 java.lang.Number

public abstract class java.lang.Number extends java.lang.Object implements java.io.Serializable

public Number()

public byte byteValue()

public abstract double doubleValue()

public abstract float floatValue()

public abstract int intValue()

public abstract long longValue()

public short shortValue()

3.2.50 java.lang.NumberFormatException

public class java.lang.NumberFormatException extends java.lang.IllegalArgumentException



public	NumberFormatException()
public	NumberFormatException(java.lang.String)

3.2.51 java.lang.Object

public class java.lang.Object	
public	Object()
protected java.lang.Object	clone() throws java.lang.CloneNotSupportedException
public boolean	equals(java.lang.Object)
protected void	finalize() throws java.lang.Throwable
public final java.lang.Class	getClass()
public int	hashCode()
public final void	notify()
public final void	notifyAll()
public java.lang.String	toString()
public final void	wait(long) throws java.lang.InterruptedException
public final void	wait(long, int) throws java.lang.InterruptedException
public final void	wait() throws java.lang.InterruptedException

3.2.52 java.lang.OutOfMemoryError

public class java.lang.OutOfMemoryError extends java.lang.VirtualMachineError	
public	OutOfMemoryError()
public	OutOfMemoryError(java.lang.String)

3.2.53 java.lang.Package

public class java.lang.Package extends java.lang.Object	
public java.lang.String	getImplementationTitle()
public java.lang.String	getImplementationVendor()
public java.lang.String	getImplementationVersion()
public java.lang.String	getName()
public static java.lang.Package	getPackage(java.lang.String)
public static java.lang.Package	getPackages()
public java.lang.String	getSpecificationTitle()
public java.lang.String	getSpecificationVendor()
public java.lang.String	getSpecificationVersion()
public int	hashCode()
public boolean	isCompatibleWith(java.lang.String) throws java.lang.NumberFormatException
public boolean	isSealed()
public boolean	isSealed(java.net.URL)
public java.lang.String	toString()

3.2.54 java.lang.Process

public abstract class java.lang.Process extends java.lang.Object	
public	Process()
public abstract void	destroy()
public abstract int	exitValue()
public abstract java.io.InputStream	getErrorStream()
public abstract java.io.InputStream	getInputStream()
public abstract java.io.OutputStream	getOutputStream()
public abstract int	waitFor() throws java.lang.InterruptedException

3.2.55 java.lang Runnable

public abstract interface java.lang.Runnable	
public void	run()

3.2.56 java.lang.Runtime

public class java.lang.Runtime extends java.lang.Object	
public void	addShutdownHook(java.lang.Thread)
public java.lang.Process	exec(java.lang.String) throws java.io.IOException
public java.lang.Process	exec(java.lang.String, java.lang.String[]) throws java.io.IOException
public java.lang.Process	exec(java.lang.String, java.lang.String[], java.io.File) throws java.io.IOException
public java.lang.Process	exec(java.lang.String[]) throws java.io.IOException
public java.lang.Process	exec(java.lang.String[], java.lang.String[]) throws java.io.IOException
public java.lang.Process	exec(java.lang.String[], java.lang.String[], java.io.File) throws java.io.IOException
public void	exit(int)
public long	freeMemory()
public void	gc()
public static java.lang.Runtime	getRuntime()
public void	halt(int)
public void	load(java.lang.String)
public void	loadLibrary(java.lang.String)
public boolean	removeShutdownHook(java.lang.Thread)
public void	runFinalization()
public long	totalMemory()
public void	traceInstructions(boolean)
public void	traceMethodCalls(boolean)

3.2.57 java.lang.RuntimeException

public class java.lang.RuntimeException extends java.lang.Exception

public RuntimeException()

public RuntimeException(java.lang.String)

3.2.58 java.lang.RuntimePermission

public final class java.lang.RuntimePermission extends java.security.BasicPermission

public RuntimePermission(java.lang.String)

public RuntimePermission(java.lang.String, java.lang.String)

3.2.59 java.lang.SecurityException

public class java.lang.SecurityException extends java.lang.RuntimeException

public SecurityException()

public SecurityException(java.lang.String)

3.2.60 java.lang.SecurityManager

public class java.lang.SecurityManager extends java.lang.Object

public SecurityManager()

public void checkAccept(java.lang.String, int)

public void checkAccess(java.lang.Thread)

public void checkAccess(java.lang.ThreadGroup)

public void checkAwtEventQueueAccess()

public void checkConnect(java.lang.String, int)

public void checkConnect(java.lang.String, int, java.lang.Object)

public void checkCreateClassLoader()

public void checkDelete(java.lang.String)

public void checkExec(java.lang.String)

public void checkExit(int)

public void checkLink(java.lang.String)

public void checkListen(int)

public void checkMemberAccess(java.lang.Class, int)

public void checkMulticast(java.net.InetAddress)

public void checkMulticast(java.net.InetAddress, byte)

public void checkPackageAccess(java.lang.String)

public void checkPackageDefinition(java.lang.String)

public void checkPermission(java.security.Permission)

public void checkPermission(java.security.Permission, java.lang.Object)

public void checkPrintJobAccess()

public void checkPropertiesAccess()

public void checkPropertyAccess(java.lang.String)

public void	checkRead (java.io.FileDescriptor)
public void	checkRead (java.lang.String)
public void	checkRead (java.lang.String, java.lang.Object)
public void	checkSecurityAccess (java.lang.String)
public void	checkSetFactory ()
public void	checkSystemClipboardAccess ()
public boolean	checkTopLevelWindow (java.lang.Object)
public void	checkWrite (java.io.FileDescriptor)
public void	checkWrite (java.lang.String)
protected java.lang.Class	getClassContext ()
public java.lang.Object	getSecurityContext ()
public java.lang.ThreadGroup	getThreadGroup ()

3.2.61 java.lang.Short

public final class java.lang.Short extends java.lang.Number implements java.lang.Comparable

public static final short	MAX_VALUE
public static final short	MIN_VALUE
public static final java.lang.Class	TYPE
public	Short (short)
public	Short (java.lang.String) throws java.lang.NumberFormatException
public byte	byteValue ()
public int	compareTo (java.lang.Short)
public int	compareTo (java.lang.Object)
public static java.lang.Short	decode (java.lang.String) throws java.lang.NumberFormatException
public double	doubleValue ()
public boolean	equals (java.lang.Object)
public float	floatValue ()
public int	hashCode ()
public int	intValue ()
public long	longValue ()
public static short	parseShort (java.lang.String) throws java.lang.NumberFormatException
public static short	parseShort (java.lang.String, int) throws java.lang.NumberFormatException
public short	shortValue ()
public static java.lang.String	toString (short)
public java.lang.String	toString ()
public static java.lang.Short	valueOf (java.lang.String, int) throws java.lang.NumberFormatException
public static java.lang.Short	valueOf (java.lang.String) throws java.lang.NumberFormatException

3.2.62 java.lang.StackOverflowError

public class java.lang.StackOverflowError extends java.lang.VirtualMachineError

public	StackOverflowError()
public	StackOverflowError(java.lang.String)

3.2.63 java.lang.StrictMath

public final class java.lang.StrictMath extends java.lang.Object	
public static final double	E
public static final double	PI
public static double	IEEERemainder(double, double)
public static int	abs(int)
public static long	abs(long)
public static float	abs(float)
public static double	abs(double)
public static double	acos(double)
public static double	asin(double)
public static double	atan(double)
public static double	atan2(double, double)
public static double	ceil(double)
public static double	cos(double)
public static double	exp(double)
public static double	floor(double)
public static double	log(double)
public static int	max(int, int)
public static long	max(long, long)
public static float	max(float, float)
public static double	max(double, double)
public static int	min(int, int)
public static long	min(long, long)
public static float	min(float, float)
public static double	min(double, double)
public static double	pow(double, double)
public static double	random()
public static double	rint(double)
public static int	round(float)
public static long	round(double)
public static double	sin(double)
public static double	sqrt(double)
public static double	tan(double)
public static double	toDegrees(double)
public static double	toRadians(double)

3.2.64 java.lang.String

public final class java.lang.String extends java.lang.Object implements java.io.Serializable, java.lang.Comparable

public static final java.util.Comparator	CASE_INSENSITIVE_ORDER
public	String()
public	String(java.lang.String)
public	String(char[])
public	String(char[], int, int)
public	String(byte[], int, int, java.lang.String) throws java.io.UnsupportedEncodingException
public	String(byte[], java.lang.String) throws java.io.UnsupportedEncodingException
public	String(byte[], int, int)
public	String(byte[])
public	String(java.lang.StringBuffer)
public char	charAt(int)
public int	compareTo(java.lang.String)
public int	compareTo(java.lang.Object)
public int	compareToIgnoreCase (java.lang.String)
public java.lang.String	concat(java.lang.String)
public static java.lang.String	copyValueOf(char[], int, int)
public static java.lang.String	copyValueOf(char[])
public boolean	endsWith(java.lang.String)
public boolean	equals(java.lang.Object)
public boolean	equalsIgnoreCase (java.lang.String)
public byte	getBytes(java.lang.String) throws java.io.UnsupportedEncodingException
public byte	getBytes()
public void	getChars(int, int, char[], int)
public int	hashCode()
public int	indexOf(int)
public int	indexOf(int, int)
public int	indexOf(java.lang.String)
public int	indexOf(java.lang.String, int)
public java.lang.String	intern()
public int	lastIndexOf(int)
public int	lastIndexOf(int, int)
public int	lastIndexOf(java.lang.String)
public int	lastIndexOf(java.lang.String, int)
public int	length()
public boolean	regionMatches(int, java.lang.String, int, int)



public boolean	regionMatches (boolean, int, java.lang.String, int, int)
public java.lang.String	replace (char, char)
public boolean	startsWith (java.lang.String, int)
public boolean	startsWith (java.lang.String)
public java.lang.String	substring (int)
public java.lang.String	substring (int, int)
public char	toCharArray ()
public java.lang.String	toLowerCase (java.util.Locale)
public java.lang.String	toLowerCase ()
public java.lang.String	toString ()
public java.lang.String	toUpperCase (java.util.Locale)
public java.lang.String	toUpperCase ()
public java.lang.String	trim ()
public static java.lang.String	valueOf (java.lang.Object)
public static java.lang.String	valueOf (char[])
public static java.lang.String	valueOf (char[], int, int)
public static java.lang.String	valueOf (boolean)
public static java.lang.String	valueOf (char)
public static java.lang.String	valueOf (int)
public static java.lang.String	valueOf (long)
public static java.lang.String	valueOf (float)
public static java.lang.String	valueOf (double)

3.2.65 java.lang.StringBuffer

public final class java.lang.StringBuffer extends java.lang.Object implements java.io.Serializable	
public	StringBuffer ()
public	StringBuffer (int)
public	StringBuffer (java.lang.String)
public java.lang.StringBuffer	append (java.lang.Object)
public java.lang.StringBuffer	append (java.lang.String)
public java.lang.StringBuffer	append (char[])
public java.lang.StringBuffer	append (char[], int, int)
public java.lang.StringBuffer	append (boolean)
public java.lang.StringBuffer	append (char)
public java.lang.StringBuffer	append (int)
public java.lang.StringBuffer	append (long)
public java.lang.StringBuffer	append (float)
public java.lang.StringBuffer	append (double)
public int	capacity ()



public char	charAt (int)
public java.lang.StringBuffer	delete (int, int)
public java.lang.StringBuffer	deleteCharAt (int)
public void	ensureCapacity (int)
public void	getChars (int, int, char[], int)
public java.lang.StringBuffer	insert (int, char[], int, int)
public java.lang.StringBuffer	insert (int, java.lang.Object)
public java.lang.StringBuffer	insert (int, java.lang.String)
public java.lang.StringBuffer	insert (int, char[])
public java.lang.StringBuffer	insert (int, boolean)
public java.lang.StringBuffer	insert (int, char)
public java.lang.StringBuffer	insert (int, int)
public java.lang.StringBuffer	insert (int, long)
public java.lang.StringBuffer	insert (int, float)
public java.lang.StringBuffer	insert (int, double)
public int	length ()
public java.lang.StringBuffer	replace (int, int, java.lang.String)
public java.lang.StringBuffer	reverse ()
public void	setCharAt (int, char)
public void	setLength (int)
public java.lang.String	substring (int)
public java.lang.String	substring (int, int)
public java.lang.String	toString ()

3.2.66 java.lang.StringIndexOutOfBoundsException

public class java.lang.StringIndexOutOfBoundsException extends java.lang.IndexOutOfBoundsException	
public	StringIndexOutOfBoundsException ()
public	StringIndexOutOfBoundsException (java.lang.String)
public	StringIndexOutOfBoundsException (int)

3.2.67 java.lang.System

public final class java.lang.System extends java.lang.Object	
public static final java.io.PrintStream	err
public static final java.io.InputStream	in
public static final java.io.PrintStream	out
public static void	arraycopy (java.lang.Object, int, java.lang.Object, int, int)
public static long	currentTimeMillis ()
public static void	exit (int)

public static void	gc()
public static java.util.Properties	getProperties()
public static java.lang.String	getProperty(java.lang.String)
public static java.lang.String	getProperty(java.lang.String, java.lang.String)
public static java.lang.SecurityManager	getSecurityManager()
public static int	identityHashCode(java.lang.Object)
public static void	load(java.lang.String)
public static void	loadLibrary(java.lang.String)
public static java.lang.String	mapLibraryName(java.lang.String)
public static void	runFinalization()
public static void	setErr(java.io.PrintStream)
public static void	setIn(java.io.InputStream)
public static void	setOut(java.io.PrintStream)
public static void	setProperty(java.util.Properties)
public static java.lang.String	setProperty(java.lang.String, java.lang.String)
public static void	setSecurityManager(java.lang.SecurityManager)

3.2.68 java.lang.Thread

public class java.lang.Thread extends java.lang.Object implements java.lang.Runnable	
public static final int	MAX_PRIORITY
public static final int	MIN_PRIORITY
public static final int	NORM_PRIORITY
public	Thread()
public	Thread(java.lang.Runnable)
public	Thread(java.lang.ThreadGroup, java.lang.Runnable)
public	Thread(java.lang.String)
public	Thread(java.lang.ThreadGroup, java.lang.String)
public	Thread(java.lang.Runnable, java.lang.String)
public	Thread(java.lang.ThreadGroup, java.lang.Runnable, java.lang.String)
public static int	activeCount()
public final void	checkAccess()
public static java.lang.Thread	currentThread()
public void	destroy()
public static void	dumpStack()
public static int	enumerate(java.lang.Thread[])
public java.lang.ClassLoader	getContextClassLoader()
public final java.lang.String	getName()
public final int	getPriority()
public final	getThreadGroup()



java.lang.ThreadGroup	
public void	interrupt()
public static boolean	interrupted()
public final boolean	isAlive()
public final boolean	isDaemon()
public boolean	isInterrupted()
public final void	join(long) throws java.lang.InterruptedException
public final void	join(long, int) throws java.lang.InterruptedException
public final void	join() throws java.lang.InterruptedException
public void	run()
public void	setContextClassLoader (java.lang.ClassLoader)
public final void	setDaemon (boolean)
public final void	setName (java.lang.String)
public final void	setPriority (int)
public static void	sleep(long) throws java.lang.InterruptedException
public static void	sleep(long, int) throws java.lang.InterruptedException
public void	start()
public java.lang.String	toString()
public static void	yield()

3.2.69 java.lang.ThreadDeath

public class java.lang.ThreadDeath extends java.lang.Error	
public	ThreadDeath()

3.2.70 java.lang.ThreadGroup

public class java.lang.ThreadGroup extends java.lang.Object	
public	ThreadGroup (java.lang.String)
public	ThreadGroup (java.lang.ThreadGroup, java.lang.String)
public int	activeCount()
public int	activeGroupCount()
public final void	checkAccess()
public final void	destroy()
public int	enumerate (java.lang.Thread[])
public int	enumerate (java.lang.Thread[], boolean)
public int	enumerate (java.lang.ThreadGroup[])
public int	enumerate (java.lang.ThreadGroup[], boolean)
public final int	getMaxPriority()
public final java.lang.String	getName()
public final java.lang.ThreadGroup	getParent()

public final void	interrupt()
public final boolean	isDaemon()
public boolean	isDestroyed()
public void	list()
public final boolean	parentOf (java.lang.ThreadGroup)
public final void	setDaemon (boolean)
public final void	setMaxPriority (int)
public java.lang.String	toString()
public void	uncaughtException (java.lang.Thread, java.lang.Throwable)

3.2.71 java.lang.ThreadLocal

public class java.lang.ThreadLocal extends java.lang.Object	
public	ThreadLocal()
public java.lang.Object	get()
protected java.lang.Object	initialValue()
public void	set (java.lang.Object)

3.2.72 java.lang.Throwable

public class java.lang.Throwable extends java.lang.Object implements java.io.Serializable	
public	Throwable()
public	Throwable (java.lang.String)
public java.lang.Throwable	fillInStackTrace()
public java.lang.String	getLocalizedMessage()
public java.lang.String	getMessage()
public void	printStackTrace()
public void	printStackTrace (java.io.PrintStream)
public void	printStackTrace (java.io.PrintWriter)
public java.lang.String	toString()

3.2.73 java.lang.UnknownError

public class java.lang.UnknownError extends java.lang.VirtualMachineError	
public	UnknownError()
public	UnknownError (java.lang.String)

3.2.74 java.lang.UnsatisfiedLinkError

public class java.lang.UnsatisfiedLinkError extends java.lang.LinkageError	
public	UnsatisfiedLinkError()
public	UnsatisfiedLinkError (java.lang.String)

3.2.75 java.lang.UnsupportedClassVersionError

public class java.lang.UnsupportedClassVersionError extends java.lang.ClassFormatError	
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public	UnsupportedClassVersionError()
public	UnsupportedClassVersionError (java.lang.String)

3.2.76 java.lang.UnsupportedOperationException

public class java.lang.UnsupportedOperationException extends java.lang.RuntimeException	
public	UnsupportedOperationException()
public	UnsupportedOperationException (java.lang.String)

3.2.77 java.lang.VerifyError

public class java.lang.VerifyError extends java.lang.LinkageError	
public	VerifyError()
public	VerifyError (java.lang.String)

3.2.78 java.lang.VirtualMachineError

public abstract class java.lang.VirtualMachineError extends java.lang.Error	
public	VirtualMachineError()
public	VirtualMachineError (java.lang.String)

3.2.79 java.lang.Void

public final class java.lang.Void extends java.lang.Object	
public static final java.lang.Class	TYPE

3.3 Package java.lang.ref

3.3.1 java.lang.ref.PhantomReference

public class java.lang.ref.PhantomReference extends java.lang.ref.Reference	
public	PhantomReference (java.lang.Object, java.lang.ref.ReferenceQueue)
public java.lang.Object	get()

3.3.2 java.lang.ref.Reference

public abstract class java.lang.ref.Reference extends java.lang.Object	
public void	clear()
public boolean	enqueue()
public java.lang.Object	get()
public boolean	isEnqueued()

3.3.3 java.lang.ref.ReferenceQueue

public class java.lang.ref.ReferenceQueue extends java.lang.Object	
public	ReferenceQueue()
public java.lang.ref.Reference	poll()
public java.lang.ref.Reference	remove (long) throws java.lang.IllegalArgumentException, java.lang.InterruptedException
public java.lang.ref.Reference	remove() throws java.lang.InterruptedException

3.3.4 java.lang.ref.SoftReference

public class java.lang.ref.SoftReference extends java.lang.ref.Reference	
public	SoftReference (java.lang.Object)
public	SoftReference (java.lang.Object, java.lang.ref.ReferenceQueue)
public java.lang.Object	get ()

3.3.5 java.lang.ref.WeakReference

public class java.lang.ref.WeakReference extends java.lang.ref.Reference	
public	WeakReference (java.lang.Object)
public	WeakReference (java.lang.Object, java.lang.ref.ReferenceQueue)

3.4 Package java.lang.reflect

3.4.1 java.lang.reflect.AccessibleObject

public class java.lang.reflect.AccessibleObject extends java.lang.Object	
protected	AccessibleObject ()
public boolean	isAccessible ()
public static void	setAccessible (java.lang.reflect.AccessibleObject[], boolean) throws java.lang.SecurityException
public void	setAccessible (boolean) throws java.lang.SecurityException

3.4.2 java.lang.reflect.Array

public final class java.lang.reflect.Array extends java.lang.Object	
public static java.lang.Object	get (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static boolean	getBoolean (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static byte	getByte (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static char	getChar (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static double	getDouble (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static float	getFloat (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static int	getInt (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static int	getLength (java.lang.Object) throws java.lang.IllegalArgumentException
public static long	getLong (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static short	getShort (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static java.lang.Object	newInstance (java.lang.Class, int) throws java.lang.NegativeArraySizeException

public static java.lang.Object	newInstance (java.lang.Class, int[]) throws java.lang.IllegalArgumentException, java.lang.NegativeArraySizeException
public static void	set (java.lang.Object, int, java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setBoolean (java.lang.Object, int, boolean) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setByte (java.lang.Object, int, byte) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setChar (java.lang.Object, int, char) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setDouble (java.lang.Object, int, double) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setFloat (java.lang.Object, int, float) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setInt (java.lang.Object, int, int) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setLong (java.lang.Object, int, long) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException
public static void	setShort (java.lang.Object, int, short) throws java.lang.IllegalArgumentException, java.lang.ArrayIndexOutOfBoundsException

3.4.3 java.lang.reflect.Constructor

public final class java.lang.reflect.Constructor extends java.lang.reflect.AccessibleObject implements java.lang.reflect.Member

public boolean	equals (java.lang.Object)
public java.lang.Class	getDeclaringClass ()
public java.lang.Class	getExceptionTypes ()
public int	getModifiers ()
public java.lang.String	getName ()
public java.lang.Class	getParameterTypes ()
public int	hashCode ()
public java.lang.Object	newInstance (java.lang.Object[]) throws java.lang.InstantiationException, java.lang.IllegalAccessException, java.lang.IllegalArgumentException, java.lang.reflect.InvocationTargetException
public java.lang.String	toString ()

3.4.4 java.lang.reflect.Field

public final class java.lang.reflect.Field extends java.lang.reflect.AccessibleObject implements java.lang.reflect.Member



public boolean	equals (java.lang.Object)
public java.lang.Object	get (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public boolean	getBoolean (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public byte	getByte (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public char	getChar (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public java.lang.Class	getDeclaringClass ()
public double	getDouble (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public float	getFloat (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public int	getInt (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public long	getLong (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public int	getModifiers ()
public java.lang.String	getName ()
public short	getShort (java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public java.lang.Class	getType ()
public int	hashCode ()
public void	set (java.lang.Object, java.lang.Object) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setBoolean (java.lang.Object, boolean) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setByte (java.lang.Object, byte) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setChar (java.lang.Object, char) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setDouble (java.lang.Object, double) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setFloat (java.lang.Object, float) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setInt (java.lang.Object, int) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setLong (java.lang.Object, long) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public void	setShort (java.lang.Object, short) throws java.lang.IllegalArgumentException, java.lang.IllegalAccessException
public java.lang.String	toString ()

3.4.5 java.lang.reflect.InvocationHandler

public abstract interface java.lang.reflect.InvocationHandler

public java.lang.Object	invoke (java.lang.Object, java.lang.reflect.Method, java.lang.Object[]) throws java.lang.Throwable
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3.4.6 java.lang.reflect.InvocationTargetException

public class java.lang.reflect.InvocationTargetException extends java.lang.Exception

protected	InvocationTargetException ()
public	InvocationTargetException (java.lang.Throwable)
public	InvocationTargetException (java.lang.Throwable, java.lang.String)
public java.lang.Throwable	getTargetException ()
public void	printStackTrace ()
public void	printStackTrace (java.io.PrintStream)
public void	printStackTrace (java.io.PrintWriter)

3.4.7 java.lang.reflect.Member

public abstract interface java.lang.reflect.Member

public static final int	DECLARED
public static final int	PUBLIC
public java.lang.Class	getDeclaringClass ()
public int	getModifiers ()
public java.lang.String	getName ()

3.4.8 java.lang.reflect.Method

public final class java.lang.reflect.Method extends java.lang.reflect.AccessibleObject implements java.lang.reflect.Member

public boolean	equals (java.lang.Object)
public java.lang.Class	getDeclaringClass ()
public java.lang.Class	getExceptionTypes ()
public int	getModifiers ()
public java.lang.String	getName ()
public java.lang.Class	getParameterTypes ()
public java.lang.Class	getReturnType ()
public int	hashCode ()
public java.lang.Object	invoke (java.lang.Object, java.lang.Object[]) throws java.lang.IllegalAccessException, java.lang.IllegalArgumentException, java.lang.reflect.InvocationTargetException
public java.lang.String	toString ()

3.4.9 java.lang.reflect.Modifier

public class java.lang.reflect.Modifier extends java.lang.Object

public static final int	ABSTRACT
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public static final int	FINAL
public static final int	INTERFACE
public static final int	NATIVE
public static final int	PRIVATE
public static final int	PROTECTED
public static final int	PUBLIC
public static final int	STATIC
public static final int	STRICT
public static final int	SYNCHRONIZED
public static final int	TRANSIENT
public static final int	VOLATILE
public	Modifier()
public static boolean	isAbstract(int)
public static boolean	isFinal(int)
public static boolean	isInterface(int)
public static boolean	isNative(int)
public static boolean	isPrivate(int)
public static boolean	isProtected(int)
public static boolean	isPublic(int)
public static boolean	isStatic(int)
public static boolean	isStrict(int)
public static boolean	isSynchronized(int)
public static boolean	isTransient(int)
public static boolean	isVolatile(int)
public static java.lang.String	toString(int)

3.4.10 java.lang.reflect.Proxy

public class java.lang.reflect.Proxy extends java.lang.Object implements java.io.Serializable

protected java.lang.reflect.InvocationHandle r	h
protected	Proxy (java.lang.reflect.InvocationHandler)
public static java.lang.reflect.InvocationHandle r	getInvocationHandler (java.lang.Object) throws java.lang.IllegalArgumentException
public static java.lang.Class	getProxyClass (java.lang.ClassLoader, java.lang.Class[]) throws java.lang.IllegalArgumentException
public static boolean	isProxyClass (java.lang.Class)
public static java.lang.Object	newProxyInstance (java.lang.ClassLoader, java.lang.Class[], java.lang.reflect.InvocationHandler) throws java.lang.IllegalArgumentException

3.4.11 java.lang.reflect.ReflectPermission

public final class java.lang.reflect.ReflectPermission extends java.security.BasicPermission	
public	ReflectPermission (java.lang.String)
public	ReflectPermission (java.lang.String, java.lang.String)

3.4.12 java.lang.reflect.UndeclaredThrowableException

public class java.lang.reflect.UndeclaredThrowableException extends java.lang.RuntimeException	
public	UndeclaredThrowableException (java.lang.Throwable)
public	UndeclaredThrowableException (java.lang.Throwable, java.lang.String)
public java.lang.Throwable	getUndeclaredThrowable ()
public void	printStackTrace ()
public void	printStackTrace (java.io.PrintStream)
public void	printStackTrace (java.io.PrintWriter)

3.5 Package java.math

3.5.1 java.math.BigInteger

public class java.math.BigInteger extends java.lang.Number implements java.lang.Comparable	
public static final java.math.BigInteger	ONE
public static final java.math.BigInteger	ZERO
public	BigInteger (byte[])
public	BigInteger (int, byte[])
public	BigInteger (java.lang.String, int)
public	BigInteger (java.lang.String)
public	BigInteger (int, java.util.Random)
public	BigInteger (int, int, java.util.Random)
public java.math.BigInteger	abs ()
public java.math.BigInteger	add (java.math.BigInteger)
public java.math.BigInteger	and (java.math.BigInteger)
public java.math.BigInteger	andNot (java.math.BigInteger)
public int	bitCount ()
public int	bitLength ()
public java.math.BigInteger	clearBit (int)
public int	compareTo (java.math.BigInteger)
public int	compareTo (java.lang.Object)
public java.math.BigInteger	divide (java.math.BigInteger)
public java.math.BigInteger	divideAndRemainder (java.math.BigInteger)
public double	doubleValue ()
public boolean	equals (java.lang.Object)



public java.math.BigInteger	flipBit (int)
public float	floatValue ()
public java.math.BigInteger	gcd (java.math.BigInteger)
public int	getLowestSetBit ()
public int	hashCode ()
public int	intValue ()
public boolean	isProbablePrime (int)
public long	longValue ()
public java.math.BigInteger	max (java.math.BigInteger)
public java.math.BigInteger	min (java.math.BigInteger)
public java.math.BigInteger	mod (java.math.BigInteger)
public java.math.BigInteger	modInverse (java.math.BigInteger)
public java.math.BigInteger	modPow (java.math.BigInteger, java.math.BigInteger)
public java.math.BigInteger	multiply (java.math.BigInteger)
public java.math.BigInteger	negate ()
public java.math.BigInteger	not ()
public java.math.BigInteger	or (java.math.BigInteger)
public java.math.BigInteger	pow (int)
public java.math.BigInteger	remainder (java.math.BigInteger)
public java.math.BigInteger	setBit (int)
public java.math.BigInteger	shiftLeft (int)
public java.math.BigInteger	shiftRight (int)
public int	signum ()
public java.math.BigInteger	subtract (java.math.BigInteger)
public boolean	testBit (int)
public byte	toByteArray ()
public java.lang.String	toString (int)
public java.lang.String	toString ()
public static java.math.BigInteger	valueOf (long)
public java.math.BigInteger	xor (java.math.BigInteger)

3.6 Package java.net

3.6.1 java.net.Authenticator

public abstract class java.net.Authenticator extends java.lang.Object	
public	Authenticator ()
protected java.net.PasswordAuthentication	getPasswordAuthentication ()
protected final int	getRequestingPort ()
protected final java.lang.String	getRequestingPrompt ()

protected final java.lang.String	getRequestingProtocol()
protected final java.lang.String	getRequestingScheme()
protected final java.net.InetAddress	getRequestingSite()
public static java.net.PasswordAuthentication	requestPasswordAuthentication (java.net.InetAddress, int, java.lang.String, java.lang.String, java.lang.String)
public static void	setDefault (java.net.Authenticator)

3.6.2 java.net.BindException

public class java.net.BindException extends java.net.SocketException	
public	BindException (java.lang.String)
public	BindException ()

3.6.3 java.net.ConnectException

public class java.net.ConnectException extends java.net.SocketException	
public	ConnectException (java.lang.String)
public	ConnectException ()

3.6.4 java.net.ContentHandler

public abstract class java.net.ContentHandler extends java.lang.Object	
public	ContentHandler ()
public abstract java.lang.Object	getContent (java.net.URLConnection) throws java.io.IOException
public java.lang.Object	getContent (java.net.URLConnection, java.lang.Class[]) throws java.io.IOException

3.6.5 java.net.ContentHandlerFactory

public abstract interface java.net.ContentHandlerFactory	
public java.net.ContentHandler	createContentHandler (java.lang.String)

3.6.6 java.net.DatagramPacket

public final class java.net.DatagramPacket extends java.lang.Object	
public	DatagramPacket (byte[], int, int)
public	DatagramPacket (byte[], int)
public	DatagramPacket (byte[], int, int, java.net.InetAddress, int)
public	DatagramPacket (byte[], int, java.net.InetAddress, int)
public java.net.InetAddress	getAddress ()
public byte	getData ()
public int	getLength ()
public int	getOffset ()
public int	getPort ()
public void	setAddress (java.net.InetAddress)
public void	setData (byte[], int, int)

public void	setData (byte[])
public void	setLength (int)
public void	setPort (int)

3.6.7 java.net.DatagramSocket

public class java.net.DatagramSocket extends java.lang.Object	
public	DatagramSocket () throws java.net.SocketException
public	DatagramSocket (int) throws java.net.SocketException
public	DatagramSocket (int, java.net.InetAddress) throws java.net.SocketException
public void	close ()
public void	connect (java.net.InetAddress, int)
public void	disconnect ()
public java.net.InetAddress	getInetAddress ()
public java.net.InetAddress	getLocalAddress ()
public int	getLocalPort ()
public int	getPort ()
public int	getReceiveBufferSize () throws java.net.SocketException
public int	getSendBufferSize () throws java.net.SocketException
public int	getSoTimeout () throws java.net.SocketException
public void	receive (java.net.DatagramPacket) throws java.io.IOException
public void	send (java.net.DatagramPacket) throws java.io.IOException
public static void	setDatagramSocketImplFactory (java.net.DatagramSocketImplFactory) throws java.io.IOException
public void	setReceiveBufferSize (int) throws java.net.SocketException
public void	setSendBufferSize (int) throws java.net.SocketException
public void	setSoTimeout (int) throws java.net.SocketException

3.6.8 java.net.DatagramSocketImpl

public abstract class java.net.DatagramSocketImpl extends java.lang.Object implements java.net.SocketOptions	
protected java.io.FileDescriptor	fd
protected int	localPort
public	DatagramSocketImpl ()
protected abstract void	bind (int, java.net.InetAddress) throws java.net.SocketException
protected abstract void	close ()
protected abstract void	create () throws java.net.SocketException
protected java.io.FileDescriptor	getFileDescriptor ()
protected int	getLocalPort ()
public abstract java.lang.Object	getOption (int) throws java.net.SocketException
protected abstract int	getTimeToLive () throws java.io.IOException



protected abstract void	join (java.net.InetAddress) throws java.io.IOException
protected abstract void	leave (java.net.InetAddress) throws java.io.IOException
protected abstract int	peek (java.net.InetAddress) throws java.io.IOException
protected abstract void	receive (java.net.DatagramPacket) throws java.io.IOException
protected abstract void	send (java.net.DatagramPacket) throws java.io.IOException
public abstract void	setOption (int, java.lang.Object) throws java.net.SocketException
protected abstract void	setTimeToLive (int) throws java.io.IOException

3.6.9 java.net.DatagramSocketImplFactory

public abstract interface java.net.DatagramSocketImplFactory	
public java.net.DatagramSocketImpl	createDatagramSocketImpl ()

3.6.10 java.net.FileNameMap

public abstract interface java.net.FileNameMap	
public java.lang.String	getContentTypeFor (java.lang.String)

3.6.11 java.net.HttpURLConnection

public abstract class java.net.HttpURLConnection extends java.net.URLConnection	
public static final int	HTTP_ACCEPTED
public static final int	HTTP_BAD_GATEWAY
public static final int	HTTP_BAD_METHOD
public static final int	HTTP_BAD_REQUEST
public static final int	HTTP_CLIENT_TIMEOUT
public static final int	HTTP_CONFLICT
public static final int	HTTP_CREATED
public static final int	HTTP_ENTITY_TOO_LARGE
public static final int	HTTP_FORBIDDEN
public static final int	HTTP_GATEWAY_TIMEOUT
public static final int	HTTP_GONE
public static final int	HTTP_INTERNAL_ERROR
public static final int	HTTP_LENGTH_REQUIRED
public static final int	HTTP_MOVED_PERM
public static final int	HTTP_MOVED_TEMP
public static final int	HTTP_MULT_CHOICE
public static final int	HTTP_NOT_ACCEPTABLE
public static final int	HTTP_NOT_AUTHORITY
public static final int	HTTP_NOT_FOUND
public static final int	HTTP_NOT_IMPLEMENTED
public static final int	HTTP_NOT_MODIFIED



public static final int	HTTP_NO_CONTENT
public static final int	HTTP_OK
public static final int	HTTP_PARTIAL
public static final int	HTTP_PAYMENT_REQUIRED
public static final int	HTTP_PRECON_FAILED
public static final int	HTTP_PROXY_AUTH
public static final int	HTTP_REQ_TOO_LONG
public static final int	HTTP_RESET
public static final int	HTTP_SEE_OTHER
public static final int	HTTP_UNAUTHORIZED
public static final int	HTTP_UNAVAILABLE
public static final int	HTTP_UNSUPPORTED_TYPE
public static final int	HTTP_USE_PROXY
public static final int	HTTP_VERSION
protected boolean	instanceFollowRedirects
protected java.lang.String	method
protected int	responseCode
protected java.lang.String	responseMessage
protected	URLConnection(java.net.URL)
public abstract void	disconnect()
public java.io.InputStream	getErrorStream()
public static boolean	getFollowRedirects()
public long	getHeaderFieldDate (java.lang.String, long)
public boolean	getInstanceFollowRedirects()
public java.security.Permission	getPermission() throws java.io.IOException
public java.lang.String	getRequestMethod()
public int	getResponseCode() throws java.io.IOException
public java.lang.String	getResponseMessage() throws java.io.IOException
public static void	setFollowRedirects (boolean)
public void	setInstanceFollowRedirects (boolean)
public void	setRequestMethod (java.lang.String) throws java.net.ProtocolException
public abstract boolean	usingProxy()

3.6.12 java.net.InetAddress

public final class java.net.InetAddress extends java.lang.Object implements java.io.Serializable	
public boolean	equals (java.lang.Object)
public byte	getAddress()
public static java.net.InetAddress	getAllByName (java.lang.String) throws java.net.UnknownHostException
public static java.net.InetAddress	getByName (java.lang.String) throws java.net.UnknownHostException



public java.lang.String	getHostAddress()
public java.lang.String	getHostName()
public static java.net.InetAddress	getLocalHost() throws java.net.UnknownHostException
public int	hashCode()
public boolean	isMulticastAddress()
public java.lang.String	toString()

3.6.13 java.net.JarURLConnection

public abstract class java.net.JarURLConnection extends java.net.URLConnection

protected java.net.URLConnection	jarFileURLConnection
protected	JarURLConnection (java.net.URL) throws java.net.MalformedURLException
public java.util.jar.Attributes	getAttributes() throws java.io.IOException
public java.security.cert.Certificate	getCertificates() throws java.io.IOException
public java.lang.String	getEntryName()
public java.util.jar.JarEntry	getJarEntry() throws java.io.IOException
public abstract java.util.jar.JarFile	getJarFile() throws java.io.IOException
public java.net.URL	getJarFileURL()
public java.util.jar.Attributes	getMainAttributes() throws java.io.IOException
public java.util.jar.Manifest	getManifest() throws java.io.IOException

3.6.14 java.net.MalformedURLException

public class java.net.MalformedURLException extends java.io.IOException

public	MalformedURLException()
public	MalformedURLException (java.lang.String)

3.6.15 java.net.MulticastSocket

public class java.net.MulticastSocket extends java.net.DatagramSocket

public	MulticastSocket() throws java.io.IOException
public	MulticastSocket (int) throws java.io.IOException
public java.net.InetAddress	getInterface() throws java.net.SocketException
public int	getTimeToLive() throws java.io.IOException
public void	joinGroup (java.net.InetAddress) throws java.io.IOException
public void	leaveGroup (java.net.InetAddress) throws java.io.IOException
public void	send (java.net.DatagramPacket, byte) throws java.io.IOException
public void	setInterface (java.net.InetAddress) throws java.net.SocketException
public void	setTimeToLive (int) throws java.io.IOException

3.6.16 java.net.NetPermission

public final class java.net.NetPermission extends java.security.BasicPermission

public	NetPermission (java.lang.String)
public	NetPermission (java.lang.String, java.lang.String)

3.6.17 java.net.NoRouteToHostException

public class java.net.NoRouteToHostException extends java.net.SocketException	
public	NoRouteToHostException (java.lang.String)
public	NoRouteToHostException ()

3.6.18 java.net.PasswordAuthentication

public final class java.net.PasswordAuthentication extends java.lang.Object	
public	PasswordAuthentication (java.lang.String, char[])
public char	getPassword ()
public java.lang.String	getUserName ()

3.6.19 java.net.ProtocolException

public class java.net.ProtocolException extends java.io.IOException	
public	ProtocolException (java.lang.String)
public	ProtocolException ()

3.6.20 java.net.ServerSocket

public class java.net.ServerSocket extends java.lang.Object	
public	ServerSocket (int) throws java.io.IOException
public	ServerSocket (int, int) throws java.io.IOException
public	ServerSocket (int, int, java.net.InetAddress) throws java.io.IOException
public java.net.Socket	accept () throws java.io.IOException
public void	close () throws java.io.IOException
public java.net.InetAddress	getInetAddress ()
public int	getLocalPort ()
public int	getSoTimeout () throws java.io.IOException
protected final void	implAccept (java.net.Socket) throws java.io.IOException
public void	setSoTimeout (int) throws java.net.SocketException
public static void	setSocketFactory (java.net.SocketImplFactory) throws java.io.IOException
public java.lang.String	toString ()

3.6.21 java.net.Socket

public class java.net.Socket extends java.lang.Object	
protected	Socket ()
protected	Socket (java.net.SocketImpl) throws java.net.SocketException
public	Socket (java.lang.String, int) throws java.net.UnknownHostException, java.io.IOException
public	Socket (java.net.InetAddress, int) throws java.io.IOException

public	Socket (java.lang.String, int, java.net.InetAddress, int) throws java.io.IOException
public	Socket (java.net.InetAddress, int, java.net.InetAddress, int) throws java.io.IOException
public void	close () throws java.io.IOException
public java.net.InetAddress	getInetAddress ()
public java.io.InputStream	getInputStream () throws java.io.IOException
public boolean	getKeepAlive () throws java.net.SocketException
public java.net.InetAddress	getLocalAddress ()
public int	getLocalPort ()
public java.io.OutputStream	getOutputStream () throws java.io.IOException
public int	getPort ()
public int	getReceiveBufferSize () throws java.net.SocketException
public int	getSendBufferSize () throws java.net.SocketException
public int	getSoLinger () throws java.net.SocketException
public int	getSoTimeout () throws java.net.SocketException
public boolean	getTcpNoDelay () throws java.net.SocketException
public void	setKeepAlive (boolean) throws java.net.SocketException
public void	setReceiveBufferSize (int) throws java.net.SocketException
public void	setSendBufferSize (int) throws java.net.SocketException
public void	setSoLinger (boolean, int) throws java.net.SocketException
public void	setSoTimeout (int) throws java.net.SocketException
public static void	setSocketImplFactory (java.net.SocketImplFactory) throws java.io.IOException
public void	setTcpNoDelay (boolean) throws java.net.SocketException
public void	shutdownInput () throws java.io.IOException
public void	shutdownOutput () throws java.io.IOException
public java.lang.String	toString ()

3.6.22 java.net.SocketException

public class java.net.SocketException extends java.io.IOException	
public	SocketException (java.lang.String)
public	SocketException ()

3.6.23 java.net.SocketImpl

public abstract class java.net.SocketImpl extends java.lang.Object implements java.net.SocketOptions	
protected java.net.InetAddress	address
protected java.io.FileDescriptor	fd
protected int	localport
protected int	port
public	SocketImpl ()

protected abstract void	accept (java.net.SocketImpl) throws java.io.IOException
protected abstract int	available () throws java.io.IOException
protected abstract void	bind (java.net.InetAddress, int) throws java.io.IOException
protected abstract void	close () throws java.io.IOException
protected abstract void	connect (java.lang.String, int) throws java.io.IOException
protected abstract void	connect (java.net.InetAddress, int) throws java.io.IOException
protected abstract void	create (boolean) throws java.io.IOException
protected java.io.FileDescriptor	getFileDescriptor ()
protected java.net.InetAddress	getInetAddress ()
protected abstract java.io.InputStream	getInputStream () throws java.io.IOException
protected int	getLocalPort ()
public abstract java.lang.Object	getOption (int) throws java.net.SocketException
protected abstract java.io.OutputStream	getOutputStream () throws java.io.IOException
protected int	getPort ()
protected abstract void	listen (int) throws java.io.IOException
public abstract void	setOption (int, java.lang.Object) throws java.net.SocketException
protected void	shutdownInput () throws java.io.IOException
protected void	shutdownOutput () throws java.io.IOException
public java.lang.String	toString ()

3.6.24 java.net.SocketImplFactory

public abstract interface java.net.SocketImplFactory	
public java.net.SocketImpl	createSocketImpl ()

3.6.25 java.net.SocketOptions

public abstract interface java.net.SocketOptions	
public static final int	IP_MULTICAST_IF
public static final int	SO_BINDADDR
public static final int	SO_KEEPAIVE
public static final int	SO_LINGER
public static final int	SO_RCVBUF
public static final int	SO_REUSEADDR
public static final int	SO_SNDBUF
public static final int	SO_TIMEOUT
public static final int	TCP_NODELAY
public java.lang.Object	getOption (int) throws java.net.SocketException
public void	setOption (int, java.lang.Object) throws java.net.SocketException

3.6.26 java.net.SocketPermission

public final class java.net.SocketPermission extends java.security.Permission implements java.io.Serializable

public	SocketPermission (java.lang.String, java.lang.String)
public boolean	equals (java.lang.Object)
public java.lang.String	getActions ()
public int	hashCode ()
public boolean	implies (java.security.Permission)
public java.security.PermissionCollection	newPermissionCollection ()

3.6.27 java.net.URL

public final class java.net.URL extends java.lang.Object implements java.io.Serializable

public	URL (java.lang.String, java.lang.String, int, java.lang.String) throws java.net.MalformedURLException
public	URL (java.lang.String, java.lang.String, java.lang.String) throws java.net.MalformedURLException
public	URL (java.lang.String, java.lang.String, int, java.lang.String, java.net.URLStreamHandler) throws java.net.MalformedURLException
public	URL (java.lang.String) throws java.net.MalformedURLException
public	URL (java.net.URL, java.lang.String) throws java.net.MalformedURLException
public	URL (java.net.URL, java.lang.String, java.net.URLStreamHandler) throws java.net.MalformedURLException
public boolean	equals (java.lang.Object)
public java.lang.String	getAuthority ()
public final java.lang.Object	getContent () throws java.io.IOException
public final java.lang.Object	getContent (java.lang.Class[]) throws java.io.IOException
public java.lang.String	getFile ()
public java.lang.String	getHost ()
public java.lang.String	getPath ()
public int	getPort ()
public java.lang.String	getProtocol ()
public java.lang.String	getQuery ()
public java.lang.String	getRef ()
public java.lang.String	getUserInfo ()
public int	hashCode ()
public java.net.URLConnection	openConnection () throws java.io.IOException
public final java.io.InputStream	openStream () throws java.io.IOException
public boolean	sameFile (java.net.URL)
protected void	set (java.lang.String, java.lang.String, int, java.lang.String, java.lang.String)

protected void	set (java.lang.String, java.lang.String, int, java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String)
public static void	setURLStreamHandlerFactory (java.net.URLStreamHandlerFactory)
public java.lang.String	toExternalForm ()
public java.lang.String	toString ()

3.6.28 java.net.URLClassLoader

public class java.net.URLClassLoader extends java.security.SecureClassLoader	
public	URLClassLoader (java.net.URL[], java.lang.ClassLoader)
public	URLClassLoader (java.net.URL[])
public	URLClassLoader (java.net.URL[], java.lang.ClassLoader, java.net.URLStreamHandlerFactory)
protected void	addURL (java.net.URL)
protected java.lang.Package	definePackage (java.lang.String, java.util.jar.Manifest, java.net.URL) throws java.lang.IllegalArgumentException
protected java.lang.Class	findClass (java.lang.String) throws java.lang.ClassNotFoundException
public java.net.URL	findResource (java.lang.String)
public java.util.Enumeration	findResources (java.lang.String) throws java.io.IOException
protected java.security.PermissionCollection	getPermissions (java.security.CodeSource)
public java.net.URL	getURLs ()
public static java.net.URLClassLoader	newInstance (java.net.URL[], java.lang.ClassLoader)
public static java.net.URLClassLoader	newInstance (java.net.URL[])

3.6.29 java.net.URLConnection

public abstract class java.net.URLConnection extends java.lang.Object	
protected boolean	allowUserInteraction
protected boolean	connected
protected boolean	doInput
protected boolean	doOutput
protected long	ifModifiedSince
protected java.net.URL	url
protected boolean	useCaches
protected	URLConnection (java.net.URL)
public abstract void	connect () throws java.io.IOException
public boolean	getAllowUserInteraction ()
public java.lang.Object	getContent () throws java.io.IOException
public java.lang.Object	getContent (java.lang.Class[]) throws java.io.IOException
public java.lang.String	getContentEncoding ()

public int	getContentLength()
public java.lang.String	getContentType()
public long	getDate()
public static boolean	getDefaultAllowUserInteraction()
public boolean	getDefaultUseCaches()
public boolean	getDoInput()
public boolean	getDoOutput()
public long	getExpiration()
public static java.net.FileNameMap	getFileNameMap()
public java.lang.String	getHeaderField (java.lang.String)
public java.lang.String	getHeaderField (int)
public long	getHeaderFieldDate (java.lang.String, long)
public int	getHeaderFieldInt (java.lang.String, int)
public java.lang.String	getHeaderFieldKey (int)
public long	getIfModifiedSince()
public java.io.InputStream	getInputStream() throws java.io.IOException
public long	getLastModified()
public java.io.OutputStream	getOutputStream() throws java.io.IOException
public java.security.Permission	getPermission() throws java.io.IOException
public java.lang.String	getRequestProperty (java.lang.String)
public java.net.URL	getURL()
public boolean	getUseCaches()
protected static java.lang.String	guessContentTypeFromName (java.lang.String)
public static java.lang.String	guessContentTypeFromStream (java.io.InputStream) throws java.io.IOException
public void	setAllowUserInteraction (boolean)
public static void	setContentHandlerFactory (java.net.ContentHandlerFactory)
public static void	setDefaultAllowUserInteraction (boolean)
public void	setDefaultUseCaches (boolean)
public void	setDoInput (boolean)
public void	setDoOutput (boolean)
public static void	setFileNameMap (java.net.FileNameMap)
public void	setIfModifiedSince (long)
public void	setRequestProperty (java.lang.String, java.lang.String)
public void	setUseCaches (boolean)
public java.lang.String	toString()

3.6.30 java.net.URLDecoder

```
public class java.net.URLDecoder extends java.lang.Object
```

public	URLDecoder()
public static java.lang.String	decode (java.lang.String)

3.6.31 java.net.URLEncoder

public class java.net.URLEncoder extends java.lang.Object	
public static java.lang.String	encode (java.lang.String)

3.6.32 java.net.URLStreamHandler

public abstract class java.net.URLStreamHandler extends java.lang.Object	
public	URLStreamHandler()
protected boolean	equals (java.net.URL, java.net.URL)
protected int	getDefaultPort()
protected java.net.InetAddress	getHostAddress (java.net.URL)
protected int	hashCode (java.net.URL)
protected boolean	hostsEqual (java.net.URL, java.net.URL)
protected abstract java.net.URLConnection	openConnection (java.net.URL) throws java.io.IOException
protected void	parseURL (java.net.URL, java.lang.String, int, int)
protected boolean	sameFile (java.net.URL, java.net.URL)
protected void	setURL (java.net.URL, java.lang.String, java.lang.String, int, java.lang.String, java.lang.String, java.lang.String, java.lang.String, java.lang.String)
protected java.lang.String	toExternalForm (java.net.URL)

3.6.33 java.net.URLStreamHandlerFactory

public abstract interface java.net.URLStreamHandlerFactory	
public java.net.URLStreamHandler	createURLStreamHandler (java.lang.String)

3.6.34 java.net.UnknownHostException

public class java.net.UnknownHostException extends java.io.IOException	
public	UnknownHostException (java.lang.String)
public	UnknownHostException()

3.6.35 java.net.UnknownServiceException

public class java.net.UnknownServiceException extends java.io.IOException	
public	UnknownServiceException()
public	UnknownServiceException (java.lang.String)

3.7 Package java.security

3.7.1 java.security.AccessControlContext

public final class java.security.AccessControlContext extends java.lang.Object	
public	AccessControlContext (java.security.ProtectionDomain[])



public	AccessControlContext (java.security.AccessControlContext, java.security.DomainCombiner)
public void	checkPermission (java.security.Permission) throws java.security.AccessControlException
public boolean	equals (java.lang.Object)
public java.security.DomainCombiner	getDomainCombiner ()
public int	hashCode ()

3.7.2 java.security.AccessControlException

public class java.security.AccessControlException extends java.lang.SecurityException

public	AccessControlException (java.lang.String)
public	AccessControlException (java.lang.String, java.security.Permission)
public java.security.Permission	getPermission ()

3.7.3 java.security.AccessController

public final class java.security.AccessController extends java.lang.Object

public static void	checkPermission (java.security.Permission) throws java.security.AccessControlException
public static java.lang.Object	doPrivileged (java.security.PrivilegedAction)
public static java.lang.Object	doPrivileged (java.security.PrivilegedAction, java.security.AccessControlContext)
public static java.lang.Object	doPrivileged (java.security.PrivilegedExceptionAction) throws java.security.PrivilegedActionException
public static java.lang.Object	doPrivileged (java.security.PrivilegedExceptionAction, java.security.AccessControlContext) throws java.security.PrivilegedActionException
public static java.security.AccessControlContext	getContext ()

3.7.4 java.security.AlgorithmParameterGenerator

public class java.security.AlgorithmParameterGenerator extends java.lang.Object

protected	AlgorithmParameterGenerator (java.security.AlgorithmParameterGeneratorSpi, java.security.Provider, java.lang.String)
public final java.security.AlgorithmParameters	generateParameters ()
public final java.lang.String	getAlgorithm ()
public static java.security.AlgorithmParameterGenerator	getInstance (java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.AlgorithmParameterGenerator	getInstance (java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException, java.security.NoSuchProviderException
public final java.security.Provider	getProvider ()
public final void	init (int)



public final void	init (int, java.security.SecureRandom)
public final void	init (java.security.spec.AlgorithmParameterSpec) throws java.security.InvalidAlgorithmParameterException
public final void	init (java.security.spec.AlgorithmParameterSpec, java.security.SecureRandom) throws java.security.InvalidAlgorithmParameterException

3.7.5 java.security.AlgorithmParameterGeneratorSpi

public abstract class java.security.AlgorithmParameterGeneratorSpi extends java.lang.Object	
public	AlgorithmParameterGeneratorSpi ()
protected abstract java.security.AlgorithmParameters	engineGenerateParameters ()
protected abstract void	engineInit (int, java.security.SecureRandom)
protected abstract void	engineInit (java.security.spec.AlgorithmParameterSpec, java.security.SecureRandom) throws java.security.InvalidAlgorithmParameterException

3.7.6 java.security.AlgorithmParameters

public class java.security.AlgorithmParameters extends java.lang.Object	
protected	AlgorithmParameters (java.security.AlgorithmParametersSpi, java.security.Provider, java.lang.String)
public final java.lang.String	getAlgorithm ()
public final byte	getEncoded () throws java.io.IOException
public final byte	getEncoded (java.lang.String) throws java.io.IOException
public static java.security.AlgorithmParameters	getInstance (java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.AlgorithmParameters	getInstance (java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException, java.security.NoSuchProviderException
public final java.security.spec.AlgorithmParameterSpec	getParameterSpec (java.lang.Class) throws java.security.spec.InvalidParameterSpecException
public final java.security.Provider	getProvider ()
public final void	init (java.security.spec.AlgorithmParameterSpec) throws java.security.spec.InvalidParameterSpecException
public final void	init (byte[]) throws java.io.IOException
public final void	init (byte[], java.lang.String) throws java.io.IOException
public final java.lang.String	toString ()

3.7.7 java.security.AlgorithmParametersSpi

public abstract class java.security.AlgorithmParametersSpi extends java.lang.Object	
public	AlgorithmParametersSpi ()
protected abstract byte	engineGetEncoded () throws java.io.IOException
protected abstract byte	engineGetEncoded (java.lang.String) throws java.io.IOException
protected abstract	engineGetParameterSpec (java.lang.Class) throws

java.security.spec.AlgorithmParameterSpec	java.security.spec.InvalidParameterSpecException
protected abstract void	engineInit (java.security.spec.AlgorithmParameterSpec) throws java.security.spec.InvalidParameterSpecException
protected abstract void	engineInit (byte[]) throws java.io.IOException
protected abstract void	engineInit (byte[], java.lang.String) throws java.io.IOException
protected abstract java.lang.String	engineToString ()

3.7.8 java.security.AllPermission

public final class java.security.AllPermission extends java.security.Permission	
public	AllPermission ()
public	AllPermission (java.lang.String, java.lang.String)
public boolean	equals (java.lang.Object)
public java.lang.String	getActions ()
public int	hashCode ()
public boolean	implies (java.security.Permission)
public java.security.PermissionCollection	newPermissionCollection ()

3.7.9 java.security.BasicPermission

public abstract class java.security.BasicPermission extends java.security.Permission implements java.io.Serializable	
public	BasicPermission (java.lang.String)
public	BasicPermission (java.lang.String, java.lang.String)
public boolean	equals (java.lang.Object)
public java.lang.String	getActions ()
public int	hashCode ()
public boolean	implies (java.security.Permission)
public java.security.PermissionCollection	newPermissionCollection ()

3.7.10 java.security.Certificate

public abstract interface java.security.Certificate	
public void	decode (java.io.InputStream) throws java.security.KeyException, java.io.IOException
public void	encode (java.io.OutputStream) throws java.security.KeyException, java.io.IOException
public java.lang.String	getFormat ()
public java.security.Principal	getGuarantor ()
public java.security.Principal	getPrincipal ()
public java.security.PublicKey	getPublicKey ()

public java.lang.String	toString(boolean)
-------------------------	-------------------

3.7.11 java.security.CodeSource

public class java.security.CodeSource extends java.lang.Object implements java.io.Serializable

public	CodeSource(java.net.URL, java.security.cert.Certificate[])
public boolean	equals(java.lang.Object)
public final java.security.cert.Certificate	getCertificates()
public final java.net.URL	getLocation()
public int	hashCode()
public boolean	implies(java.security.CodeSource)
public java.lang.String	toString()

3.7.12 java.security.DigestException

public class java.security.DigestException extends java.security.GeneralSecurityException

public	DigestException()
public	DigestException(java.lang.String)

3.7.13 java.security.DigestInputStream

public class java.security.DigestInputStream extends java.io.FilterInputStream

protected java.security.MessageDigest	digest
public	DigestInputStream(java.io.InputStream, java.security.MessageDigest)
public java.security.MessageDigest	getMessageDigest()
public void	on(boolean)
public int	read() throws java.io.IOException
public int	read(byte[], int, int) throws java.io.IOException
public void	setMessageDigest(java.security.MessageDigest)
public java.lang.String	toString()

3.7.14 java.security.DigestOutputStream

public class java.security.DigestOutputStream extends java.io.FilterOutputStream

protected java.security.MessageDigest	digest
public	DigestOutputStream(java.io.OutputStream, java.security.MessageDigest)
public java.security.MessageDigest	getMessageDigest()
public void	on(boolean)
public void	setMessageDigest(java.security.MessageDigest)
public java.lang.String	toString()
public void	write(int) throws java.io.IOException

public void	write (byte[], int, int) throws java.io.IOException
-------------	--

3.7.15 java.security.DomainCombiner

public abstract interface java.security.DomainCombiner	
---	--

public java.security.ProtectionDomain	combine (java.security.ProtectionDomain[], java.security.ProtectionDomain[])
--	---

3.7.16 java.security.GeneralSecurityException

public class java.security.GeneralSecurityException extends java.lang.Exception	
--	--

public	GeneralSecurityException ()
--------	------------------------------------

public	GeneralSecurityException (java.lang.String)
--------	--

3.7.17 java.security.Guard

public abstract interface java.security.Guard	
--	--

public void	checkGuard (java.lang.Object) throws java.lang.SecurityException
-------------	---

3.7.18 java.security.GuardedObject

public class java.security.GuardedObject extends java.lang.Object implements java.io.Serializable	
--	--

public	GuardedObject (java.lang.Object, java.security.Guard)
--------	--

public java.lang.Object	getObject () throws java.lang.SecurityException
-------------------------	--

3.7.19 java.security.Identity

public abstract class java.security.Identity extends java.lang.Object implements java.security.Principal, java.io.Serializable	
---	--

protected	Identity ()
-----------	--------------------

public	Identity (java.lang.String, java.security.IdentityScope) throws java.security.KeyManagementException
--------	---

public	Identity (java.lang.String)
--------	------------------------------------

public void	addCertificate (java.security.Certificate) throws java.security.KeyManagementException
-------------	---

public java.security.Certificate	certificates ()
----------------------------------	------------------------

public final boolean	equals (java.lang.Object)
----------------------	----------------------------------

public java.lang.String	getInfo ()
-------------------------	-------------------

public final java.lang.String	getName ()
-------------------------------	-------------------

public java.security.PublicKey	getPublicKey ()
--------------------------------	------------------------

public final java.security.IdentityScope	getScope ()
---	--------------------

public int	hashCode ()
------------	--------------------

protected boolean	identityEquals (java.security.Identity)
-------------------	--

public void	removeCertificate (java.security.Certificate) throws java.security.KeyManagementException
-------------	--

public void	setInfo (java.lang.String)
-------------	-----------------------------------

public void	setPublicKev (iava.securitv.PublicKev) throws
-------------	--

	<code>java.security.KeyManagementException</code>
<code>public java.lang.String</code>	<code>toString()</code>
<code>public java.lang.String</code>	<code>toString(boolean)</code>

3.7.20 `java.security.IdentityScope`

<code>public abstract class java.security.IdentityScope extends java.security.Identity</code>	
<code>protected</code>	<code>IdentityScope()</code>
<code>public</code>	<code>IdentityScope(java.lang.String)</code>
<code>public</code>	<code>IdentityScope(java.lang.String, java.security.IdentityScope)</code> throws <code>java.security.KeyManagementException</code>
<code>public abstract void</code>	<code>addIdentity(java.security.Identity)</code> throws <code>java.security.KeyManagementException</code>
<code>public abstract java.security.Identity</code>	<code>getIdentity(java.lang.String)</code>
<code>public java.security.Identity</code>	<code>getIdentity(java.security.Principal)</code>
<code>public abstract java.security.Identity</code>	<code>getIdentity(java.security.PublicKey)</code>
<code>public static java.security.IdentityScope</code>	<code>getSystemScope()</code>
<code>public abstract java.util Enumeration</code>	<code>identities()</code>
<code>public abstract void</code>	<code>removeIdentity(java.security.Identity)</code> throws <code>java.security.KeyManagementException</code>
<code>protected static void</code>	<code>setSystemScope(java.security.IdentityScope)</code>
<code>public abstract int</code>	<code>size()</code>
<code>public java.lang.String</code>	<code>toString()</code>

3.7.21 `java.security.InvalidAlgorithmParameterException`

<code>public class java.security.InvalidAlgorithmParameterException extends java.security.GeneralSecurityException</code>	
<code>public</code>	<code>InvalidAlgorithmParameterException()</code>
<code>public</code>	<code>InvalidAlgorithmParameterException(java.lang.String)</code>

3.7.22 `java.security.InvalidKeyException`

<code>public class java.security.InvalidKeyException extends java.security.KeyException</code>	
<code>public</code>	<code>InvalidKeyException()</code>
<code>public</code>	<code>InvalidKeyException(java.lang.String)</code>

3.7.23 `java.security.InvalidParameterException`

<code>public class java.security.InvalidParameterException extends java.lang.IllegalArgumentException</code>	
<code>public</code>	<code>InvalidParameterException()</code>
<code>public</code>	<code>InvalidParameterException(java.lang.String)</code>

3.7.24 java.security.Key

public abstract interface java.security.Key extends java.io.Serializable

public static final long	serialVersionUID
public java.lang.String	getAlgorithm()
public byte	getEncoded()
public java.lang.String	getFormat()

3.7.25 java.security.KeyException

public class java.security.KeyException extends java.security.GeneralSecurityException

public	KeyException()
public	KeyException(java.lang.String)

3.7.26 java.security.KeyFactory

public class java.security.KeyFactory extends java.lang.Object

protected	KeyFactory (java.security.KeyFactorySpi, java.security.Provider, java.lang.String)
public final java.security.PrivateKey	generatePrivate (java.security.spec.KeySpec) throws java.security.spec.InvalidKeySpecException
public final java.security.PublicKey	generatePublic (java.security.spec.KeySpec) throws java.security.spec.InvalidKeySpecException
public final java.lang.String	getAlgorithm()
public static java.security.KeyFactory	getInstance (java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.KeyFactory	getInstance (java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException, java.security.NoSuchProviderException
public final java.security.spec.KeySpec	getKeySpec (java.security.Key, java.lang.Class) throws java.security.spec.InvalidKeySpecException
public final java.security.Provider	getProvider()
public final java.security.Key	translateKey (java.security.Key) throws java.security.InvalidKeyException

3.7.27 java.security.KeyFactorySpi

public abstract class java.security.KeyFactorySpi extends java.lang.Object

public	KeyFactorySpi()
protected abstract java.security.PrivateKey	engineGeneratePrivate (java.security.spec.KeySpec) throws java.security.spec.InvalidKeySpecException
protected abstract java.security.PublicKey	engineGeneratePublic (java.security.spec.KeySpec) throws java.security.spec.InvalidKeySpecException
protected abstract java.security.spec.KeySpec	engineGetKeySpec (java.security.Key, java.lang.Class) throws java.security.spec.InvalidKeySpecException
protected abstract java.security.Key	engineTranslateKey (java.security.Key) throws java.security.InvalidKeyException

3.7.28 java.security.KeyManagementException

public class java.security.KeyManagementException extends java.security.KeyException

public	KeyManagementException()
public	KeyManagementException(java.lang.String)

3.7.29 java.security.KeyPair

public final class java.security.KeyPair extends java.lang.Object implements java.io.Serializable

public	KeyPair(java.security.PublicKey, java.security.PrivateKey)
public java.security.PrivateKey	getPrivate()
public java.security.PublicKey	getPublic()

3.7.30 java.security.KeyPairGenerator

public abstract class java.security.KeyPairGenerator extends java.security.KeyPairGeneratorSpi

protected	KeyPairGenerator(java.lang.String)
public final java.security.KeyPair	genKeyPair()
public java.security.KeyPair	generateKeyPair()
public java.lang.String	getAlgorithm()
public static java.security.KeyPairGenerator	getInstance(java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.KeyPairGenerator	getInstance(java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException, java.security.NoSuchProviderException
public final java.security.Provider	getProvider()
public void	initialize(int)
public void	initialize(int, java.security.SecureRandom)
public void	initialize(java.security.spec.AlgorithmParameterSpec) throws java.security.InvalidAlgorithmParameterException
public void	initialize(java.security.spec.AlgorithmParameterSpec, java.security.SecureRandom) throws java.security.InvalidAlgorithmParameterException

3.7.31 java.security.KeyPairGeneratorSpi

public abstract class java.security.KeyPairGeneratorSpi extends java.lang.Object

public	KeyPairGeneratorSpi()
public abstract java.security.KeyPair	generateKeyPair()
public abstract void	initialize(int, java.security.SecureRandom)
public void	initialize(java.security.spec.AlgorithmParameterSpec, java.security.SecureRandom) throws java.security.InvalidAlgorithmParameterException

3.7.32 java.security.KeyStore

public class java.security.KeyStore extends java.lang.Object

protected	KeyStore (java.security.KeyStoreSpi, java.security.Provider, java.lang.String)
public final java.util Enumeration	aliases () throws java.security.KeyStoreException
public final boolean	containsAlias (java.lang.String) throws java.security.KeyStoreException
public final void	deleteEntry (java.lang.String) throws java.security.KeyStoreException
public final java.security.cert.Certificate	getCertificate (java.lang.String) throws java.security.KeyStoreException
public final java.lang.String	getCertificateAlias (java.security.cert.Certificate) throws java.security.KeyStoreException
public final java.security.cert.Certificate	getCertificateChain (java.lang.String) throws java.security.KeyStoreException
public final java.util.Date	getCreationDate (java.lang.String) throws java.security.KeyStoreException
public static final java.lang.String	getDefaultType ()
public static java.security.KeyStore	getInstance (java.lang.String) throws java.security.KeyStoreException
public static java.security.KeyStore	getInstance (java.lang.String, java.lang.String) throws java.security.KeyStoreException, java.security.NoSuchProviderException
public final java.security.Key	getKey (java.lang.String, char[]) throws java.security.KeyStoreException, java.security.NoSuchAlgorithmException, java.security.UnrecoverableKeyException
public final java.security.Provider	getProvider ()
public final java.lang.String	getType ()
public final boolean	isCertificateEntry (java.lang.String) throws java.security.KeyStoreException
public final boolean	isKeyEntry (java.lang.String) throws java.security.KeyStoreException
public final void	load (java.io.InputStream, char[]) throws java.io.IOException, java.security.NoSuchAlgorithmException, java.security.cert.CertificateException
public final void	setCertificateEntry (java.lang.String, java.security.cert.Certificate) throws java.security.KeyStoreException
public final void	setKeyEntry (java.lang.String, java.security.Key, char[], java.security.cert.Certificate[]) throws java.security.KeyStoreException
public final void	setKeyEntry (java.lang.String, byte[], java.security.cert.Certificate[]) throws java.security.KeyStoreException
public final int	size () throws java.security.KeyStoreException
public final void	store (java.io.OutputStream, char[]) throws java.security.KeyStoreException, java.io.IOException, java.security.NoSuchAlgorithmException, java.security.cert.CertificateException

3.7.33 java.security.KeyStoreException

public class java.security.KeyStoreException extends java.security.GeneralSecurityException	
public	KeyStoreException ()
public	KeyStoreException (java.lang.String)

3.7.34 java.security.KeyStoreSpi

public abstract class java.security.KeyStoreSpi extends java.lang.Object	
---	--

public	KeyStoreSpi()
public abstract java.util.Enumeration	engineAliases()
public abstract boolean	engineContainsAlias (java.lang.String)
public abstract void	engineDeleteEntry (java.lang.String) throws java.security.KeyStoreException
public abstract java.security.cert.Certificate	engineGetCertificate (java.lang.String)
public abstract java.lang.String	engineGetCertificateAlias (java.security.cert.Certificate)
public abstract java.security.cert.Certificate	engineGetCertificateChain (java.lang.String)
public abstract java.util.Date	engineGetCreationDate (java.lang.String)
public abstract java.security.Key	engineGetKey (java.lang.String, char[]) throws java.security.NoSuchAlgorithmException, java.security.UnrecoverableKeyException
public abstract boolean	engineGetCertificateEntry (java.lang.String)
public abstract boolean	engineGetKeyEntry (java.lang.String)
public abstract void	engineLoad (java.io.InputStream, char[]) throws java.io.IOException, java.security.NoSuchAlgorithmException, java.security.cert.CertificateException
public abstract void	engineSetCertificateEntry (java.lang.String, java.security.cert.Certificate) throws java.security.KeyStoreException
public abstract void	engineSetKeyEntry (java.lang.String, java.security.Key, char[], java.security.cert.Certificate[]) throws java.security.KeyStoreException
public abstract void	engineSetKeyEntry (java.lang.String, byte[], java.security.cert.Certificate[]) throws java.security.KeyStoreException
public abstract int	engineSize()
public abstract void	engineStore (java.io.OutputStream, char[]) throws java.io.IOException, java.security.NoSuchAlgorithmException, java.security.cert.CertificateException

3.7.35 java.security.MessageDigest

public abstract class java.security.MessageDigest extends java.security.MessageDigestSpi	
protected	MessageDigest (java.lang.String)
public java.lang.Object	clone() throws java.lang.CloneNotSupportedException
public byte	digest()
public int	digest (byte[], int, int) throws java.security.DigestException
public byte	digest (byte[])
public final java.lang.String	getAlgorithm()
public final int	getDigestLength()
public static java.security.MessageDigest	getInstance (java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.MessageDigest	getInstance (java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException,

	<code>java.security.NoSuchProviderException</code>
<code>public final java.security.Provider</code>	<code>getProvider()</code>
<code>public static boolean</code>	<code>isEqual(byte[], byte[])</code>
<code>public void</code>	<code>reset()</code>
<code>public java.lang.String</code>	<code>toString()</code>
<code>public void</code>	<code>update(byte)</code>
<code>public void</code>	<code>update(byte[], int, int)</code>
<code>public void</code>	<code>update(byte[])</code>

3.7.36 java.security.MessageDigestSpi

public abstract class java.security.MessageDigestSpi extends java.lang.Object	
<code>public</code>	<code>MessageDigestSpi()</code>
<code>public java.lang.Object</code>	<code>clone()</code> throws <code>java.lang.CloneNotSupportedException</code>
<code>protected abstract byte</code>	<code>engineDigest()</code>
<code>protected int</code>	<code>engineDigest(byte[], int, int)</code> throws <code>java.security.DigestException</code>
<code>protected int</code>	<code>engineGetDigestLength()</code>
<code>protected abstract void</code>	<code>engineReset()</code>
<code>protected abstract void</code>	<code>engineUpdate(byte)</code>
<code>protected abstract void</code>	<code>engineUpdate(byte[], int, int)</code>

3.7.37 java.security.NoSuchAlgorithmException

public class java.security.NoSuchAlgorithmException extends java.security.GeneralSecurityException	
<code>public</code>	<code>NoSuchAlgorithmException()</code>
<code>public</code>	<code>NoSuchAlgorithmException(java.lang.String)</code>

3.7.38 java.security.NoSuchProviderException

public class java.security.NoSuchProviderException extends java.security.GeneralSecurityException	
<code>public</code>	<code>NoSuchProviderException()</code>
<code>public</code>	<code>NoSuchProviderException(java.lang.String)</code>

3.7.39 java.security.Permission

public abstract class java.security.Permission extends java.lang.Object implements java.security.Guard, java.io.Serializable	
<code>public</code>	<code>Permission(java.lang.String)</code>
<code>public void</code>	<code>checkGuard(java.lang.Object)</code> throws <code>java.lang.SecurityException</code>
<code>public abstract boolean</code>	<code>equals(java.lang.Object)</code>
<code>public abstract java.lang.String</code>	<code>getActions()</code>
<code>public final java.lang.String</code>	<code>getName()</code>
<code>public abstract int</code>	<code>hashCode()</code>
<code>public abstract boolean</code>	<code>implies(java.security.Permission)</code>
<code>public</code>	<code>newPermissionCollection()</code>

java.security.PermissionCollection	
public java.lang.String	toString()

3.7.40 java.security.PermissionCollection

public abstract class java.security.PermissionCollection extends java.lang.Object implements java.io.Serializable

public	PermissionCollection()
public abstract void	add(java.security.Permission)
public abstract java.util.Enumeration	elements()
public abstract boolean	implies(java.security.Permission)
public boolean	isReadOnly()
public void	setReadOnly()
public java.lang.String	toString()

3.7.41 java.security.Permissions

public final class java.security.Permissions extends java.security.PermissionCollection implements java.io.Serializable

public	Permissions()
public void	add(java.security.Permission)
public java.util.Enumeration	elements()
public boolean	implies(java.security.Permission)

3.7.42 java.security.Policy

public abstract class java.security.Policy extends java.lang.Object

public	Policy()
public abstract java.security.PermissionCollection	getPermissions(java.security.CodeSource)
public static java.security.Policy	getPolicy()
public abstract void	refresh()
public static void	setPolicy(java.security.Policy)

3.7.43 java.security.Principal

public abstract interface java.security.Principal

public boolean	equals(java.lang.Object)
public java.lang.String	getName()
public int	hashCode()
public java.lang.String	toString()

3.7.44 java.security.PrivateKey

public abstract interface java.security.PrivateKey extends java.security.Key

public static final long

serialVersionUID

3.7.45 java.security.PrivilegedAction

public abstract interface java.security.PrivilegedAction

public java.lang.Object

run()

3.7.46 java.security.PrivilegedActionException

public class java.security.PrivilegedActionException extends java.lang.Exception

public

PrivilegedActionException(java.lang.Exception)

public java.lang.Exception

getException()

public void

printStackTrace()

public void

printStackTrace(java.io.PrintStream)

public void

printStackTrace(java.io.PrintWriter)

public java.lang.String

toString()

3.7.47 java.security.PrivilegedExceptionAction

public abstract interface java.security.PrivilegedExceptionAction

public java.lang.Object

run() throws java.lang.Exception

3.7.48 java.security.ProtectionDomain

public class java.security.ProtectionDomain extends java.lang.Object

public

ProtectionDomain(java.security.CodeSource,
java.security.PermissionCollection)

public final

java.security.CodeSource

getCodeSource()

public final

java.security.PermissionCollectio
n

getPermissions()

public boolean

implies(java.security.Permission)

public java.lang.String

toString()

3.7.49 java.security.Provider

public abstract class java.security.Provider extends java.util.Properties

protected

Provider(java.lang.String, double, java.lang.String)

public void

clear()

public java.util.Set

entrySet()

public java.lang.String

getInfo()

public java.lang.String

getName()

public double

getVersion()

public java.util.Set

keySet()

public void

load(java.io.InputStream) throws java.io.IOException

public java.lang.Object

put(java.lang.Object, java.lang.Object)



public void	putAll (java.util.Map)
public java.lang.Object	remove (java.lang.Object)
public java.lang.String	toString ()
public java.util.Collection	values ()

3.7.50 java.security.ProviderException

public class java.security.ProviderException extends java.lang.RuntimeException	
public	ProviderException ()
public	ProviderException (java.lang.String)

3.7.51 java.security.PublicKey

public abstract interface java.security.PublicKey extends java.security.Key	
public static final long	serialVersionUID

3.7.52 java.security.SecureClassLoader

public class java.security.SecureClassLoader extends java.lang.ClassLoader	
protected	SecureClassLoader (java.lang.ClassLoader)
protected	SecureClassLoader ()
protected final java.lang.Class	defineClass (java.lang.String, byte[], int, int, java.security.CodeSource)
protected java.security.PermissionCollection	getPermissions (java.security.CodeSource)

3.7.53 java.security.SecureRandom

public class java.security.SecureRandom extends java.util.Random	
public	SecureRandom ()
public	SecureRandom (byte[])
protected	SecureRandom (java.security.SecureRandomSpi, java.security.Provider)
public byte	generateSeed (int)
public static java.security.SecureRandom	getInstance (java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.SecureRandom	getInstance (java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException, java.security.NoSuchProviderException
public final java.security.Provider	getProvider ()
public static byte	getSeed (int)
protected final int	next (int)
public void	nextBytes (byte[])
public void	setSeed (byte[])
public void	setSeed (long)

3.7.54 java.security.SecureRandomSpi

public abstract class java.security.SecureRandomSpi extends java.lang.Object implements java.io.Serializable

public	SecureRandomSpi()
protected abstract byte	engineGenerateSeed(int)
protected abstract void	engineNextBytes(byte[])
protected abstract void	engineSetSeed(byte[])

3.7.55 java.security.Security

public final class java.security.Security extends java.lang.Object

public static int	addProvider(java.security.Provider)
public static java.lang.String	getProperty(java.lang.String)
public static java.security.Provider	getProvider(java.lang.String)
public static java.security.Provider	getProviders()
public static java.security.Provider	getProviders(java.lang.String)
public static java.security.Provider	getProviders(java.util.Map)
public static int	insertProviderAt(java.security.Provider, int)
public static void	removeProvider(java.lang.String)
public static void	setProperty(java.lang.String, java.lang.String)

3.7.56 java.security.SecurityPermission

public final class java.security.SecurityPermission extends java.security.BasicPermission

public	SecurityPermission(java.lang.String)
public	SecurityPermission(java.lang.String, java.lang.String)

3.7.57 java.security.Signature

public abstract class java.security.Signature extends java.security.SignatureSpi

protected static final int	SIGN
protected static final int	UNINITIALIZED
protected static final int	VERIFY
protected int	state
protected	Signature(java.lang.String)
public java.lang.Object	clone() throws java.lang.CloneNotSupportedException
public final java.lang.String	getAlgorithm()
public static java.security.Signature	getInstance(java.lang.String) throws java.security.NoSuchAlgorithmException
public static java.security.Signature	getInstance(java.lang.String, java.lang.String) throws java.security.NoSuchAlgorithmException.

	<code>java.security.NoSuchProviderException</code>
<code>public final java.security.Provider</code>	<code>getProvider()</code>
<code>public final void</code>	<code>initSign</code> (<code>java.security.PrivateKey</code>) throws <code>java.security.InvalidKeyException</code>
<code>public final void</code>	<code>initSign</code> (<code>java.security.PrivateKey</code> , <code>java.security.SecureRandom</code>) throws <code>java.security.InvalidKeyException</code>
<code>public final void</code>	<code>initVerify</code> (<code>java.security.PublicKey</code>) throws <code>java.security.InvalidKeyException</code>
<code>public final void</code>	<code>initVerify</code> (<code>java.security.cert.Certificate</code>) throws <code>java.security.InvalidKeyException</code>
<code>public final void</code>	<code>setParameter</code> (<code>java.security.spec.AlgorithmParameterSpec</code>) throws <code>java.security.InvalidAlgorithmParameterException</code>
<code>public final byte</code>	<code>sign</code> () throws <code>java.security.SignatureException</code>
<code>public final int</code>	<code>sign</code> (<code>byte[]</code> , <code>int</code> , <code>int</code>) throws <code>java.security.SignatureException</code>
<code>public java.lang.String</code>	<code>toString</code> ()
<code>public final void</code>	<code>update</code> (<code>byte</code>) throws <code>java.security.SignatureException</code>
<code>public final void</code>	<code>update</code> (<code>byte[]</code>) throws <code>java.security.SignatureException</code>
<code>public final void</code>	<code>update</code> (<code>byte[]</code> , <code>int</code> , <code>int</code>) throws <code>java.security.SignatureException</code>
<code>public final boolean</code>	<code>verify</code> (<code>byte[]</code>) throws <code>java.security.SignatureException</code>

3.7.58 `java.security.SignatureException`

<code>public class java.security.SignatureException extends java.security.GeneralSecurityException</code>	
<code>public</code>	<code>SignatureException()</code>
<code>public</code>	<code>SignatureException</code> (<code>java.lang.String</code>)

3.7.59 `java.security.SignatureSpi`

<code>public abstract class java.security.SignatureSpi extends java.lang.Object</code>	
<code>protected java.security.SecureRandom</code>	<code>appRandom</code>
<code>public</code>	<code>SignatureSpi()</code>
<code>public java.lang.Object</code>	<code>clone</code> () throws <code>java.lang.CloneNotSupportedException</code>
<code>protected abstract void</code>	<code>engineInitSign</code> (<code>java.security.PrivateKey</code>) throws <code>java.security.InvalidKeyException</code>
<code>protected void</code>	<code>engineInitSign</code> (<code>java.security.PrivateKey</code> , <code>java.security.SecureRandom</code>) throws <code>java.security.InvalidKeyException</code>
<code>protected abstract void</code>	<code>engineInitVerify</code> (<code>java.security.PublicKey</code>) throws <code>java.security.InvalidKeyException</code>
<code>protected void</code>	<code>engineSetParameter</code> (<code>java.security.spec.AlgorithmParameterSpec</code>) throws <code>java.security.InvalidAlgorithmParameterException</code>
<code>protected abstract byte</code>	<code>engineSign</code> () throws <code>java.security.SignatureException</code>
<code>protected int</code>	<code>engineSign</code> (<code>byte[]</code> , <code>int</code> , <code>int</code>) throws <code>java.security.SignatureException</code>
<code>protected abstract void</code>	<code>engineUpdate</code> (<code>byte</code>) throws <code>java.security.SignatureException</code>
<code>protected abstract void</code>	<code>engineUpdate</code> (<code>byte[]</code> , <code>int</code> , <code>int</code>) throws <code>java.security.SignatureException</code>
<code>protected abstract boolean</code>	<code>engineVerify</code> (<code>byte[]</code>) throws <code>java.security.SignatureException</code>

3.7.60 java.security.SignedObject

public final class java.security.SignedObject extends java.lang.Object implements java.io.Serializable

public	SignedObject (java.io.Serializable, java.security.PrivateKey, java.security.Signature) throws java.io.IOException, java.security.InvalidKeyException, java.security.SignatureException
public java.lang.String	getAlgorithm ()
public java.lang.Object	getObject () throws java.io.IOException, java.lang.ClassNotFoundException
public byte	getSignature ()
public boolean	verify (java.security.PublicKey, java.security.Signature) throws java.security.InvalidKeyException, java.security.SignatureException

3.7.61 java.security.Signer

public abstract class java.security.Signer extends java.security.Identity

protected	Signer ()
public	Signer (java.lang.String)
public	Signer (java.lang.String, java.security.IdentityScope) throws java.security.KeyManagementException
public java.security.PrivateKey	getPrivateKey ()
public final void	setKeyPair (java.security.KeyPair) throws java.security.InvalidParameterException, java.security.KeyException
public java.lang.String	toString ()

3.7.62 java.security.UnrecoverableKeyException

public class java.security.UnrecoverableKeyException extends java.security.GeneralSecurityException

public	UnrecoverableKeyException ()
public	UnrecoverableKeyException (java.lang.String)

3.7.63 java.security.UnresolvedPermission

public final class java.security.UnresolvedPermission extends java.security.Permission implements java.io.Serializable

public	UnresolvedPermission (java.lang.String, java.lang.String, java.lang.String, java.security.cert.Certificate[])
public boolean	equals (java.lang.Object)
public java.lang.String	getActions ()
public int	hashCode ()
public boolean	implies (java.security.Permission)
public java.security.PermissionCollection	newPermissionCollection ()
public java.lang.String	toString ()

3.8 Package java.security.acl

3.8.1 java.security.acl.Acl

public abstract interface java.security.acl.Acl extends java.security.acl.Owner	
public boolean	addEntry (java.security.Principal, java.security.acl.AclEntry) throws java.security.acl.NotOwnerException
public boolean	checkPermission (java.security.Principal, java.security.acl.Permission)
public java.util Enumeration	entries ()
public java.lang.String	getName ()
public java.util Enumeration	getPermissions (java.security.Principal)
public boolean	removeEntry (java.security.Principal, java.security.acl.AclEntry) throws java.security.acl.NotOwnerException
public void	setName (java.security.Principal, java.lang.String) throws java.security.acl.NotOwnerException
public java.lang.String	toString ()

3.8.2 java.security.acl.AclEntry

public abstract interface java.security.acl.AclEntry extends java.lang.Cloneable	
public boolean	addPermission (java.security.acl.Permission)
public boolean	checkPermission (java.security.acl.Permission)
public java.lang.Object	clone ()
public java.security.Principal	getPrincipal ()
public boolean	isNegative ()
public java.util Enumeration	permissions ()
public boolean	removePermission (java.security.acl.Permission)
public void	setNegativePermissions ()
public boolean	setPrincipal (java.security.Principal)
public java.lang.String	toString ()

3.8.3 java.security.acl.AclNotFoundException

public class java.security.acl.AclNotFoundException extends java.lang.Exception	
public	AclNotFoundException ()

3.8.4 java.security.acl.Group

public abstract interface java.security.acl.Group extends java.security.Principal	
public boolean	addMember (java.security.Principal)
public boolean	isMember (java.security.Principal)
public java.util Enumeration	members ()
public boolean	removeMember (java.security.Principal)

3.8.5 java.security.acl.LastOwnerException

public class java.security.acl.LastOwnerException extends java.lang.Exception	
--	--



public	LastOwnerException()
--------	-----------------------------

3.8.6 java.security.acl.NotOwnerException

public class java.security.acl.NotOwnerException extends java.lang.Exception	
---	--

public	NotOwnerException()
--------	----------------------------

3.8.7 java.security.acl.Owner

public abstract interface java.security.acl.Owner	
--	--

public boolean	addOwner (java.security.Principal, java.security.Principal) throws java.security.acl.NotOwnerException
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public boolean	deleteOwner (java.security.Principal, java.security.Principal) throws java.security.acl.NotOwnerException, java.security.acl.LastOwnerException
----------------	--

public boolean	isOwner (java.security.Principal)
----------------	--

3.8.8 java.security.acl.Permission

public abstract interface java.security.acl.Permission	
---	--

public boolean	equals (java.lang.Object)
----------------	----------------------------------

public java.lang.String	toString ()
-------------------------	--------------------

3.9 Package java.security.cert

3.9.1 java.security.cert.CRL

public abstract class java.security.cert.CRL extends java.lang.Object	
--	--

protected	CRL (java.lang.String)
-----------	-------------------------------

public final java.lang.String	getType ()
-------------------------------	-------------------

public abstract boolean	isRevoked (java.security.cert.Certificate)
-------------------------	---

public abstract java.lang.String	toString ()
----------------------------------	--------------------

3.9.2 java.security.cert.CRLException

public class java.security.cert.CRLException extends java.security.GeneralSecurityException	
--	--

public	CRLException()
--------	-----------------------

public	CRLException (java.lang.String)
--------	--

3.9.3 java.security.cert.Certificate

public abstract class java.security.cert.Certificate extends java.lang.Object implements java.io.Serializable	
--	--

protected	Certificate (java.lang.String)
-----------	---------------------------------------

public boolean	equals (java.lang.Object)
----------------	----------------------------------

public abstract byte	getEncoded () throws java.security.cert.CertificateEncodingException
----------------------	---

public abstract java.security.PublicKey	getPublicKey ()
---	------------------------

public final java.lang.String	getType ()
-------------------------------	-------------------

public int	hashCode ()
------------	--------------------



public abstract java.lang.String	toString()
public abstract void	verify (java.security.PublicKey) throws java.security.cert.CertificateException, java.security.NoSuchAlgorithmException, java.security.InvalidKeyException, java.security.NoSuchProviderException, java.security.SignatureException
public abstract void	verify (java.security.PublicKey, java.lang.String) throws java.security.cert.CertificateException, java.security.NoSuchAlgorithmException, java.security.InvalidKeyException, java.security.NoSuchProviderException, java.security.SignatureException
protected java.lang.Object	writeReplace() throws java.io.ObjectStreamException

3.9.4 java.security.cert.Certificate.CertificateRep

public class java.security.cert.Certificate.CertificateRep extends java.lang.Object implements java.io.Serializable

protected	Certificate.CertificateRep (java.lang.String, byte[])
protected java.lang.Object	readResolve() throws java.io.ObjectStreamException

3.9.5 java.security.cert.CertificateEncodingException

public class java.security.cert.CertificateEncodingException extends java.security.cert.CertificateException

public	CertificateEncodingException()
public	CertificateEncodingException (java.lang.String)

3.9.6 java.security.cert.CertificateException

public class java.security.cert.CertificateException extends java.security.GeneralSecurityException

public	CertificateException()
public	CertificateException (java.lang.String)

3.9.7 java.security.cert.CertificateExpiredException

public class java.security.cert.CertificateExpiredException extends java.security.cert.CertificateException

public	CertificateExpiredException()
public	CertificateExpiredException (java.lang.String)

3.9.8 java.security.cert.CertificateFactory

public class java.security.cert.CertificateFactory extends java.lang.Object

protected	CertificateFactory (java.security.cert.CertificateFactorySpi, java.security.Provider, java.lang.String)
public final java.security.cert.CRL	generateCRL (java.io.InputStream) throws java.security.cert.CRLException
public final java.util.Collection	generateCRLs (java.io.InputStream) throws java.security.cert.CRLException
public final java.security.cert.Certificate	generateCertificate (java.io.InputStream) throws java.security.cert.CertificateException
public final java.util.Collection	generateCertificates (java.io.InputStream) throws java.security.cert.CertificateException
public static final java.security.cert.CertificateFactor	getInstance (java.lang.String) throws java.security.cert.CertificateException

y	
public static final java.security.cert.CertificateFactor y	getInstance (java.lang.String, java.lang.String) throws java.security.cert.CertificateException, java.security.NoSuchProviderException
public final java.security.Provider	getProvider ()
public final java.lang.String	getType ()

3.9.9 java.security.cert.CertificateFactorySpi

public abstract class java.security.cert.CertificateFactorySpi extends java.lang.Object	
public	CertificateFactorySpi ()
public abstract java.security.cert.CRL	engineGenerateCRL (java.io.InputStream) throws java.security.cert.CRLException
public abstract java.util.Collection	engineGenerateCRLs (java.io.InputStream) throws java.security.cert.CRLException
public abstract java.security.cert.Certificate	engineGenerateCertificate (java.io.InputStream) throws java.security.cert.CertificateException
public abstract java.util.Collection	engineGenerateCertificates (java.io.InputStream) throws java.security.cert.CertificateException

3.9.10 java.security.cert.CertificateNotYetValidException

public class java.security.cert.CertificateNotYetValidException extends java.security.cert.CertificateException	
public	CertificateNotYetValidException ()
public	CertificateNotYetValidException (java.lang.String)

3.9.11 java.security.cert.CertificateParsingException

public class java.security.cert.CertificateParsingException extends java.security.cert.CertificateException	
public	CertificateParsingException ()
public	CertificateParsingException (java.lang.String)

3.9.12 java.security.cert.X509CRL

public abstract class java.security.cert.X509CRL extends java.security.cert.CRL implements java.security.cert.X509Extension	
protected	X509CRL ()
public boolean	equals (java.lang.Object)
public abstract java.util.Set	getCriticalExtensionOIDs ()
public abstract byte	getEncoded () throws java.security.cert.CRLException
public abstract byte	getExtensionValue (java.lang.String)
public abstract java.security.Principal	getIssuerDN ()
public abstract java.util.Date	getNextUpdate ()
public abstract java.util.Set	getNonCriticalExtensionOIDs ()
public abstract	getRevokedCertificate (java.math.BigInteger)

java.security.cert.X509CRLEntry	
public abstract java.util.Set	getRevokedCertificates()
public abstract java.lang.String	getSigAlgName()
public abstract java.lang.String	getSigAlgOID()
public abstract byte	getSigAlgParams()
public abstract byte	getSignature()
public abstract byte	getTBSCertList() throws java.security.cert.CRLException
public abstract java.util.Date	getThisUpdate()
public abstract int	getVersion()
public abstract boolean	hasUnsupportedCriticalExtension()
public int	hashCode()
public abstract void	verify (java.security.PublicKey) throws java.security.cert.CRLException, java.security.NoSuchAlgorithmException, java.security.InvalidKeyException, java.security.NoSuchProviderException, java.security.SignatureException
public abstract void	verify (java.security.PublicKey, java.lang.String) throws java.security.cert.CRLException, java.security.NoSuchAlgorithmException, java.security.InvalidKeyException, java.security.NoSuchProviderException, java.security.SignatureException

3.9.13 java.security.cert.X509CRLEntry

public abstract class java.security.cert.X509CRLEntry extends java.lang.Object implements java.security.cert.X509Extension

public	X509CRLEntry()
public boolean	equals (java.lang.Object)
public abstract java.util.Set	getCriticalExtensionOIDs()
public abstract byte	getEncoded() throws java.security.cert.CRLException
public abstract byte	getExtensionValue (java.lang.String)
public abstract java.util.Set	getNonCriticalExtensionOIDs()
public abstract java.util.Date	getRevocationDate()
public abstract java.math.BigInteger	getSerialNumber()
public abstract boolean	hasExtensions()
public abstract boolean	hasUnsupportedCriticalExtension()
public int	hashCode()
public abstract java.lang.String	toString()

3.9.14 java.security.cert.X509Certificate

public abstract class java.security.cert.X509Certificate extends java.security.cert.Certificate implements java.security.cert.X509Extension

protected	X509Certificate()
public abstract void	checkValidity() throws java.security.cert.CertificateExpiredException, java.security.cert.CertificateNotYetValidException



public abstract void	checkValidity (java.util.Date) throws java.security.cert.CertificateExpiredException, java.security.cert.CertificateNotYetValidException
public abstract int	getBasicConstraints ()
public abstract java.util.Set	getCriticalExtensionOIDs ()
public abstract byte	getExtensionValue (java.lang.String)
public abstract java.security.Principal	getIssuerDN ()
public abstract boolean	getIssuerUniqueID ()
public abstract boolean	getKeyUsage ()
public abstract java.util.Set	getNonCriticalExtensionOIDs ()
public abstract java.util.Date	getNotAfter ()
public abstract java.util.Date	getNotBefore ()
public abstract java.math.BigInteger	getSerialNumber ()
public abstract java.lang.String	getSigAlgName ()
public abstract java.lang.String	getSigAlgOID ()
public abstract byte	getSigAlgParams ()
public abstract byte	getSignature ()
public abstract java.security.Principal	getSubjectDN ()
public abstract boolean	getSubjectUniqueID ()
public abstract byte	getTBSCertificate () throws java.security.cert.CertificateEncodingException
public abstract int	getVersion ()
public abstract boolean	hasUnsupportedCriticalExtension ()

3.9.15 java.security.cert.X509Extension

public abstract interface java.security.cert.X509Extension	
public java.util.Set	getCriticalExtensionOIDs ()
public byte	getExtensionValue (java.lang.String)
public java.util.Set	getNonCriticalExtensionOIDs ()
public boolean	hasUnsupportedCriticalExtension ()

3.10 Package java.security.interfaces

3.10.1 java.security.interfaces.DSAKey

public abstract interface java.security.interfaces.DSAKey	
public java.security.interfaces.DSAParams	getParams ()

3.10.2 java.security.interfaces.DSAKeyPairGenerator

public abstract interface java.security.interfaces.DSAKeyPairGenerator

public void	initialize (java.security.interfaces.DSAParams, java.security.SecureRandom) throws java.security.InvalidParameterException
public void	initialize (int, boolean, java.security.SecureRandom) throws java.security.InvalidParameterException

3.10.3 java.security.interfaces.DSAParams

public abstract interface java.security.interfaces.DSAParams

public java.math.BigInteger	getG ()
public java.math.BigInteger	getP ()
public java.math.BigInteger	getQ ()

3.10.4 java.security.interfaces.DSAPrivateKey

public abstract interface java.security.interfaces.DSAPrivateKey extends java.security.interfaces.DSAKey, java.security.PrivateKey

public static final long	serialVersionUID
public java.math.BigInteger	getX ()

3.10.5 java.security.interfaces.DSAPublicKey

public abstract interface java.security.interfaces.DSAPublicKey extends java.security.interfaces.DSAKey, java.security.PublicKey

public static final long	serialVersionUID
public java.math.BigInteger	getY ()

3.10.6 java.security.interfaces.RSAKey

public abstract interface java.security.interfaces.RSAKey

public java.math.BigInteger	getModulus ()
-----------------------------	----------------------

3.10.7 java.security.interfaces.RSAPrivateCrtKey

public abstract interface java.security.interfaces.RSAPrivateCrtKey extends java.security.interfaces.RSAPrivateKey

public java.math.BigInteger	getCrtCoefficient ()
public java.math.BigInteger	getPrimeExponentP ()
public java.math.BigInteger	getPrimeExponentQ ()
public java.math.BigInteger	getPrimeP ()
public java.math.BigInteger	getPrimeQ ()
public java.math.BigInteger	getPublicExponent ()

3.10.8 java.security.interfaces.RSAPrivateKey

public abstract interface java.security.interfaces.RSAPrivateKey extends java.security.PrivateKey, java.security.interfaces.RSAKey

public java.math.BigInteger	getPrivateExponent ()
-----------------------------	------------------------------

3.10.9 java.security.interfaces.RSAPublicKey

public abstract interface java.security.interfaces.RSAPublicKey extends java.security.PublicKey, java.security.interfaces.RSAKey

public java.math.BigInteger	getPublicExponent()
-----------------------------	---------------------

3.11 Package java.security.spec

3.11.1 java.security.spec.AlgorithmParameterSpec

public abstract interface java.security.spec.AlgorithmParameterSpec

3.11.2 java.security.spec.DSAParameterSpec

public class java.security.spec.DSAParameterSpec extends java.lang.Object implements java.security.spec.AlgorithmParameterSpec, java.security.interfaces.DSAParams

public	DSAParameterSpec (java.math.BigInteger, java.math.BigInteger, java.math.BigInteger)
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public java.math.BigInteger	getG()
-----------------------------	--------

public java.math.BigInteger	getP()
-----------------------------	--------

public java.math.BigInteger	getQ()
-----------------------------	--------

3.11.3 java.security.spec.DSAPrivateKeySpec

public class java.security.spec.DSAPrivateKeySpec extends java.lang.Object implements java.security.spec.KeySpec

public	DSAPrivateKeySpec (java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger)
--------	---

public java.math.BigInteger	getG()
-----------------------------	--------

public java.math.BigInteger	getP()
-----------------------------	--------

public java.math.BigInteger	getQ()
-----------------------------	--------

public java.math.BigInteger	getX()
-----------------------------	--------

3.11.4 java.security.spec.DSAPublicKeySpec

public class java.security.spec.DSAPublicKeySpec extends java.lang.Object implements java.security.spec.KeySpec

public	DSAPublicKeySpec (java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger)
--------	--

public java.math.BigInteger	getG()
-----------------------------	--------

public java.math.BigInteger	getP()
-----------------------------	--------

public java.math.BigInteger	getQ()
-----------------------------	--------

public java.math.BigInteger	getY()
-----------------------------	--------

3.11.5 java.security.spec.EncodedKeySpec

public abstract class java.security.spec.EncodedKeySpec extends java.lang.Object implements java.security.spec.KeySpec

public	EncodedKeySpec (byte[])
--------	--------------------------------

public byte	getEncoded()
-------------	--------------

public abstract java.lang.String	getFormat()
----------------------------------	--------------------

3.11.6 java.security.spec.InvalidKeySpecException

public class java.security.spec.InvalidKeySpecException extends java.security.GeneralSecurityException	
---	--

public	InvalidKeySpecException()
--------	----------------------------------

public	InvalidKeySpecException(java.lang.String)
--------	--

3.11.7 java.security.spec.InvalidParameterSpecException

public class java.security.spec.InvalidParameterSpecException extends java.security.GeneralSecurityException	
---	--

public	InvalidParameterSpecException()
--------	--

public	InvalidParameterSpecException(java.lang.String)
--------	--

3.11.8 java.security.spec.KeySpec

public abstract interface java.security.spec.KeySpec	
---	--

3.11.9 java.security.spec.PKCS8EncodedKeySpec

public class java.security.spec.PKCS8EncodedKeySpec extends java.security.spec.EncodedKeySpec	
--	--

public	PKCS8EncodedKeySpec(byte[])
--------	------------------------------------

public byte	getEncoded()
-------------	---------------------

public final java.lang.String	getFormat()
-------------------------------	--------------------

3.11.10 java.security.spec.RSAKeyGenParameterSpec

public class java.security.spec.RSAKeyGenParameterSpec extends java.lang.Object implements java.security.spec.AlgorithmParameterSpec	
---	--

public static final java.math.BigInteger	F0
---	-----------

public static final java.math.BigInteger	F4
---	-----------

public	RSAKeyGenParameterSpec(int, java.math.BigInteger)
--------	--

public int	getKeySize()
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public java.math.BigInteger	getPublicExponent()
-----------------------------	----------------------------

3.11.11 java.security.spec.RSAPrivateCrtKeySpec

public class java.security.spec.RSAPrivateCrtKeySpec extends java.security.spec.RSAPrivateKeySpec	
--	--

public	RSAPrivateCrtKeySpec(java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger, java.math.BigInteger)
--------	---

public java.math.BigInteger	getCrtCoefficient()
-----------------------------	----------------------------

public java.math.BigInteger	getPrimeExponentP()
-----------------------------	----------------------------

public java.math.BigInteger	getPrimeExponentQ()
-----------------------------	----------------------------

public java.math.BigInteger	getPrimeP()
-----------------------------	--------------------

public java.math.BigInteger	getPrimeQ()
-----------------------------	--------------------

public java.math.BigInteger	getPublicExponent()
-----------------------------	---------------------

3.11.12 java.security.spec.RSAPrivateKeySpec

public class java.security.spec.RSAPrivateKeySpec extends java.lang.Object implements java.security.spec.KeySpec

public	RSAPrivateKeySpec(java.math.BigInteger, java.math.BigInteger)
public java.math.BigInteger	getModulus()
public java.math.BigInteger	getPrivateExponent()

3.11.13 java.security.spec.RSAPublicKeySpec

public class java.security.spec.RSAPublicKeySpec extends java.lang.Object implements java.security.spec.KeySpec

public	RSAPublicKeySpec(java.math.BigInteger, java.math.BigInteger)
public java.math.BigInteger	getModulus()
public java.math.BigInteger	getPublicExponent()

3.11.14 java.security.spec.X509EncodedKeySpec

public class java.security.spec.X509EncodedKeySpec extends java.security.spec.EncodedKeySpec

public	X509EncodedKeySpec(byte[])
public byte	getEncoded()
public final java.lang.String	getFormat()

3.12 Package java.text

3.12.1 java.text.Annotation

public class java.text.Annotation extends java.lang.Object

public	Annotation(java.lang.Object)
public java.lang.Object	getValue()
public java.lang.String	toString()

3.12.2 java.text.AttributedCharacterIterator

public abstract interface java.text.AttributedCharacterIterator extends java.text.CharacterIterator

public java.util.Set	getAllAttributeKeys()
public java.lang.Object	getAttribute(java.text.AttributedCharacterIterator.Attribute)
public java.util.Map	getAttributes()
public int	getRunLimit()
public int	getRunLimit(java.text.AttributedCharacterIterator.Attribute)
public int	getRunLimit(java.util.Set)
public int	getRunStart()
public int	getRunStart(java.text.AttributedCharacterIterator.Attribute)
public int	getRunStart(java.util.Set)

3.12.3 java.text.AttributedCharacterIterator.Attribute

public class java.text.AttributedCharacterIterator.Attribute extends java.lang.Object implements java.io.Serializable

public static final java.text.AttributedCharacterIterator.Attribute	INPUT_METHOD_SEGMENT
public static final java.text.AttributedCharacterIterator.Attribute	LANGUAGE
public static final java.text.AttributedCharacterIterator.Attribute	READING
protected	AttributedCharacterIterator.Attribute (java.lang.String)
public final boolean	equals (java.lang.Object)
protected java.lang.String	getName ()
public final int	hashCode ()
protected java.lang.Object	readResolve () throws java.io.InvalidObjectException
public java.lang.String	toString ()

3.12.4 java.text.AttributedString

public class java.text.AttributedString extends java.lang.Object

public	AttributedString (java.lang.String)
public	AttributedString (java.lang.String, java.util.Map)
public	AttributedString (java.text.AttributedCharacterIterator)
public	AttributedString (java.text.AttributedCharacterIterator, int, int)
public	AttributedString (java.text.AttributedCharacterIterator, int, int, java.text.AttributedCharacterIterator.Attribute[])
public void	addAttribute (java.text.AttributedCharacterIterator.Attribute, java.lang.Object)
public void	addAttribute (java.text.AttributedCharacterIterator.Attribute, java.lang.Object, int, int)
public void	addAttributes (java.util.Map, int, int)
public java.text.AttributedCharacterIterator	getIterator ()
public java.text.AttributedCharacterIterator	getIterator (java.text.AttributedCharacterIterator.Attribute[])
public java.text.AttributedCharacterIterator	getIterator (java.text.AttributedCharacterIterator.Attribute[], int, int)

3.12.5 java.text.BreakIterator

public abstract class java.text.BreakIterator extends java.lang.Object implements java.lang.Cloneable

public static final int	DONE
protected	BreakIterator ()



public java.lang.Object	clone()
public abstract int	current()
public abstract int	first()
public abstract int	following(int)
public static java.util.Locale	getAvailableLocales()
public static java.text.BreakIterator	getCharacterInstance()
public static java.text.BreakIterator	getCharacterInstance(java.util.Locale)
public static java.text.BreakIterator	getLineInstance()
public static java.text.BreakIterator	getLineInstance(java.util.Locale)
public static java.text.BreakIterator	getSentenceInstance()
public static java.text.BreakIterator	getSentenceInstance(java.util.Locale)
public abstract java.text.CharacterIterator	getText()
public static java.text.BreakIterator	getWordInstance()
public static java.text.BreakIterator	getWordInstance(java.util.Locale)
public boolean	isBoundary(int)
public abstract int	last()
public abstract int	next(int)
public abstract int	next()
public int	preceding(int)
public abstract int	previous()
public void	setText(java.lang.String)
public abstract void	setText(java.text.CharacterIterator)

3.12.6 java.text.CharacterIterator

public abstract interface java.text.CharacterIterator extends java.lang.Cloneable	
public static final char	DONE
public java.lang.Object	clone()
public char	current()
public char	first()
public int	getBeginIndex()
public int	getEndIndex()
public int	getIndex()
public char	last()

public char	next()
public char	previous()
public char	setIndex(int)

3.12.7 java.text.ChoiceFormat

public class java.text.ChoiceFormat extends java.text.NumberFormat	
public	ChoiceFormat (java.lang.String)
public	ChoiceFormat (double[], java.lang.String[])
public void	applyPattern (java.lang.String)
public java.lang.Object	clone()
public boolean	equals (java.lang.Object)
public java.lang.StringBuffer	format (long, java.lang.StringBuffer, java.text.FieldPosition)
public java.lang.StringBuffer	format (double, java.lang.StringBuffer, java.text.FieldPosition)
public java.lang.Object	getFormats()
public double	getLimits()
public int	hashCode()
public static final double	nextDouble (double)
public static double	nextDouble (double, boolean)
public java.lang.Number	parse (java.lang.String, java.text.ParsePosition)
public static final double	previousDouble (double)
public void	setChoices (double[], java.lang.String[])
public java.lang.String	toPattern()

3.12.8 java.text.CollationElementIterator

public final class java.text.CollationElementIterator extends java.lang.Object	
public static final int	NULLORDER
public int	getMaxExpansion (int)
public int	getOffset()
public int	next()
public int	previous()
public static final int	primaryOrder (int)
public void	reset()
public static final short	secondaryOrder (int)
public void	setOffset (int)
public void	setText (java.lang.String)
public void	setText (java.text.CharacterIterator)
public static final short	tertiaryOrder (int)

3.12.9 java.text.CollationKey

public final class java.text.CollationKey extends java.lang.Object implements java.lang.Comparable	
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public int	compareTo (java.text.CollationKey)
public int	compareTo (java.lang.Object)
public boolean	equals (java.lang.Object)
public java.lang.String	getSourceString ()
public int	hashCode ()
public byte	toByteArray ()

3.12.10 java.text.Collator

public abstract class java.text.Collator extends java.lang.Object implements java.util.Comparator, java.lang.Cloneable

public static final int	CANONICAL_DECOMPOSITION
public static final int	FULL_DECOMPOSITION
public static final int	IDENTICAL
public static final int	NO_DECOMPOSITION
public static final int	PRIMARY
public static final int	SECONDARY
public static final int	TERTIARY
protected	Collator ()
public java.lang.Object	clone ()
public abstract int	compare (java.lang.String, java.lang.String)
public int	compare (java.lang.Object, java.lang.Object)
public boolean	equals (java.lang.String, java.lang.String)
public boolean	equals (java.lang.Object)
public static java.util.Locale	getAvailableLocales ()
public abstract java.text.CollationKey	getCollationKey (java.lang.String)
public int	getDecomposition ()
public static java.text.Collator	getInstance ()
public static java.text.Collator	getInstance (java.util.Locale)
public int	getStrength ()
public abstract int	hashCode ()
public void	setDecomposition (int)
public void	setStrength (int)

3.12.11 java.text.DateFormat

public abstract class java.text.DateFormat extends java.text.Format

public static final int	AM_PM_FIELD
public static final int	DATE_FIELD
public static final int	DAY_OF_WEEK_FIELD
public static final int	DAY_OF_WEEK_IN_MONTH_FIELD



public static final int	DAY_OF_YEAR_FIELD
public static final int	DEFAULT
public static final int	ERA_FIELD
public static final int	FULL
public static final int	HOUR0_FIELD
public static final int	HOUR1_FIELD
public static final int	HOUR_OF_DAY0_FIELD
public static final int	HOUR_OF_DAY1_FIELD
public static final int	LONG
public static final int	MEDIUM
public static final int	MILLISECOND_FIELD
public static final int	MINUTE_FIELD
public static final int	MONTH_FIELD
public static final int	SECOND_FIELD
public static final int	SHORT
public static final int	TIMEZONE_FIELD
public static final int	WEEK_OF_MONTH_FIELD
public static final int	WEEK_OF_YEAR_FIELD
public static final int	YEAR_FIELD
protected java.util.Calendar	calendar
protected java.text.NumberFormat	numberFormat
protected	DateFormat()
public java.lang.Object	clone()
public boolean	equals(java.lang.Object)
public final java.lang.StringBuffer	format(java.lang.Object, java.lang.StringBuffer, java.text.FieldPosition)
public abstract java.lang.StringBuffer	format(java.util.Date, java.lang.StringBuffer, java.text.FieldPosition)
public final java.lang.String	format(java.util.Date)
public static java.util.Locale	getAvailableLocales()
public java.util.Calendar	getCalendar()
public static final java.text.DateFormat	getDateInstance()
public static final java.text.DateFormat	getDateInstance(int)
public static final java.text.DateFormat	getDateInstance(int, java.util.Locale)
public static final java.text.DateFormat	getDateTimelInstance()
public static final java.text.DateFormat	getDateTimelInstance(int, int)

public static final java.text.DateFormat	getDateTImeInstance (int, int, java.util.Locale)
public static final java.text.DateFormat	getInstance ()
public java.text.NumberFormat	getNumberFormat ()
public static final java.text.DateFormat	getTImeInstance ()
public static final java.text.DateFormat	getTImeInstance (int)
public static final java.text.DateFormat	getTImeInstance (int, java.util.Locale)
public java.util.TimeZone	getTimeZone ()
public int	hashCode ()
public boolean	isLenient ()
public java.util.Date	parse (java.lang.String) throws java.text.ParseException
public abstract java.util.Date	parse (java.lang.String, java.text.ParsePosition)
public java.lang.Object	parseObject (java.lang.String, java.text.ParsePosition)
public void	setCalendar (java.util.Calendar)
public void	setLenient (boolean)
public void	setNumberFormat (java.text.NumberFormat)
public void	setTimeZone (java.util.TimeZone)

3.12.12 java.text.DateFormatSymbols

public class java.text.DateFormatSymbols extends java.lang.Object implements java.io.Serializable, java.lang.Cloneable

public	DateFormatSymbols ()
public	DateFormatSymbols (java.util.Locale)
public java.lang.Object	clone ()
public boolean	equals (java.lang.Object)
public java.lang.String	getAmPmStrings ()
public java.lang.String	getEras ()
public java.lang.String	getLocalPatternChars ()
public java.lang.String	getMonths ()
public java.lang.String	getShortMonths ()
public java.lang.String	getShortWeekdays ()
public java.lang.String	getWeekdays ()
public java.lang.String	getZoneStrings ()
public int	hashCode ()
public void	setAmPmStrings (java.lang.String[])
public void	setEras (java.lang.String[])
public void	setLocalPatternChars (java.lang.String)



public void	setMonths (java.lang.String[])
public void	setShortMonths (java.lang.String[])
public void	setShortWeekdays (java.lang.String[])
public void	setWeekdays (java.lang.String[])
public void	setZoneStrings (java.lang.String[][])

3.12.13 java.text.DecimalFormat

public class java.text.DecimalFormat extends java.text.NumberFormat	
public	DecimalFormat ()
public	DecimalFormat (java.lang.String)
public	DecimalFormat (java.lang.String, java.text.DecimalFormatSymbols)
public void	applyLocalizedPattern (java.lang.String)
public void	applyPattern (java.lang.String)
public java.lang.Object	clone ()
public boolean	equals (java.lang.Object)
public java.lang.StringBuffer	format (double, java.lang.StringBuffer, java.text.FieldPosition)
public java.lang.StringBuffer	format (long, java.lang.StringBuffer, java.text.FieldPosition)
public java.text.DecimalFormatSymbols	getDecimalFormatSymbols ()
public int	getGroupingSize ()
public int	getMultiplier ()
public java.lang.String	getNegativePrefix ()
public java.lang.String	getNegativeSuffix ()
public java.lang.String	getPositivePrefix ()
public java.lang.String	getPositiveSuffix ()
public int	hashCode ()
public boolean	isDecimalSeparatorAlwaysShown ()
public java.lang.Number	parse (java.lang.String, java.text.ParsePosition)
public void	setDecimalFormatSymbols (java.text.DecimalFormatSymbols)
public void	setDecimalSeparatorAlwaysShown (boolean)
public void	setGroupingSize (int)
public void	setMaximumFractionDigits (int)
public void	setMaximumIntegerDigits (int)
public void	setMinimumFractionDigits (int)
public void	setMinimumIntegerDigits (int)
public void	setMultiplier (int)
public void	setNegativePrefix (java.lang.String)
public void	setNegativeSuffix (java.lang.String)
public void	setPositivePrefix (java.lang.String)
public void	setPositiveSuffix (java.lang.String)

public java.lang.String

toLocalizedPattern()

public java.lang.String

toPattern()

3.12.14 java.text.DecimalFormatSymbols

public final class java.text.DecimalFormatSymbols extends java.lang.Object implements java.lang.Cloneable, java.io.Serializable

public

DecimalFormatSymbols()

public

DecimalFormatSymbols(java.util.Locale)

public java.lang.Object

clone()

public boolean

equals(java.lang.Object)

public java.lang.String

getCurrencySymbol()

public char

getDecimalSeparator()

public char

getDigit()

public char

getGroupingSeparator()

public java.lang.String

getInfinity()

public java.lang.String

getInternationalCurrencySymbol()

public char

getMinusSign()

public char

getMonetaryDecimalSeparator()

public java.lang.String

getNaN()

public char

getPatternSeparator()

public char

getPerMill()

public char

getPercent()

public char

getZeroDigit()

public int

hashCode()

public void

setCurrencySymbol(java.lang.String)

public void

setDecimalSeparator(char)

public void

setDigit(char)

public void

setGroupingSeparator(char)

public void

setInfinity(java.lang.String)

public void

setInternationalCurrencySymbol(java.lang.String)

public void

setMinusSign(char)

public void

setMonetaryDecimalSeparator(char)

public void

setNaN(java.lang.String)

public void

setPatternSeparator(char)

public void

setPerMill(char)

public void

setPercent(char)

public void

setZeroDigit(char)

3.12.15 java.text.FieldPosition

public class java.text.FieldPosition extends java.lang.Object



public	FieldPosition (int)
public boolean	equals (java.lang.Object)
public int	getBeginIndex ()
public int	getEndIndex ()
public int	getField ()
public int	hashCode ()
public void	setBeginIndex (int)
public void	setEndIndex (int)
public java.lang.String	toString ()

3.12.16 java.text.Format

public abstract class java.text.Format extends **java.lang.Object** implements **java.io.Serializable**, **java.lang.Cloneable**

public	Format ()
public java.lang.Object	clone ()
public final java.lang.String	format (java.lang.Object)
public abstract java.lang.StringBuffer	format (java.lang.Object, java.lang.StringBuffer, java.text.FieldPosition)
public abstract java.lang.Object	parseObject (java.lang.String, java.text.ParsePosition)
public java.lang.Object	parseObject (java.lang.String) throws java.text.ParseException

3.12.17 java.text.MessageFormat

public class java.text.MessageFormat extends **java.text.Format**

public	MessageFormat (java.lang.String)
public void	applyPattern (java.lang.String)
public java.lang.Object	clone ()
public boolean	equals (java.lang.Object)
public final java.lang.StringBuffer	format (java.lang.Object[], java.lang.StringBuffer, java.text.FieldPosition)
public static java.lang.String	format (java.lang.String, java.lang.Object[])
public final java.lang.StringBuffer	format (java.lang.Object, java.lang.StringBuffer, java.text.FieldPosition)
public java.text.Format	getFormats ()
public java.util.Locale	getLocale ()
public int	hashCode ()
public java.lang.Object	parse (java.lang.String, java.text.ParsePosition)
public java.lang.Object	parse (java.lang.String) throws java.text.ParseException
public java.lang.Object	parseObject (java.lang.String, java.text.ParsePosition)
public void	setFormat (int, java.text.Format)
public void	setFormats (java.text.Format[])
public void	setLocale (java.util.Locale)
public java.lang.String	toPattern ()

3.12.18 java.text.NumberFormat

public abstract class java.text.NumberFormat extends java.text.Format	
public static final int	FRACTION_FIELD
public static final int	INTEGER_FIELD
public	NumberFormat()
public java.lang.Object	clone()
public boolean	equals(java.lang.Object)
public final java.lang.StringBuffer	format(java.lang.Object, java.lang.StringBuffer, java.text.FieldPosition)
public final java.lang.String	format(double)
public final java.lang.String	format(long)
public abstract java.lang.StringBuffer	format(double, java.lang.StringBuffer, java.text.FieldPosition)
public abstract java.lang.StringBuffer	format(long, java.lang.StringBuffer, java.text.FieldPosition)
public static java.util.Locale	getAvailableLocales()
public static final java.text.NumberFormat	getCurrencyInstance()
public static java.text.NumberFormat	getCurrencyInstance(java.util.Locale)
public static final java.text.NumberFormat	getInstance()
public static java.text.NumberFormat	getInstance(java.util.Locale)
public int	getMaximumFractionDigits()
public int	getMaximumIntegerDigits()
public int	getMinimumFractionDigits()
public int	getMinimumIntegerDigits()
public static final java.text.NumberFormat	getNumberInstance()
public static java.text.NumberFormat	getNumberInstance(java.util.Locale)
public static final java.text.NumberFormat	getPercentInstance()
public static java.text.NumberFormat	getPercentInstance(java.util.Locale)
public int	hashCode()
public boolean	isGroupingUsed()
public boolean	isParseIntegerOnly()
public abstract java.lang.Number	parse(java.lang.String, java.text.ParsePosition)
public java.lang.Number	parse(java.lang.String) throws java.text.ParseException
public final java.lang.Object	parseObject(java.lang.String, java.text.ParsePosition)
public void	setGroupingUsed(boolean)



public void	setMaximumFractionDigits (int)
public void	setMaximumIntegerDigits (int)
public void	setMinimumFractionDigits (int)
public void	setMinimumIntegerDigits (int)
public void	setParseIntegerOnly (boolean)

3.12.19 java.text.ParseException

public class java.text.ParseException extends java.lang.Exception	
public	ParseException (java.lang.String, int)
public int	getErrorOffset ()

3.12.20 java.text.ParsePosition

public class java.text.ParsePosition extends java.lang.Object	
public	ParsePosition (int)
public boolean	equals (java.lang.Object)
public int	getErrorIndex ()
public int	getIndex ()
public int	hashCode ()
public void	setErrorIndex (int)
public void	setIndex (int)
public java.lang.String	toString ()

3.12.21 java.text.RuleBasedCollator

public class java.text.RuleBasedCollator extends java.text.Collator	
public	RuleBasedCollator (java.lang.String) throws java.text.ParseException
public java.lang.Object	clone ()
public int	compare (java.lang.String, java.lang.String)
public boolean	equals (java.lang.Object)
public java.text.CollationElementIterator	getCollationElementIterator (java.lang.String)
public java.text.CollationElementIterator	getCollationElementIterator (java.text.CharacterIterator)
public java.text.CollationKey	getCollationKey (java.lang.String)
public java.lang.String	getRules ()
public int	hashCode ()

3.12.22 java.text.SimpleDateFormat

public class java.text.SimpleDateFormat extends java.text.DateFormat	
public	SimpleDateFormat ()
public	SimpleDateFormat (java.lang.String)
public	SimpleDateFormat (java.lang.String, java.util.Locale)

public	SimpleDateFormat (java.lang.String, java.text.DateFormatSymbols)
public void	applyLocalizedPattern (java.lang.String)
public void	applyPattern (java.lang.String)
public java.lang.Object	clone ()
public boolean	equals (java.lang.Object)
public java.lang.StringBuffer	format (java.util.Date, java.lang.StringBuffer, java.text.FieldPosition)
public java.util.Date	get2DigitYearStart ()
public java.text.DateFormatSymbols	getDateFormatSymbols ()
public int	hashCode ()
public java.util.Date	parse (java.lang.String, java.text.ParsePosition)
public void	set2DigitYearStart (java.util.Date)
public void	setDateFormatSymbols (java.text.DateFormatSymbols)
public java.lang.String	toLocalizedPattern ()
public java.lang.String	toPattern ()

3.12.23 java.text.StringCharacterIterator

public final class java.text.StringCharacterIterator extends java.lang.Object implements java.text.CharacterIterator

public	StringCharacterIterator (java.lang.String)
public	StringCharacterIterator (java.lang.String, int)
public	StringCharacterIterator (java.lang.String, int, int, int)
public java.lang.Object	clone ()
public char	current ()
public boolean	equals (java.lang.Object)
public char	first ()
public int	getBeginIndex ()
public int	getEndIndex ()
public int	getIndex ()
public int	hashCode ()
public char	last ()
public char	next ()
public char	previous ()
public char	setIndex (int)
public void	setText (java.lang.String)

3.13 Package java.util

3.13.1 java.util.AbstractCollection

public abstract class java.util.AbstractCollection extends java.lang.Object implements java.util.Collection

protected	AbstractCollection ()
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public boolean	add (java.lang.Object)
public boolean	addAll (java.util.Collection)
public void	clear ()
public boolean	contains (java.lang.Object)
public boolean	containsAll (java.util.Collection)
public boolean	isEmpty ()
public abstract java.util.Iterator	iterator ()
public boolean	remove (java.lang.Object)
public boolean	removeAll (java.util.Collection)
public boolean	retainAll (java.util.Collection)
public abstract int	size ()
public java.lang.Object	toArray ()
public java.lang.Object	toArray (java.lang.Object[])
public java.lang.String	toString ()

3.13.2 java.util.AbstractList

public abstract class java.util.AbstractList extends java.util.AbstractCollection implements java.util.List	
protected int	modCount
protected	AbstractList ()
public boolean	add (java.lang.Object)
public void	add (int, java.lang.Object)
public boolean	addAll (int, java.util.Collection)
public void	clear ()
public boolean	equals (java.lang.Object)
public abstract java.lang.Object	get (int)
public int	hashCode ()
public int	indexOf (java.lang.Object)
public java.util.Iterator	iterator ()
public int	lastIndexOf (java.lang.Object)
public java.util.ListIterator	listIterator ()
public java.util.ListIterator	listIterator (int)
public java.lang.Object	remove (int)
protected void	removeRange (int, int)
public java.lang.Object	set (int, java.lang.Object)
public java.util.List	subList (int, int)

3.13.3 java.util.AbstractMap

public abstract class java.util.AbstractMap extends java.lang.Object implements java.util.Map	
protected	AbstractMap ()
public void	clear ()

public boolean	containsKey (java.lang.Object)
public boolean	containsValue (java.lang.Object)
public abstract java.util.Set	entrySet ()
public boolean	equals (java.lang.Object)
public java.lang.Object	get (java.lang.Object)
public int	hashCode ()
public boolean	isEmpty ()
public java.util.Set	keySet ()
public java.lang.Object	put (java.lang.Object, java.lang.Object)
public void	putAll (java.util.Map)
public java.lang.Object	remove (java.lang.Object)
public int	size ()
public java.lang.String	toString ()
public java.util.Collection	values ()

3.13.4 java.util.AbstractSequentialList

public abstract class java.util.AbstractSequentialList extends java.util.AbstractList	
protected	AbstractSequentialList ()
public void	add (int, java.lang.Object)
public boolean	addAll (int, java.util.Collection)
public java.lang.Object	get (int)
public java.util.Iterator	iterator ()
public abstract java.util.ListIterator	listIterator (int)
public java.lang.Object	remove (int)
public java.lang.Object	set (int, java.lang.Object)

3.13.5 java.util.AbstractSet

public abstract class java.util.AbstractSet extends java.util.AbstractCollection implements java.util.Set	
protected	AbstractSet ()
public boolean	equals (java.lang.Object)
public int	hashCode ()
public boolean	removeAll (java.util.Collection)

3.13.6 java.util.ArrayList

public class java.util.ArrayList extends java.util.AbstractList implements java.util.List, java.lang.Cloneable, java.io.Serializable	
public	ArrayList (int)
public	ArrayList ()
public	ArrayList (java.util.Collection)
public boolean	add (java.lang.Object)

public void	add (int, java.lang.Object)
public boolean	addAll (java.util.Collection)
public boolean	addAll (int, java.util.Collection)
public void	clear ()
public java.lang.Object	clone ()
public boolean	contains (java.lang.Object)
public void	ensureCapacity (int)
public java.lang.Object	get (int)
public int	indexOf (java.lang.Object)
public boolean	isEmpty ()
public int	lastIndexOf (java.lang.Object)
public java.lang.Object	remove (int)
protected void	removeRange (int, int)
public java.lang.Object	set (int, java.lang.Object)
public int	size ()
public java.lang.Object	toArray ()
public java.lang.Object	toArray (java.lang.Object[])
public void	trimToSize ()

3.13.7 java.util.Arrays

public class java.util.Arrays extends java.lang.Object	
public static java.util.List	asList (java.lang.Object[])
public static int	binarySearch (long[], long)
public static int	binarySearch (int[], int)
public static int	binarySearch (short[], short)
public static int	binarySearch (char[], char)
public static int	binarySearch (byte[], byte)
public static int	binarySearch (double[], double)
public static int	binarySearch (float[], float)
public static int	binarySearch (java.lang.Object[], java.lang.Object)
public static int	binarySearch (java.lang.Object[], java.lang.Object, java.util.Comparator)
public static boolean	equals (long[], long[])
public static boolean	equals (int[], int[])
public static boolean	equals (short[], short[])
public static boolean	equals (char[], char[])
public static boolean	equals (byte[], byte[])
public static boolean	equals (boolean[], boolean[])
public static boolean	equals (double[], double[])
public static boolean	equals (float[], float[])



public static boolean	equals (java.lang.Object[], java.lang.Object[])
public static void	fill (long[], long)
public static void	fill (long[], int, int, long)
public static void	fill (int[], int)
public static void	fill (int[], int, int, int)
public static void	fill (short[], short)
public static void	fill (short[], int, int, short)
public static void	fill (char[], char)
public static void	fill (char[], int, int, char)
public static void	fill (byte[], byte)
public static void	fill (byte[], int, int, byte)
public static void	fill (boolean[], boolean)
public static void	fill (boolean[], int, int, boolean)
public static void	fill (double[], double)
public static void	fill (double[], int, int, double)
public static void	fill (float[], float)
public static void	fill (float[], int, int, float)
public static void	fill (java.lang.Object[], java.lang.Object)
public static void	fill (java.lang.Object[], int, int, java.lang.Object)
public static void	sort (long[])
public static void	sort (long[], int, int)
public static void	sort (int[])
public static void	sort (int[], int, int)
public static void	sort (short[])
public static void	sort (short[], int, int)
public static void	sort (char[])
public static void	sort (char[], int, int)
public static void	sort (byte[])
public static void	sort (byte[], int, int)
public static void	sort (double[])
public static void	sort (double[], int, int)
public static void	sort (float[])
public static void	sort (float[], int, int)
public static void	sort (java.lang.Object[])
public static void	sort (java.lang.Object[], int, int)
public static void	sort (java.lang.Object[], java.util.Comparator)
public static void	sort (java.lang.Object[], int, int, java.util.Comparator)

3.13.8 java.util.BitSet

public class java.util.BitSet extends java.lang.Object implements java.lang.Cloneable, java.io.Serializable	
public	BitSet()
public	BitSet(int)
public void	and(java.util.BitSet)
public void	andNot(java.util.BitSet)
public void	clear(int)
public java.lang.Object	clone()
public boolean	equals(java.lang.Object)
public boolean	get(int)
public int	hashCode()
public int	length()
public void	or(java.util.BitSet)
public void	set(int)
public int	size()
public java.lang.String	toString()
public void	xor(java.util.BitSet)

3.13.9 java.util.Calendar

public abstract class java.util.Calendar extends java.lang.Object implements java.io.Serializable, java.lang.Cloneable	
public static final int	AM
public static final int	AM_PM
public static final int	APRIL
public static final int	AUGUST
public static final int	DATE
public static final int	DAY_OF_MONTH
public static final int	DAY_OF_WEEK
public static final int	DAY_OF_WEEK_IN_MONTH
public static final int	DAY_OF_YEAR
public static final int	DECEMBER
public static final int	DST_OFFSET
public static final int	ERA
public static final int	FEBRUARY
public static final int	FIELD_COUNT
public static final int	FRIDAY
public static final int	HOURL
public static final int	HOURL_OF_DAY
public static final int	JANUARY
public static final int	JULY



public static final int	JUNE
public static final int	MARCH
public static final int	MAY
public static final int	MILLISECOND
public static final int	MINUTE
public static final int	MONDAY
public static final int	MONTH
public static final int	NOVEMBER
public static final int	OCTOBER
public static final int	PM
public static final int	SATURDAY
public static final int	SECOND
public static final int	SEPTEMBER
public static final int	SUNDAY
public static final int	THURSDAY
public static final int	TUESDAY
public static final int	UNDECIMBER
public static final int	WEDNESDAY
public static final int	WEEK_OF_MONTH
public static final int	WEEK_OF_YEAR
public static final int	YEAR
public static final int	ZONE_OFFSET
protected boolean	areFieldsSet
protected int	fields
protected boolean	isSet
protected boolean	isTimeSet
protected long	time
protected	Calendar()
protected	Calendar(java.util.TimeZone, java.util.Locale)
public abstract void	add(int, int)
public boolean	after(java.lang.Object)
public boolean	before(java.lang.Object)
public final void	clear()
public final void	clear(int)
public java.lang.Object	clone()
protected void	complete()
protected abstract void	computeFields()
protected abstract void	computeTime()
public boolean	equals(java.lang.Object)



public final int	get (int)
public int	getActualMaximum (int)
public int	getActualMinimum (int)
public static java.util.Locale	getAvailableLocales ()
public int	getFirstDayOfWeek ()
public abstract int	getGreatestMinimum (int)
public static java.util.Calendar	getInstance ()
public static java.util.Calendar	getInstance (java.util.TimeZone)
public static java.util.Calendar	getInstance (java.util.Locale)
public static java.util.Calendar	getInstance (java.util.TimeZone, java.util.Locale)
public abstract int	getLeastMaximum (int)
public abstract int	getMaximum (int)
public int	getMinimalDaysInFirstWeek ()
public abstract int	getMinimum (int)
public final java.util.Date	getTime ()
protected long	getTimeInMillis ()
public java.util.TimeZone	getTimeZone ()
public int	hashCode ()
protected final int	internalGet (int)
public boolean	isLenient ()
public final boolean	isSet (int)
public abstract void	roll (int, boolean)
public void	roll (int, int)
public final void	set (int, int)
public final void	set (int, int, int)
public final void	set (int, int, int, int, int)
public final void	set (int, int, int, int, int, int)
public void	setFirstDayOfWeek (int)
public void	setLenient (boolean)
public void	setMinimalDaysInFirstWeek (int)
public final void	setTime (java.util.Date)
protected void	setTimeInMillis (long)
public void	setTimeZone (java.util.TimeZone)
public java.lang.String	toString ()

3.13.10 java.util.Collection

public abstract interface java.util.Collection	
public boolean	add (java.lang.Object)
public boolean	addAll (java.util.Collection)

public void	clear()
public boolean	contains (java.lang.Object)
public boolean	containsAll (java.util.Collection)
public boolean	equals (java.lang.Object)
public int	hashCode ()
public boolean	isEmpty ()
public java.util.Iterator	iterator ()
public boolean	remove (java.lang.Object)
public boolean	removeAll (java.util.Collection)
public boolean	retainAll (java.util.Collection)
public int	size ()
public java.lang.Object	toArray ()
public java.lang.Object	toArray (java.lang.Object[])

3.13.11 java.util.Collections

public class java.util.Collections extends java.lang.Object	
public static final java.util.List	EMPTY_LIST
public static final java.util.Map	EMPTY_MAP
public static final java.util.Set	EMPTY_SET
public static int	binarySearch (java.util.List, java.lang.Object)
public static int	binarySearch (java.util.List, java.lang.Object, java.util.Comparator)
public static void	copy (java.util.List, java.util.List)
public static java.util.Enumeration	enumeration (java.util.Collection)
public static void	fill (java.util.List, java.lang.Object)
public static java.lang.Object	max (java.util.Collection)
public static java.lang.Object	max (java.util.Collection, java.util.Comparator)
public static java.lang.Object	min (java.util.Collection)
public static java.lang.Object	min (java.util.Collection, java.util.Comparator)
public static java.util.List	nCopies (int, java.lang.Object)
public static void	reverse (java.util.List)
public static java.util.Comparator	reverseOrder ()
public static void	shuffle (java.util.List)
public static void	shuffle (java.util.List, java.util.Random)
public static java.util.Set	singleton (java.lang.Object)
public static java.util.List	singletonList (java.lang.Object)
public static java.util.Map	singletonMap (java.lang.Object, java.lang.Object)
public static void	sort (java.util.List)
public static void	sort (java.util.List, java.util.Comparator)
public static java.util.Collection	synchronizedCollection (java.util.Collection)



public static java.util.List	synchronizedList (java.util.List)
public static java.util.Map	synchronizedMap (java.util.Map)
public static java.util.Set	synchronizedSet (java.util.Set)
public static java.util.SortedMap	synchronizedSortedMap (java.util.SortedMap)
public static java.util.SortedSet	synchronizedSortedSet (java.util.SortedSet)
public static java.util.Collection	unmodifiableCollection (java.util.Collection)
public static java.util.List	unmodifiableList (java.util.List)
public static java.util.Map	unmodifiableMap (java.util.Map)
public static java.util.Set	unmodifiableSet (java.util.Set)
public static java.util.SortedMap	unmodifiableSortedMap (java.util.SortedMap)
public static java.util.SortedSet	unmodifiableSortedSet (java.util.SortedSet)

3.13.12 java.util.Comparator

public abstract interface java.util.Comparator	
public int	compare (java.lang.Object, java.lang.Object)
public boolean	equals (java.lang.Object)

3.13.13 java.util.ConcurrentModificationException

public class java.util.ConcurrentModificationException extends java.lang.RuntimeException	
public	ConcurrentModificationException ()
public	ConcurrentModificationException (java.lang.String)

3.13.14 java.util.Date

public class java.util.Date extends java.lang.Object implements java.io.Serializable, java.lang.Cloneable, java.lang.Comparable	
public	Date ()
public	Date (long)
public boolean	after (java.util.Date)
public boolean	before (java.util.Date)
public java.lang.Object	clone ()
public int	compareTo (java.util.Date)
public int	compareTo (java.lang.Object)
public boolean	equals (java.lang.Object)
public long	getTime ()
public int	hashCode ()
public void	setTime (long)
public java.lang.String	toString ()

3.13.15 java.util.Dictionary

public abstract class java.util.Dictionary extends java.lang.Object	
public	Dictionary ()

public abstract java.util.Enumeration	elements()
public abstract java.lang.Object	get (java.lang.Object)
public abstract boolean	isEmpty()
public abstract java.util.Enumeration	keys()
public abstract java.lang.Object	put (java.lang.Object, java.lang.Object)
public abstract java.lang.Object	remove (java.lang.Object)
public abstract int	size()

3.13.16 java.util.EmptyStackException

public class java.util.EmptyStackException extends java.lang.RuntimeException	
public	EmptyStackException()

3.13.17 java.util.Enumeration

public abstract interface java.util.Enumeration	
public boolean	hasMoreElements()
public java.lang.Object	nextElement()

3.13.18 java.util.EventListener

public abstract interface java.util.EventListener	
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3.13.19 java.util.EventObject

public class java.util.EventObject extends java.lang.Object implements java.io.Serializable	
protected java.lang.Object	source
public	EventObject (java.lang.Object)
public java.lang.Object	getSource()
public java.lang.String	toString()

3.13.20 java.util.GregorianCalendar

public class java.util.GregorianCalendar extends java.util.Calendar	
public static final int	AD
public static final int	BC
public	GregorianCalendar()
public	GregorianCalendar (java.util.TimeZone)
public	GregorianCalendar (java.util.Locale)
public	GregorianCalendar (java.util.TimeZone, java.util.Locale)
public	GregorianCalendar (int, int, int)
public	GregorianCalendar (int, int, int, int, int)
public	GregorianCalendar (int, int, int, int, int, int)
public void	add (int, int)
protected void	computeFields()

protected void	computeTime()
public boolean	equals (java.lang.Object)
public int	getActualMaximum (int)
public int	getActualMinimum (int)
public int	getGreatestMinimum (int)
public final java.util.Date	getGregorianChange ()
public int	getLeastMaximum (int)
public int	getMaximum (int)
public int	getMinimum (int)
public int	hashCode ()
public boolean	isLeapYear (int)
public void	roll (int, boolean)
public void	roll (int, int)
public void	setGregorianChange (java.util.Date)

3.13.21 java.util.HashMap

public class java.util.HashMap extends java.util.AbstractMap implements java.util.Map, java.lang.Cloneable, java.io.Serializable

public	HashMap (int, float)
public	HashMap (int)
public	HashMap ()
public	HashMap (java.util.Map)
public void	clear ()
public java.lang.Object	clone ()
public boolean	containsKey (java.lang.Object)
public boolean	containsValue (java.lang.Object)
public java.util.Set	entrySet ()
public java.lang.Object	get (java.lang.Object)
public boolean	isEmpty ()
public java.util.Set	keySet ()
public java.lang.Object	put (java.lang.Object, java.lang.Object)
public void	putAll (java.util.Map)
public java.lang.Object	remove (java.lang.Object)
public int	size ()
public java.util.Collection	values ()

3.13.22 java.util.HashSet

public class java.util.HashSet extends java.util.AbstractSet implements java.util.Set, java.lang.Cloneable, java.io.Serializable

public	HashSet ()
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public	HashSet (java.util.Collection)
public	HashSet (int, float)
public	HashSet (int)
public boolean	add (java.lang.Object)
public void	clear ()
public java.lang.Object	clone ()
public boolean	contains (java.lang.Object)
public boolean	isEmpty ()
public java.util.Iterator	iterator ()
public boolean	remove (java.lang.Object)
public int	size ()

3.13.23 java.util.Hashtable

public class java.util.Hashtable extends **java.util.Dictionary** implements **java.util.Map**, **java.lang.Cloneable**, **java.io.Serializable**

public	Hashtable (int, float)
public	Hashtable (int)
public	Hashtable ()
public	Hashtable (java.util.Map)
public void	clear ()
public java.lang.Object	clone ()
public boolean	contains (java.lang.Object)
public boolean	containsKey (java.lang.Object)
public boolean	containsValue (java.lang.Object)
public java.util.Enumeration	elements ()
public java.util.Set	entrySet ()
public boolean	equals (java.lang.Object)
public java.lang.Object	get (java.lang.Object)
public int	hashCode ()
public boolean	isEmpty ()
public java.util.Set	keySet ()
public java.util.Enumeration	keys ()
public java.lang.Object	put (java.lang.Object, java.lang.Object)
public void	putAll (java.util.Map)
protected void	rehash ()
public java.lang.Object	remove (java.lang.Object)
public int	size ()
public java.lang.String	toString ()
public java.util.Collection	values ()

3.13.24 java.util.Iterator

public abstract interface java.util.Iterator	
public boolean	hasNext()
public java.lang.Object	next()
public void	remove()

3.13.25 java.util.LinkedList

public class java.util.LinkedList extends java.util.AbstractSequentialList implements java.util.List, java.lang.Cloneable, java.io.Serializable

public	LinkedList()
public	LinkedList(java.util.Collection)
public boolean	add(java.lang.Object)
public void	add(int, java.lang.Object)
public boolean	addAll(java.util.Collection)
public boolean	addAll(int, java.util.Collection)
public void	addFirst(java.lang.Object)
public void	addLast(java.lang.Object)
public void	clear()
public java.lang.Object	clone()
public boolean	contains(java.lang.Object)
public java.lang.Object	get(int)
public java.lang.Object	getFirst()
public java.lang.Object	getLast()
public int	indexOf(java.lang.Object)
public int	lastIndexOf(java.lang.Object)
public java.util.ListIterator	listIterator(int)
public boolean	remove(java.lang.Object)
public java.lang.Object	remove(int)
public java.lang.Object	removeFirst()
public java.lang.Object	removeLast()
public java.lang.Object	set(int, java.lang.Object)
public int	size()
public java.lang.Object	toArray()
public java.lang.Object	toArray(java.lang.Object[])

3.13.26 java.util.List

public abstract interface java.util.List extends java.util.Collection	
public boolean	add(java.lang.Object)
public void	add(int, java.lang.Object)
public boolean	addAll(java.util.Collection)



public boolean	addAll (int, java.util.Collection)
public void	clear ()
public boolean	contains (java.lang.Object)
public boolean	containsAll (java.util.Collection)
public boolean	equals (java.lang.Object)
public java.lang.Object	get (int)
public int	hashCode ()
public int	indexOf (java.lang.Object)
public boolean	isEmpty ()
public java.util.Iterator	iterator ()
public int	lastIndexOf (java.lang.Object)
public java.util.ListIterator	listIterator ()
public java.util.ListIterator	listIterator (int)
public boolean	remove (java.lang.Object)
public java.lang.Object	remove (int)
public boolean	removeAll (java.util.Collection)
public boolean	retainAll (java.util.Collection)
public java.lang.Object	set (int, java.lang.Object)
public int	size ()
public java.util.List	subList (int, int)
public java.lang.Object	toArray ()
public java.lang.Object	toArray (java.lang.Object[])

3.13.27 java.util.ListIterator

public abstract interface java.util.ListIterator extends java.util.Iterator	
public void	add (java.lang.Object)
public boolean	hasNext ()
public boolean	hasPrevious ()
public java.lang.Object	next ()
public int	nextIndex ()
public java.lang.Object	previous ()
public int	previousIndex ()
public void	remove ()
public void	set (java.lang.Object)

3.13.28 java.util.ListResourceBundle

public abstract class java.util.ListResourceBundle extends java.util.ResourceBundle	
public	ListResourceBundle ()
protected abstract java.lang.Object	getContents ()



public java.util.Enumeration	getKeys()
public final java.lang.Object	handleGetObject (java.lang.String)

3.13.29 java.util.Locale

public final class java.util.Locale extends java.lang.Object implements java.lang.Cloneable, java.io.Serializable	
public static final java.util.Locale	CANADA
public static final java.util.Locale	CANADA_FRENCH
public static final java.util.Locale	CHINA
public static final java.util.Locale	CHINESE
public static final java.util.Locale	ENGLISH
public static final java.util.Locale	FRANCE
public static final java.util.Locale	FRENCH
public static final java.util.Locale	GERMAN
public static final java.util.Locale	GERMANY
public static final java.util.Locale	ITALIAN
public static final java.util.Locale	ITALY
public static final java.util.Locale	JAPAN
public static final java.util.Locale	JAPANESE
public static final java.util.Locale	KOREA
public static final java.util.Locale	KOREAN
public static final java.util.Locale	PRC
public static final java.util.Locale	SIMPLIFIED_CHINESE
public static final java.util.Locale	TAIWAN
public static final java.util.Locale	TRADITIONAL_CHINESE
public static final java.util.Locale	UK
public static final java.util.Locale	US
public	Locale (java.lang.String, java.lang.String, java.lang.String)
public	Locale (java.lang.String, java.lang.String)
public java.lang.Object	clone()
public boolean	equals (java.lang.Object)
public static java.util.Locale	getAvailableLocales()
public java.lang.String	getCountry()
public static java.util.Locale	getDefault()
public final java.lang.String	getDisplayCountry()
public java.lang.String	getDisplayCountry (java.util.Locale)
public final java.lang.String	getDisplayLanguage()
public java.lang.String	getDisplayLanguage (java.util.Locale)
public final java.lang.String	getDisplayName()
public java.lang.String	getDisplayName (java.util.Locale)

public final java.lang.String	getDisplayVariant()
public java.lang.String	getDisplayVariant (java.util.Locale)
public java.lang.String	getISO3Country() throws java.util.MissingResourceException
public java.lang.String	getISO3Language() throws java.util.MissingResourceException
public static java.lang.String	getISOCountries()
public static java.lang.String	getISOLanguages()
public java.lang.String	getLanguage()
public java.lang.String	getVariant()
public int	hashCode()
public static void	setDefault (java.util.Locale)
public final java.lang.String	toString()

3.13.30 java.util.Map

public abstract interface java.util.Map	
public void	clear()
public boolean	containsKey (java.lang.Object)
public boolean	containsValue (java.lang.Object)
public java.util.Set	entrySet()
public boolean	equals (java.lang.Object)
public java.lang.Object	get (java.lang.Object)
public int	hashCode()
public boolean	isEmpty()
public java.util.Set	keySet()
public java.lang.Object	put (java.lang.Object, java.lang.Object)
public void	putAll (java.util.Map)
public java.lang.Object	remove (java.lang.Object)
public int	size()
public java.util.Collection	values()

3.13.31 java.util.Map.Entry

public abstract interface java.util.Map.Entry	
public boolean	equals (java.lang.Object)
public java.lang.Object	getKey()
public java.lang.Object	getValue()
public int	hashCode()
public java.lang.Object	setValue (java.lang.Object)

3.13.32 java.util.MissingResourceException

public class java.util.MissingResourceException extends java.lang.RuntimeException	
public	MissingResourceException (iava.lana.Strina. iava.lana.Strina.

	java.lang.String)
public java.lang.String	getClassName()
public java.lang.String	getKey()

3.13.33 java.util.NoSuchElementException

public class java.util.NoSuchElementException extends java.lang.RuntimeException	
public	NoSuchElementException()
public	NoSuchElementException(java.lang.String)

3.13.34 java.util.Observable

public class java.util.Observable extends java.lang.Object	
public	Observable()
public void	addObserver(java.util.Observer)
protected void	clearChanged()
public int	countObservers()
public void	deleteObserver(java.util.Observer)
public void	deleteObservers()
public boolean	hasChanged()
public void	notifyObservers()
public void	notifyObservers(java.lang.Object)
protected void	setChanged()

3.13.35 java.util.Observer

public abstract interface java.util.Observer	
public void	update(java.util.Observable, java.lang.Object)

3.13.36 java.util.Properties

public class java.util.Properties extends java.util.Hashtable	
protected java.util.Properties	defaults
public	Properties()
public	Properties(java.util.Properties)
public java.lang.String	getProperty(java.lang.String)
public java.lang.String	getProperty(java.lang.String, java.lang.String)
public void	list(java.io.PrintStream)
public void	list(java.io.PrintWriter)
public void	load(java.io.InputStream) throws java.io.IOException
public java.util.Enumeration	propertyNames()
public void	save(java.io.OutputStream, java.lang.String)
public java.lang.Object	setProperty(java.lang.String, java.lang.String)
public void	store(java.io.OutputStream, java.lang.String) throws java.io.IOException

3.13.37 java.util.PropertyPermission

public final class java.util.PropertyPermission extends java.security.BasicPermission	
public	PropertyPermission (java.lang.String, java.lang.String)
public boolean	equals (java.lang.Object)
public java.lang.String	getActions ()
public int	hashCode ()
public boolean	implies (java.security.Permission)
public java.security.PermissionCollectio n	newPermissionCollection ()

3.13.38 java.util.PropertyResourceBundle

public class java.util.PropertyResourceBundle extends java.util.ResourceBundle	
public	PropertyResourceBundle (java.io.InputStream) throws java.io.IOException
public java.util Enumeration	getKeys ()
public java.lang.Object	handleGetObject (java.lang.String)

3.13.39 java.util.Random

public class java.util.Random extends java.lang.Object implements java.io.Serializable	
public	Random ()
public	Random (long)
protected int	next (int)
public boolean	nextBoolean ()
public void	nextBytes (byte[])
public double	nextDouble ()
public float	nextFloat ()
public double	nextGaussian ()
public int	nextInt ()
public int	nextInt (int)
public long	nextLong ()
public void	setSeed (long)

3.13.40 java.util.ResourceBundle

public abstract class java.util.ResourceBundle extends java.lang.Object	
protected java.util.ResourceBundle	parent
public	ResourceBundle ()
public static final java.util.ResourceBundle	getBundle (java.lang.String) throws java.util.MissingResourceException
public static final java.util.ResourceBundle	getBundle (java.lang.String, java.util.Locale)
public static	aetBundle (iava.lana.Strina. iava.util.Locale. iava.lana.ClassLoader) throws



java.util.ResourceBundle	java.util.MissingResourceException
public abstract java.util.Enumeration	getKeys()
public java.util.Locale	getLocale()
public final java.lang.Object	getObject (java.lang.String) throws java.util.MissingResourceException
public final java.lang.String	getString (java.lang.String) throws java.util.MissingResourceException
public final java.lang.String	getStringArray (java.lang.String) throws java.util.MissingResourceException
protected abstract java.lang.Object	handleGetObject (java.lang.String) throws java.util.MissingResourceException
protected void	setParent (java.util.ResourceBundle)

3.13.41 java.util.Set

public abstract interface java.util.Set extends java.util.Collection	
public boolean	add (java.lang.Object)
public boolean	addAll (java.util.Collection)
public void	clear ()
public boolean	contains (java.lang.Object)
public boolean	containsAll (java.util.Collection)
public boolean	equals (java.lang.Object)
public int	hashCode ()
public boolean	isEmpty ()
public java.util.Iterator	iterator ()
public boolean	remove (java.lang.Object)
public boolean	removeAll (java.util.Collection)
public boolean	retainAll (java.util.Collection)
public int	size ()
public java.lang.Object	toArray ()
public java.lang.Object	toArray (java.lang.Object[])

3.13.42 java.util.SimpleTimeZone

public class java.util.SimpleTimeZone extends java.util.TimeZone	
public	SimpleTimeZone (int, java.lang.String)
public	SimpleTimeZone (int, java.lang.String, int, int, int, int, int, int, int, int)
public	SimpleTimeZone (int, java.lang.String, int, int, int, int, int, int, int, int)
public java.lang.Object	clone ()
public boolean	equals (java.lang.Object)
public int	getDSTSavings ()
public int	getOffset (int, int, int, int, int, int)
public int	getRawOffset ()
public boolean	hasSameRules (java.util.TimeZone)

public int	hashCode()
public boolean	inDaylightTime (java.util.Date)
public void	setDSTSavings (int)
public void	setEndRule (int, int, int, int)
public void	setEndRule (int, int, int)
public void	setEndRule (int, int, int, int, boolean)
public void	setRawOffset (int)
public void	setStartRule (int, int, int, int)
public void	setStartRule (int, int, int)
public void	setStartRule (int, int, int, int, boolean)
public void	setStartYear (int)
public java.lang.String	toString()
public boolean	useDaylightTime()

3.13.43 java.util.SortedMap

public abstract interface java.util.SortedMap extends java.util.Map	
public java.util.Comparator	comparator()
public java.lang.Object	firstKey()
public java.util.SortedMap	headMap (java.lang.Object)
public java.lang.Object	lastKey()
public java.util.SortedMap	subMap (java.lang.Object, java.lang.Object)
public java.util.SortedMap	tailMap (java.lang.Object)

3.13.44 java.util.SortedSet

public abstract interface java.util.SortedSet extends java.util.Set	
public java.util.Comparator	comparator()
public java.lang.Object	first()
public java.util.SortedSet	headSet (java.lang.Object)
public java.lang.Object	last()
public java.util.SortedSet	subSet (java.lang.Object, java.lang.Object)
public java.util.SortedSet	tailSet (java.lang.Object)

3.13.45 java.util.Stack

public class java.util.Stack extends java.util.Vector	
public	Stack()
public boolean	empty()
public java.lang.Object	peek()
public java.lang.Object	pop()
public java.lang.Object	push (java.lang.Object)
public int	search (java.lang.Object)

3.13.46 java.util.StringTokenizer

public class java.util.StringTokenizer extends java.lang.Object implements java.util.Enumeration

public	StringTokenizer (java.lang.String, java.lang.String, boolean)
public	StringTokenizer (java.lang.String, java.lang.String)
public	StringTokenizer (java.lang.String)
public int	countTokens ()
public boolean	hasMoreElements ()
public boolean	hasMoreTokens ()
public java.lang.Object	nextElement ()
public java.lang.String	nextToken ()
public java.lang.String	nextToken (java.lang.String)

3.13.47 java.util.TimeZone

public abstract class java.util.TimeZone extends java.lang.Object implements java.io.Serializable, java.lang.Cloneable

public static final int	LONG
public static final int	SHORT
public	TimeZone ()
public java.lang.Object	clone ()
public static java.lang.String	getAvailableIDs (int)
public static java.lang.String	getAvailableIDs ()
public static java.util.TimeZone	getDefault ()
public final java.lang.String	getDisplayName ()
public final java.lang.String	getDisplayName (java.util.Locale)
public final java.lang.String	getDisplayName (boolean, int)
public java.lang.String	getDisplayName (boolean, int, java.util.Locale)
public java.lang.String	getID ()
public abstract int	getOffset (int, int, int, int, int, int)
public abstract int	getRawOffset ()
public static java.util.TimeZone	getTimeZone (java.lang.String)
public boolean	hasSameRules (java.util.TimeZone)
public abstract boolean	inDaylightTime (java.util.Date)
public static void	setDefault (java.util.TimeZone)
public void	setID (java.lang.String)
public abstract void	setRawOffset (int)
public abstract boolean	useDaylightTime ()

3.13.48 java.util.Timer

public class java.util.Timer extends java.lang.Object

public	Timer ()
--------	-----------------

public	Timer (boolean)
public void	cancel ()
public void	schedule (java.util.TimerTask, long)
public void	schedule (java.util.TimerTask, java.util.Date)
public void	schedule (java.util.TimerTask, long, long)
public void	schedule (java.util.TimerTask, java.util.Date, long)
public void	scheduleAtFixedRate (java.util.TimerTask, long, long)
public void	scheduleAtFixedRate (java.util.TimerTask, java.util.Date, long)

3.13.49 java.util.TimerTask

public abstract class java.util.TimerTask extends java.lang.Object implements java.lang.Runnable	
protected	TimerTask ()
public boolean	cancel ()
public abstract void	run ()
public long	scheduledExecutionTime ()

3.13.50 java.util.TooManyListenersException

public class java.util.TooManyListenersException extends java.lang.Exception	
public	TooManyListenersException ()
public	TooManyListenersException (java.lang.String)

3.13.51 java.util.TreeMap

public class java.util.TreeMap extends java.util.AbstractMap implements java.util.SortedMap, java.lang.Cloneable, java.io.Serializable	
public	TreeMap ()
public	TreeMap (java.util.Comparator)
public	TreeMap (java.util.Map)
public	TreeMap (java.util.SortedMap)
public void	clear ()
public java.lang.Object	clone ()
public java.util.Comparator	comparator ()
public boolean	containsKey (java.lang.Object)
public boolean	containsValue (java.lang.Object)
public java.util.Set	entrySet ()
public java.lang.Object	firstKey ()
public java.lang.Object	get (java.lang.Object)
public java.util.SortedMap	headMap (java.lang.Object)
public java.util.Set	keySet ()
public java.lang.Object	lastKey ()
public java.lang.Object	put (java.lang.Object, java.lang.Object)

public void	putAll (java.util.Map)
public java.lang.Object	remove (java.lang.Object)
public int	size ()
public java.util.SortedMap	subMap (java.lang.Object, java.lang.Object)
public java.util.SortedMap	tailMap (java.lang.Object)
public java.util.Collection	values ()

3.13.52 java.util.TreeSet

public class java.util.TreeSet extends **java.util.AbstractSet** implements **java.util.SortedSet**, **java.lang.Cloneable**, **java.io.Serializable**

public	TreeSet ()
public	TreeSet (java.util.Comparator)
public	TreeSet (java.util.Collection)
public	TreeSet (java.util.SortedSet)
public boolean	add (java.lang.Object)
public boolean	addAll (java.util.Collection)
public void	clear ()
public java.lang.Object	clone ()
public java.util.Comparator	comparator ()
public boolean	contains (java.lang.Object)
public java.lang.Object	first ()
public java.util.SortedSet	headSet (java.lang.Object)
public boolean	isEmpty ()
public java.util.Iterator	iterator ()
public java.lang.Object	last ()
public boolean	remove (java.lang.Object)
public int	size ()
public java.util.SortedSet	subSet (java.lang.Object, java.lang.Object)
public java.util.SortedSet	tailSet (java.lang.Object)

3.13.53 java.util.Vector

public class java.util.Vector extends **java.util.AbstractList** implements **java.util.List**, **java.lang.Cloneable**, **java.io.Serializable**

protected int	capacityIncrement
protected int	elementCount
protected java.lang.Object	elementData
public	Vector (int, int)
public	Vector (int)
public	Vector ()
public	Vector (java.util.Collection)



public boolean	add (java.lang.Object)
public void	add (int, java.lang.Object)
public boolean	addAll (java.util.Collection)
public boolean	addAll (int, java.util.Collection)
public void	addElement (java.lang.Object)
public int	capacity ()
public void	clear ()
public java.lang.Object	clone ()
public boolean	contains (java.lang.Object)
public boolean	containsAll (java.util.Collection)
public void	copyInto (java.lang.Object[])
public java.lang.Object	elementAt (int)
public java.util.Enumeration	elements ()
public void	ensureCapacity (int)
public boolean	equals (java.lang.Object)
public java.lang.Object	firstElement ()
public java.lang.Object	get (int)
public int	hashCode ()
public int	indexOf (java.lang.Object)
public int	indexOf (java.lang.Object, int)
public void	insertElementAt (java.lang.Object, int)
public boolean	isEmpty ()
public java.lang.Object	lastElement ()
public int	lastIndexOf (java.lang.Object)
public int	lastIndexOf (java.lang.Object, int)
public boolean	remove (java.lang.Object)
public java.lang.Object	remove (int)
public boolean	removeAll (java.util.Collection)
public void	removeAllElements ()
public boolean	removeElement (java.lang.Object)
public void	removeElementAt (int)
protected void	removeRange (int, int)
public boolean	retainAll (java.util.Collection)
public java.lang.Object	set (int, java.lang.Object)
public void	setElementAt (java.lang.Object, int)
public void	setSize (int)
public int	size ()
public java.util.List	subList (int, int)
public java.lang.Object	toArray ()

public java.lang.Object	toArray (java.lang.Object[])
public java.lang.String	toString ()
public void	trimToSize ()

3.13.54 java.util.WeakHashMap

public class java.util.WeakHashMap extends java.util.AbstractMap implements java.util.Map	
public	WeakHashMap (int, float)
public	WeakHashMap (int)
public	WeakHashMap ()
public	WeakHashMap (java.util.Map)
public void	clear ()
public boolean	containsKey (java.lang.Object)
public java.util.Set	entrySet ()
public java.lang.Object	get (java.lang.Object)
public boolean	isEmpty ()
public java.lang.Object	put (java.lang.Object, java.lang.Object)
public java.lang.Object	remove (java.lang.Object)
public int	size ()

3.14 Package java.util.jar

3.14.1 java.util.jar.Attributes

public class java.util.jar.Attributes extends java.lang.Object implements java.util.Map, java.lang.Cloneable	
protected java.util.Map	map
public	Attributes ()
public	Attributes (int)
public	Attributes (java.util.jar.Attributes)
public void	clear ()
public java.lang.Object	clone ()
public boolean	containsKey (java.lang.Object)
public boolean	containsValue (java.lang.Object)
public java.util.Set	entrySet ()
public boolean	equals (java.lang.Object)
public java.lang.Object	get (java.lang.Object)
public java.lang.String	getValue (java.lang.String)
public java.lang.String	getValue (java.util.jar.Attributes.Name)
public int	hashCode ()
public boolean	isEmpty ()
public java.util.Set	keySet ()
public java.lang.Object	put (java.lang.Object, java.lang.Object)



public void	putAll (java.util.Map)
public java.lang.String	putValue (java.lang.String, java.lang.String)
public java.lang.Object	remove (java.lang.Object)
public int	size ()
public java.util.Collection	values ()

3.14.2 java.util.jar.Attributes.Name

public class java.util.jar.Attributes.Name extends java.lang.Object	
public static final java.util.jar.Attributes.Name	CLASS_PATH
public static final java.util.jar.Attributes.Name	CONTENT_TYPE
public static final java.util.jar.Attributes.Name	EXTENSION_INSTALLATION
public static final java.util.jar.Attributes.Name	EXTENSION_LIST
public static final java.util.jar.Attributes.Name	EXTENSION_NAME
public static final java.util.jar.Attributes.Name	IMPLEMENTATION_TITLE
public static final java.util.jar.Attributes.Name	IMPLEMENTATION_URL
public static final java.util.jar.Attributes.Name	IMPLEMENTATION_VENDOR
public static final java.util.jar.Attributes.Name	IMPLEMENTATION_VENDOR_ID
public static final java.util.jar.Attributes.Name	IMPLEMENTATION_VERSION
public static final java.util.jar.Attributes.Name	MAIN_CLASS
public static final java.util.jar.Attributes.Name	MANIFEST_VERSION
public static final java.util.jar.Attributes.Name	SEALED
public static final java.util.jar.Attributes.Name	SIGNATURE_VERSION
public static final java.util.jar.Attributes.Name	SPECIFICATION_TITLE
public static final java.util.jar.Attributes.Name	SPECIFICATION_VENDOR
public static final java.util.jar.Attributes.Name	SPECIFICATION_VERSION
public	Attributes.Name (java.lang.String)
public boolean	equals (java.lang.Object)

public int	hashCode()
public java.lang.String	toString()

3.14.3 java.util.jar.JarEntry

public class java.util.jar.JarEntry extends java.util.zip.ZipEntry	
public	JarEntry (java.lang.String)
public	JarEntry (java.util.zip.ZipEntry)
public	JarEntry (java.util.jar.JarEntry)
public java.util.jar.Attributes	getAttributes() throws java.io.IOException
public java.security.cert.Certificate	getCertificates()

3.14.4 java.util.jar.JarException

public class java.util.jar.JarException extends java.util.zip.ZipException	
public	JarException()
public	JarException (java.lang.String)

3.14.5 java.util.jar.JarFile

public class java.util.jar.JarFile extends java.util.zip.ZipFile	
public static final java.lang.String	MANIFEST_NAME
public	JarFile (java.lang.String) throws java.io.IOException
public	JarFile (java.lang.String, boolean) throws java.io.IOException
public	JarFile (java.io.File) throws java.io.IOException
public	JarFile (java.io.File, boolean) throws java.io.IOException
public	JarFile (java.io.File, boolean, int) throws java.io.IOException
public java.util.Enumeration	entries()
public java.util.zip.ZipEntry	getEntry (java.lang.String)
public java.io.InputStream	getInputStream (java.util.zip.ZipEntry) throws java.io.IOException
public java.util.jar.JarEntry	getJarEntry (java.lang.String)
public java.util.jar.Manifest	getManifest() throws java.io.IOException

3.14.6 java.util.jar.JarInputStream

public class java.util.jar.JarInputStream extends java.util.zip.ZipInputStream	
public	JarInputStream (java.io.InputStream) throws java.io.IOException
public	JarInputStream (java.io.InputStream, boolean) throws java.io.IOException
protected java.util.zip.ZipEntry	createZipEntry (java.lang.String)
public java.util.jar.Manifest	getManifest()
public java.util.zip.ZipEntry	getNextEntry() throws java.io.IOException
public java.util.jar.JarEntry	getNextJarEntry() throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException

3.14.7 java.util.jar.JarOutputStream

public class java.util.jar.JarOutputStream extends java.util.zip.ZipOutputStream	
public	JarOutputStream (java.io.OutputStream, java.util.jar.Manifest) throws java.io.IOException
public	JarOutputStream (java.io.OutputStream) throws java.io.IOException
public void	putNextEntry (java.util.zip.ZipEntry) throws java.io.IOException

3.14.8 java.util.jar.Manifest

public class java.util.jar.Manifest extends java.lang.Object implements java.lang.Cloneable	
public	Manifest ()
public	Manifest (java.io.InputStream) throws java.io.IOException
public	Manifest (java.util.jar.Manifest)
public void	clear ()
public java.lang.Object	clone ()
public boolean	equals (java.lang.Object)
public java.util.jar.Attributes	getAttributes (java.lang.String)
public java.util.Map	getEntries ()
public java.util.jar.Attributes	getMainAttributes ()
public int	hashCode ()
public void	read (java.io.InputStream) throws java.io.IOException
public void	write (java.io.OutputStream) throws java.io.IOException

3.15 Package java.util.zip

3.15.1 java.util.zip.Adler32

public class java.util.zip.Adler32 extends java.lang.Object implements java.util.zip.Checksum	
public	Adler32 ()
public long	getValue ()
public void	reset ()
public void	update (int)
public void	update (byte[], int, int)
public void	update (byte[])

3.15.2 java.util.zip.CRC32

public class java.util.zip.CRC32 extends java.lang.Object implements java.util.zip.Checksum	
public	CRC32 ()
public long	getValue ()
public void	reset ()
public void	update (int)
public void	update (byte[], int, int)
public void	update (byte[])

3.15.3 java.util.zip.CheckedInputStream

public class java.util.zip.CheckedInputStream extends java.io.FilterInputStream	
public	CheckedInputStream (java.io.InputStream, java.util.zip.Checksum)
public java.util.zip.Checksum	getChecksum ()
public int	read () throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.15.4 java.util.zip.CheckedOutputStream

public class java.util.zip.CheckedOutputStream extends java.io.FilterOutputStream	
public	CheckedOutputStream (java.io.OutputStream, java.util.zip.Checksum)
public java.util.zip.Checksum	getChecksum ()
public void	write (int) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.15.5 java.util.zip.Checksum

public abstract interface java.util.zip.Checksum	
public long	getValue ()
public void	reset ()
public void	update (int)
public void	update (byte[], int, int)

3.15.6 java.util.zip.DataFormatException

public class java.util.zip.DataFormatException extends java.lang.Exception	
public	DataFormatException ()
public	DataFormatException (java.lang.String)

3.15.7 java.util.zip.Deflater

public class java.util.zip.Deflater extends java.lang.Object	
public static final int	BEST_COMPRESSION
public static final int	BEST_SPEED
public static final int	DEFAULT_COMPRESSION
public static final int	DEFAULT_STRATEGY
public static final int	DEFLATED
public static final int	FILTERED
public static final int	HUFFMAN_ONLY
public static final int	NO_COMPRESSION
public	Deflater (int, boolean)
public	Deflater (int)
public	Deflater ()
public int	deflate (byte[], int, int)

public int	deflate (byte[])
public void	end ()
protected void	finalize ()
public void	finish ()
public boolean	finished ()
public int	getAdler ()
public int	getTotalIn ()
public int	getTotalOut ()
public boolean	needsInput ()
public void	reset ()
public void	setDictionary (byte[], int, int)
public void	setDictionary (byte[])
public void	setInput (byte[], int, int)
public void	setInput (byte[])
public void	setLevel (int)
public void	setStrategy (int)

3.15.8 java.util.zip.DeflaterOutputStream

public class java.util.zip.DeflaterOutputStream extends java.io.FilterOutputStream	
protected byte	buf
protected java.util.zip.Deflater	def
public	DeflaterOutputStream (java.io.OutputStream, java.util.zip.Deflater, int)
public	DeflaterOutputStream (java.io.OutputStream, java.util.zip.Deflater)
public	DeflaterOutputStream (java.io.OutputStream)
public void	close () throws java.io.IOException
protected void	deflate () throws java.io.IOException
public void	finish () throws java.io.IOException
public void	write (int) throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.15.9 java.util.zip.GZIPInputStream

public class java.util.zip.GZIPInputStream extends java.util.zip.InflaterInputStream	
public static final int	GZIP_MAGIC
protected java.util.zip.CRC32	crc
protected boolean	eos
public	GZIPInputStream (java.io.InputStream, int) throws java.io.IOException
public	GZIPInputStream (java.io.InputStream) throws java.io.IOException
public void	close () throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException

3.15.10 java.util.zip.GZIPOutputStream

public class java.util.zip.GZIPOutputStream extends java.util.zip.DeflaterOutputStream	
protected java.util.zip.CRC32	crc
public	GZIPOutputStream (java.io.OutputStream, int) throws java.io.IOException
public	GZIPOutputStream (java.io.OutputStream) throws java.io.IOException
public void	close () throws java.io.IOException
public void	finish () throws java.io.IOException
public void	write (byte[], int, int) throws java.io.IOException

3.15.11 java.util.zip.Inflater

public class java.util.zip.Inflater extends java.lang.Object	
public	Inflater (boolean)
public	Inflater ()
public void	end ()
protected void	finalize ()
public boolean	finished ()
public int	getAdler ()
public int	getRemaining ()
public int	getTotalIn ()
public int	getTotalOut ()
public int	inflate (byte[], int, int) throws java.util.zip.DataFormatException
public int	inflate (byte[]) throws java.util.zip.DataFormatException
public boolean	needsDictionary ()
public boolean	needsInput ()
public void	reset ()
public void	setDictionary (byte[], int, int)
public void	setDictionary (byte[])
public void	setInput (byte[], int, int)
public void	setInput (byte[])

3.15.12 java.util.zip.InflaterInputStream

public class java.util.zip.InflaterInputStream extends java.io.FilterInputStream	
protected byte	buf
protected java.util.zip.Inflater	inf
protected int	len
public	InflaterInputStream (java.io.InputStream, java.util.zip.Inflater, int)
public	InflaterInputStream (java.io.InputStream, java.util.zip.Inflater)
public	InflaterInputStream (java.io.InputStream)
public int	available () throws java.io.IOException
public void	close () throws java.io.IOException



protected void	fill() throws java.io.IOException
public int	read() throws java.io.IOException
public int	read(byte[], int, int) throws java.io.IOException
public long	skip(long) throws java.io.IOException

3.15.13 java.util.zip.ZipConstants

abstract interface ZipConstants	
public static final long	LOCSIG
public static final long	EXTSIG
public static final long	CENSIG
public static final long	ENDSIG
public static final int	LOCHDR
public static final int	EXTHDR
public static final int	CENHDR
public static final int	ENDHDR
public static final int	LOCVER
public static final int	LOCFLG
public static final int	LOCHOW
public static final int	LOCTIM
public static final int	LOCCRC
public static final int	LOCSIZ
public static final int	LOCLEN
public static final int	LOCNAM
public static final int	LOCEXT
public static final int	EXTCRC
public static final int	EXTSIZ
public static final int	EXTLEN
public static final int	CENVEM
public static final int	CENVER
public static final int	CENFLG
public static final int	CENHOW
public static final int	CENTIM
public static final int	CENCRC
public static final int	CENSIZ
public static final int	CENLEN
public static final int	CENNAM
public static final int	CENEXT
public static final int	CENCOM
public static final int	CENDSK
public static final int	CENATT
public static final int	CENATX
public static final int	CENOFF
public static final int	ENDSUB
public static final int	ENDTOT
public static final int	ENDSIZ
public static final int	ENDOFF
public static final int	ENDCOM

3.15.14 java.util.zip.ZipEntry

public class java.util.zip.ZipEntry extends java.lang.Object implements java.util.zip.ZipConstants

java.lang.Cloneable

public static final int	DEFLATED
public static final int	STORED
public	ZipEntry (java.lang.String)
public	ZipEntry (java.util.zip.ZipEntry)
public java.lang.Object	clone()
public java.lang.String	getComment()
public long	getCompressedSize()
public long	getCrc()
public byte	getExtra()
public int	getMethod()
public java.lang.String	getName()
public long	getSize()
public long	getTime()
public int	hashCode()
public boolean	isDirectory()
public void	setComment (java.lang.String)
public void	setCompressedSize (long)
public void	setCrc (long)
public void	setExtra (byte[])
public void	setMethod (int)
public void	setSize (long)
public void	setTime (long)
public java.lang.String	toString()

3.15.15 java.util.zip.ZipException

public class java.util.zip.ZipException extends java.io.IOException	
public	ZipException()
public	ZipException (java.lang.String)

3.15.16 java.util.zip.ZipFile

public class java.util.zip.ZipFile extends java.lang.Object implements java.util.zip.ZipConstants	
public static final int	OPEN_DELETE
public static final int	OPEN_READ
public	ZipFile (java.lang.String) throws java.io.IOException
public	ZipFile (java.io.File, int) throws java.io.IOException
public	ZipFile (java.io.File) throws java.util.zip.ZipException, java.io.IOException
public void	close() throws java.io.IOException
public java.util.Enumeration	entries()
protected void	finalize() throws java.io.IOException

public java.util.zip.ZipEntry	getEntry (java.lang.String)
public java.io.InputStream	getInputStream (java.util.zip.ZipEntry) throws java.io.IOException
public java.lang.String	getName ()
public int	size ()

3.15.17 java.util.zip.ZipInputStream

public class java.util.zip.ZipInputStream extends java.util.zip.InflaterInputStream implements java.util.zip.ZipConstants

public	ZipInputStream (java.io.InputStream)
public int	available () throws java.io.IOException
public void	close () throws java.io.IOException
public void	closeEntry () throws java.io.IOException
protected java.util.zip.ZipEntry	createZipEntry (java.lang.String)
public java.util.zip.ZipEntry	getNextEntry () throws java.io.IOException
public int	read (byte[], int, int) throws java.io.IOException
public long	skip (long) throws java.io.IOException

3.15.18 java.util.zip.ZipOutputStream

public class java.util.zip.ZipOutputStream extends java.util.zip.DeflaterOutputStream implements java.util.zip.ZipConstants

public static final int	DEFLATED
public static final int	STORED
public	ZipOutputStream (java.io.OutputStream)
public void	close () throws java.io.IOException
public void	closeEntry () throws java.io.IOException
public void	finish () throws java.io.IOException
public void	putNextEntry (java.util.zip.ZipEntry) throws java.io.IOException
public void	setComment (java.lang.String)
public void	setLevel (int)
public void	setMethod (int)
public void	write (byte[], int, int) throws java.io.IOException

3.16 Package javax.microedition.io

3.16.1 javax.microedition.io.Connection

public abstract interface javax.microedition.io.Connection

public void	close () throws java.io.IOException
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3.16.2 javax.microedition.io.ConnectionNotFoundException

public class javax.microedition.io.ConnectionNotFoundException extends java.io.IOException

public	ConnectionNotFoundException ()
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public	ConnectionNotFoundException (java.lang.String)
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3.16.3 javax.microedition.io.Connector

public class javax.microedition.io.Connector extends java.lang.Object

public static final int	READ
public static final int	READ_WRITE
public static final int	WRITE
public static javax.microedition.io.Connection	open (java.lang.String) throws java.io.IOException
public static javax.microedition.io.Connection	open (java.lang.String, int) throws java.io.IOException
public static javax.microedition.io.Connection	open (java.lang.String, int, boolean) throws java.io.IOException
public static java.io.DataInputStream	openDataInputStream (java.lang.String) throws java.io.IOException
public static java.io.DataOutputStream	openDataOutputStream (java.lang.String) throws java.io.IOException
public static java.io.InputStream	openInputStream (java.lang.String) throws java.io.IOException
public static java.io.OutputStream	openOutputStream (java.lang.String) throws java.io.IOException

3.16.4 javax.microedition.io.ContentConnection

**public abstract interface javax.microedition.io.ContentConnection extends
javax.microedition.io.StreamConnection**

public java.lang.String	getEncoding ()
public long	getLength ()
public java.lang.String	getType ()

3.16.5 javax.microedition.io.Datagram

public abstract interface javax.microedition.io.Datagram extends java.io.DataInput, java.io.DataOutput

public java.lang.String	getAddress ()
public byte	getData ()
public int	getLength ()
public int	getOffset ()
public void	reset ()
public void	setAddress (java.lang.String) throws java.io.IOException
public void	setAddress (javax.microedition.io.Datagram)
public void	setData (byte[], int, int)
public void	setLength (int)

3.16.6 javax.microedition.io.DatagramConnection

**public abstract interface javax.microedition.io.DatagramConnection extends
javax.microedition.io.Connection**



public int	getMaximumLength() throws java.io.IOException
public int	getNominalLength() throws java.io.IOException
public javax.microedition.io.Datagram	newDatagram(int) throws java.io.IOException
public javax.microedition.io.Datagram	newDatagram(int, java.lang.String) throws java.io.IOException
public javax.microedition.io.Datagram	newDatagram(byte[], int) throws java.io.IOException
public javax.microedition.io.Datagram	newDatagram(byte[], int, java.lang.String) throws java.io.IOException
public void	receive (javax.microedition.io.Datagram) throws java.io.IOException
public void	send (javax.microedition.io.Datagram) throws java.io.IOException

3.16.7 javax.microedition.io.HttpConnection

public abstract interface javax.microedition.io.HttpConnection extends javax.microedition.io.ContentConnection

public static final java.lang.String	GET
public static final java.lang.String	HEAD
public static final int	HTTP_ACCEPTED
public static final int	HTTP_BAD_GATEWAY
public static final int	HTTP_BAD_METHOD
public static final int	HTTP_BAD_REQUEST
public static final int	HTTP_CLIENT_TIMEOUT
public static final int	HTTP_CONFLICT
public static final int	HTTP_CREATED
public static final int	HTTP_ENTITY_TOO_LARGE
public static final int	HTTP_EXPECT_FAILED
public static final int	HTTP_FORBIDDEN
public static final int	HTTP_GATEWAY_TIMEOUT
public static final int	HTTP_GONE
public static final int	HTTP_INTERNAL_ERROR
public static final int	HTTP_LENGTH_REQUIRED
public static final int	HTTP_MOVED_PERM
public static final int	HTTP_MOVED_TEMP
public static final int	HTTP_MULT_CHOICE
public static final int	HTTP_NOT_ACCEPTABLE
public static final int	HTTP_NOT_AUTHORITY
public static final int	HTTP_NOT_FOUND
public static final int	HTTP_NOT_IMPLEMENTED
public static final int	HTTP_NOT_MODIFIED
public static final int	HTTP_NO_CONTENT



public static final int	HTTP_OK
public static final int	HTTP_PARTIAL
public static final int	HTTP_PAYMENT_REQUIRED
public static final int	HTTP_PRECON_FAILED
public static final int	HTTP_PROXY_AUTH
public static final int	HTTP_REQ_TOO_LONG
public static final int	HTTP_RESET
public static final int	HTTP_SEE_OTHER
public static final int	HTTP_TEMP_REDIRECT
public static final int	HTTP_UNAUTHORIZED
public static final int	HTTP_UNAVAILABLE
public static final int	HTTP_UNSUPPORTED_RANGE
public static final int	HTTP_UNSUPPORTED_TYPE
public static final int	HTTP_USE_PROXY
public static final int	HTTP_VERSION
public static final java.lang.String	POST
public long	getDate() throws java.io.IOException
public long	getExpiration() throws java.io.IOException
public java.lang.String	getFile()
public java.lang.String	getHeaderField (java.lang.String) throws java.io.IOException
public java.lang.String	getHeaderField (int) throws java.io.IOException
public long	getHeaderFieldDate (java.lang.String, long) throws java.io.IOException
public int	getHeaderFieldInt (java.lang.String, int) throws java.io.IOException
public java.lang.String	getHeaderFieldKey (int) throws java.io.IOException
public java.lang.String	getHost()
public long	getLastModified() throws java.io.IOException
public int	getPort()
public java.lang.String	getProtocol()
public java.lang.String	getQuery()
public java.lang.String	getRef()
public java.lang.String	getRequestMethod()
public java.lang.String	getRequestProperty (java.lang.String)
public int	getResponseCode() throws java.io.IOException
public java.lang.String	getResponseMessage() throws java.io.IOException
public java.lang.String	getURL()
public void	setRequestMethod (java.lang.String) throws java.io.IOException
public void	setRequestProperty (java.lang.String, java.lang.String) throws java.io.IOException

3.16.8 javax.microedition.io.InputConnection

public abstract interface javax.microedition.io.InputConnection extends javax.microedition.io.Connection	
---	--

public java.io.DataInputStream	openDataInputStream() throws java.io.IOException
--------------------------------	---

public java.io.InputStream	openInputStream() throws java.io.IOException
----------------------------	---

3.16.9 javax.microedition.io.OutputConnection

public abstract interface javax.microedition.io.OutputConnection extends javax.microedition.io.Connection	
--	--

public java.io.DataOutputStream	openDataOutputStream() throws java.io.IOException
---------------------------------	--

public java.io.OutputStream	openOutputStream() throws java.io.IOException
-----------------------------	--

3.16.10 javax.microedition.io.StreamConnection

public abstract interface javax.microedition.io.StreamConnection extends javax.microedition.io.InputConnection, javax.microedition.io.OutputConnection	
---	--

3.16.11 javax.microedition.io.StreamConnectionNotifier

public abstract interface javax.microedition.io.StreamConnectionNotifier extends javax.microedition.io.Connection	
--	--

public javax.microedition.io.StreamConnection	acceptAndOpen() throws java.io.IOException
--	---

4 Security Considerations

This proposal includes support for the Java 2 Security Model, certificate management, and digital signatures.

5 Document Support

5.1 References

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- [4]. Hargrave, B.J. et al., OSGi RFC 6, A Technique for Defining a Minimum Execution Environment for OSGi bundles.
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5.3 Acronyms and Abbreviations

5.4 End of Document