

JAVA Quick Reference

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Simple Data Types

byte	8	-128..127
short	16	-32,768..32,767
int	32	-2,147,483,648.. 2,147,483,647
long	64	-9,223,372,036,854,775,808.. 9,223,372,036,854,775,807
float	32	3.4e-0.38.. 3.4e+0.38
double	64	1.7e-308.. 1.7e+308
char	16	Complete Unicode Character Set
Boolean		true, false

declare a variable:
type identifier [= *value*];

Arrays

int <i>array_name</i> [];	declare an integer array and allocate 100 elements of memory.
<i>array_name</i> = new int [100];	
int <i>array_name</i> [] = new int [100];	declare and allocate an integer array in one statement.
int <i>array_name</i> [] = { 1, 2, 3, 4};	
int <i>array_name</i> [] = new int [10][20];	multidimensional array.
null	for reference type (class, array).

Class

```
{public|final|abstract} class name  
{ [class_variable_declarations]  
  public static void main({String[] args}) {statements}  
  [methods]  
}
```

this, super

Methods

```
{public|private} [static] {type | void} name(arg, ..., arg) {statements}
```

Variable

```
{public|private} [static] type name [= expression];
```

Arithmetic Operators

+, -, *, / addition, subtraction, multiplication, division
%, ++, -- modulus, increment, decrement.

Relational Operators

==, !=, >, <, greater or equal, less or equal.
>=, <=

Logical Operators

&, |, !, ^, ||, &&, AND, OR, NOT, XOR, short-circuit OR, AND

Bitwise Operators

&, |, ~, ^, AND, OR, NOT, XOR
>>, >>>, << shift right, shift right zero fill, shift left.

Comments

```
// rest of line  
/* multiline comment */  
/** documentation comment */
```

Compile and Run

```
javac nameOfFile.java  
java nameOfFile
```

CLASSPATH must set correctly.
The name of the file has to match exactly the name of the class.

Flow Control

```
if (Boolean-expression) statement1; [ else statement2; ]  
while loop  
[initialization]  
while (termination-clause) {  
  body;  
  [iteration;]  
}  
do while loop  
do {  
  body;  
  [iteration;]  
} while (termination-clause);  
for loop  
for (initialization; termination-clause; iteration)  
body;
```

```
Program Structure  
class className {  
  public static void main (String args[ ]) {  
    statements;  
  }  
  method definition1  
  ...  
  method definitionN  
}
```

Key words

abstract	boolean	break	byte	byvalue
case	cast	catch	char	class
const	continue	default	do	double
else	extends	false	final	finally
float	for	future	generic	goto
if	implements	import	inner	instanceof
int	interface	long	native	new
null	operator	outer	package	private
protected	public	rest	return	short
static	super	switch	synchronized	this
throw	throws	transient	true	try
var	void	volatile	while	

Java packages

java.applet	Provides the classes necessary to create an applet and the classes an applet uses to communicate with its applet context.
java.awt	Contains all of the classes for creating user interfaces and for painting graphics and images.
java.awt.color	Provides classes for color spaces.
java.awt.datatransfer	Provides interfaces and classes for transferring data between and within applications.
java.awt.dnd	Drag and Drop is a direct manipulation gesture found in many Graphical User Interface systems that provides a mechanism to transfer information between two entities logically associated with presentation elements in the GUI.
java.awt.event	Provides interfaces and classes for dealing with different types of events fired by AWT components.
java.awt.font	Provides classes and interface relating to fonts.
java.awt.geom	Provides the Java 2D classes for defining and performing operations on objects related to two-dimensional geometry.
java.awt.im	Provides classes and interfaces for the input method framework.
java.awt.im.spi	Provides interfaces that enable the development of input methods that can be used with any Java runtime environment.
java.awt.image	Provides classes for creating and modifying images.
java.awt.image.renderable	Provides classes and interfaces for producing rendering-independent images.
java.awt.print	Provides classes and interfaces for a general printing API.
java.beans	Contains classes related to developing <i>beans</i> – components based on the JavaBeans™ architecture.

java.beans.beancontext	Provides classes and interfaces relating to bean context.		Signature Algorithm) keys as defined in NIST's FIPS-186.		the plug-in interfaces for readers, writers, transcoders, and streams, and a runtime registry.
java.io	Provides for system input and output through data streams, serialization and the file system.	java.security.spec	Provides classes and interfaces for key specifications and algorithm parameter specifications.	javax.imageio.stream	A package of the Java Image I/O API dealing with low-level I/O from files and streams.
java.lang	Provides classes that are fundamental to the design of the Java programming language.	java.sql	Provides the API for accessing and processing data stored in a data source (usually a relational database) using the Java™ programming language.	javax.naming	Provides the classes and interfaces for accessing naming services.
java.lang.ref	Provides reference-object classes, which support a limited degree of interaction with the garbage collector.	java.text	Provides classes and interfaces for handling text, dates, numbers, and messages in a manner independent of natural languages.	javax.naming.directory	Extends the javax.naming package to provide functionality for accessing directory services.
java.lang.reflect	Provides classes and interfaces for obtaining reflective information about classes and objects.	java.util	Contains the collections framework, legacy collection classes, event model, date and time facilities, internationalization, and miscellaneous utility classes (a string tokenizer, a random-number generator, and a bit array).	javax.naming.event	Provides support for event notification when accessing naming and directory services.
java.math	Provides classes for performing arbitrary-precision integer arithmetic (BigInteger) and arbitrary-precision decimal arithmetic (BigDecimal).	java.util.jar	Provides classes for reading and writing the JAR (Java ARchive) file format, which is based on the standard ZIP file format with an optional manifest file.	javax.naming.ldap	Provides support for LDAPv3 extended operations and controls.
java.net	Provides the classes for implementing networking applications.	java.util.logging	Provides the classes and interfaces of the Java™ 2 platform's core logging facilities.	javax.naming.spi	Provides the means for dynamically plugging in support for accessing naming and directory services through the javax.naming and related packages.
java.nio	Defines buffers, which are containers for data, and provides an overview of the other NIO packages.	java.util.prefs	This package allows applications to store and retrieve user and system preference and configuration data.	javax.net	Provides classes for networking applications.
java.nio.channels	Defines channels, which represent connections to entities that are capable of performing I/O operations, such as files and sockets; defines selectors, for multiplexed, non-blocking I/O operations.	java.util.regex	Classes for matching character sequences against patterns specified by regular expressions.	javax.net.ssl	Provides classes for the secure socket package.
java.nio.channels.spi	Service-provider classes for the java.nio.channels package.	java.util.zip	Provides classes for reading and writing the standard ZIP and GZIP file formats.	javax.print	Provides the principal classes and interfaces for the Java™ Print Service API.
java.nio.charset	Defines charsets, decoders, and encoders, for translating between bytes and Unicode characters.	Java extension packages			
java.nio.charset.spi	Service-provider classes for the java.nio.charset package.	javax.accessibility	Defines a contract between user-interface components and an assistive technology that provides access to those components.	javax.print.attribute	Provides classes and interfaces that describe the types of Java™ Print Service attributes and how they can be collected into attribute sets.
java.rmi	Provides the RMI package.	javax.crypto	Provides the classes and interfaces for cryptographic operations.	javax.print.attribute.standard	Package javax.print.attribute.standard contains classes for specific printing attributes.
java.rmi.activation	Provides support for RMI Object Activation.	javax.crypto.interfaces	Provides interfaces for Diffie-Hellman keys as defined in RSA Laboratories' PKCS #3.	javax.print.event	Package javax.print.event contains event classes and listener interfaces.
java.rmi.dgc	Provides classes and interface for RMI distributed garbage-collection (DGC).	javax.crypto.spec	Provides classes and interfaces for key specifications and algorithm parameter specifications.	javax.rmi	Contains user APIs for RMI-IIOP.
java.rmi.registry	Provides a class and two interfaces for the RMI registry.	javax.imageio	The main package of the Java Image I/O API.	javax.rmi.CORBA	Contains portability APIs for RMI-IIOP.
java.rmi.server	Provides classes and interfaces for supporting the server side of RMI.	javax.imageio.event	A package of the Java Image I/O API dealing with synchronous notification of events during the reading and writing of images.	javax.security.auth	This package provides a framework for authentication and authorization.
java.security	Provides the classes and interfaces for the security framework.	javax.imageio.meta-data	A package of the Java Image I/O API dealing with reading and writing metadata.	javax.security.auth.callback	This package provides the classes necessary for services to interact with applications in order to retrieve information (authentication data including usernames or passwords, for example) or to display information (error and warning messages, for example).
java.security.acl	The classes and interfaces in this package have been superseded by classes in the java.security package.	javax.imageio.plugins.jpeg	Classes supporting the built-in JPEG plug-in.	javax.security.auth.kerberos	This package contains utility classes related to the Kerberos network authentication protocol.
java.security.cert	Provides classes and interfaces for parsing and managing certificates, certificate revocation lists (CRLs), and certification paths.	javax.imageio.spi	A package of the Java Image I/O API containing	javax.security.auth.login	This package provides a pluggable authentication framework.
java.security.interfaces	Provides interfaces for generating RSA (Rivest, Shamir and Adleman AsymmetricCipher algorithm) keys as defined in the RSA Laboratory Technical Note PKCS#1. and DSA (Digital			javax.security.auth.spi	This package provides the interface to be used for implementing pluggable authentication modules.
				javax.security.auth.x500	This package contains the classes that should be used to store X500 Principal and X500 Private Credentials in a Subject.
				javax.security.cert	Provides classes for public key certificates.
				javax.sound.midi	Provides interfaces and classes for I/O, sequencing, and synthesis of MIDI (Musical Instrument Digital Interface) data.

javax.sound.midi.spi	Supplies interfaces for service providers to implement when offering new MIDI devices, MIDI file readers and writers, or sound bank readers.		which allows the transaction manager to enlist and delist resource objects (supplied by the resource manager driver) in JTA transactions.
javax.sound.sampled	Provides interfaces and classes for capture, processing, and playback of sampled audio data.	javax.xml.parsers	Provides classes allowing the processing of XML documents.
javax.sound.sampled.spi	Supplies abstract classes for service providers to subclass when offering new audio devices, sound file readers and writers, or audio format converters.	javax.xml.transform	This package defines the generic APIs for processing transformation instructions, and performing a transformation from source to result.
javax.sql	Provides the API for server side data source access and processing from the JavaTM programming language.	javax.xml.transform.dom	This package implements DOM-specific transformation APIs.
javax.swing	Provides a set of "lightweight" (all-Java language) components that, to the maximum degree possible, work the same on all platforms.	javax.xml.transform.sax	This package implements SAX2-specific transformation APIs.
javax.swing.border	Provides classes and interface for drawing specialized borders around a Swing component.	javax.xml.transform.stream	This package implements stream- and URI-specific transformation APIs.
javax.swing.colorchooser	Contains classes and interfaces used by the JColorChooser component.		
javax.swing.event	Provides for events fired by Swing components.		
javax.swing.filechooser	Contains classes and interfaces used by the JFileChooser component.		
javax.swing.plaf	Provides one interface and many abstract classes that Swing uses to provide its pluggable look-and-feel capabilities.		
javax.swing.plaf.basic	Provides user interface objects built according to the Basic look and feel.		
javax.swing.plaf.metal	Provides user interface objects built according to the Java look and feel (once codenamed Metal), which is the default look and feel.		
javax.swing.plaf.muti	Provides user interface objects that combine two or more look and feels.		
javax.swing.table	Provides classes and interfaces for dealing with javax.swing.JTable.		
javax.swing.text	Provides classes and interfaces that deal with editable and noneditable text components.		
javax.swing.text.html	Provides the class HTMLToolkit and supporting classes for creating HTML text editors.		
javax.swing.text.html.parser	Provides the default HTML parser, along with support classes.		
javax.swing.text.rtf	Provides a class (RTFEditorKit) for creating Rich-Text-Format text editors.		
javax.swing.tree	Provides classes and interfaces for dealing with javax.swing.JTree.		
javax.swing.undo	Allows developers to provide support for undo/redo in applications such as text editors.		
javax.transaction	Contains three exceptions thrown by the ORB machinery during unmarshalling.		
javax.transaction.xa	Provides the API that defines the contract between the transaction manager and the resource manager,		