Основы языка Java

Keywords

abstract	default	if	private	this
assert	do	implements	protected	throw
boolean	double	import	public	throws
break	else	instanceof	return	transient
byte	enum	int	short	try
case	extends	interface	static	void
catch	final	long	strictfp	volatile
char	finally	native	super	while
class	float	new	switch	
continue	for	package	synchronized	

Keywords not currently in use: const   goto

Reserved Literals

```
null        true        false
```

Literals

Examples:

Integer	2000 0 -7
Floating-point	3.14 -3.14 .5 0.5
Character	'a' 'A' '0' ':' '-' ')'
Boolean	true false
String	"abba" "3.14" "for" "a piece of the action"

Integer Literals

Decimal   10235   104L

Octal   01234

Hexadecimal   0x12F

In JDK7 added:

Binary   0b101

Floating-Point

Examples of double Literals

```
0.0          0.0d          0D
0.49         .49           .49D
49.0         49.           49D
4.9E+1       4.9E+1D       4.9e1d      4900e-2
.49E2
```

Examples of float Literals

```
0.0F         0f
0.49F        .49F
49.0F        49.F          49F
4.9E+1F      4900e-2f      .49E2F
```

Character Literals

A character literal is quoted in single-quotes (').

All character literals have the primitive data type char.

A Unicode character can always be specified as a four-digit hexadecimal number (i.e., 16 bits) with the prefix \u.

Character Literals examples

```
' ' '\u0020' Space 'a' '\u0061' a
'0' '\u0030' 0          'b' '\u0062' b
'1' '\u0031' 1          'z' '\u007a' z
'9' '\u0039' 9          'Ñ' '\u0084' Ñ
'A' '\u0041' A          'å' '\u008c' å
'B' '\u0042' B          'ß' '\u00a7' ß
'Z' '\u005a' Z
```

String Literals

Examples:

"Here comes a tab.\t And here comes another one\u0009!"

"What's on the menu?"

"\"String literals are double-quoted.\""

"Left!\nRight!"

"Don't split me up!"

White Spaces

A white space is a sequence of spaces, tabs, form feeds, and line terminator characters in a Java source file.
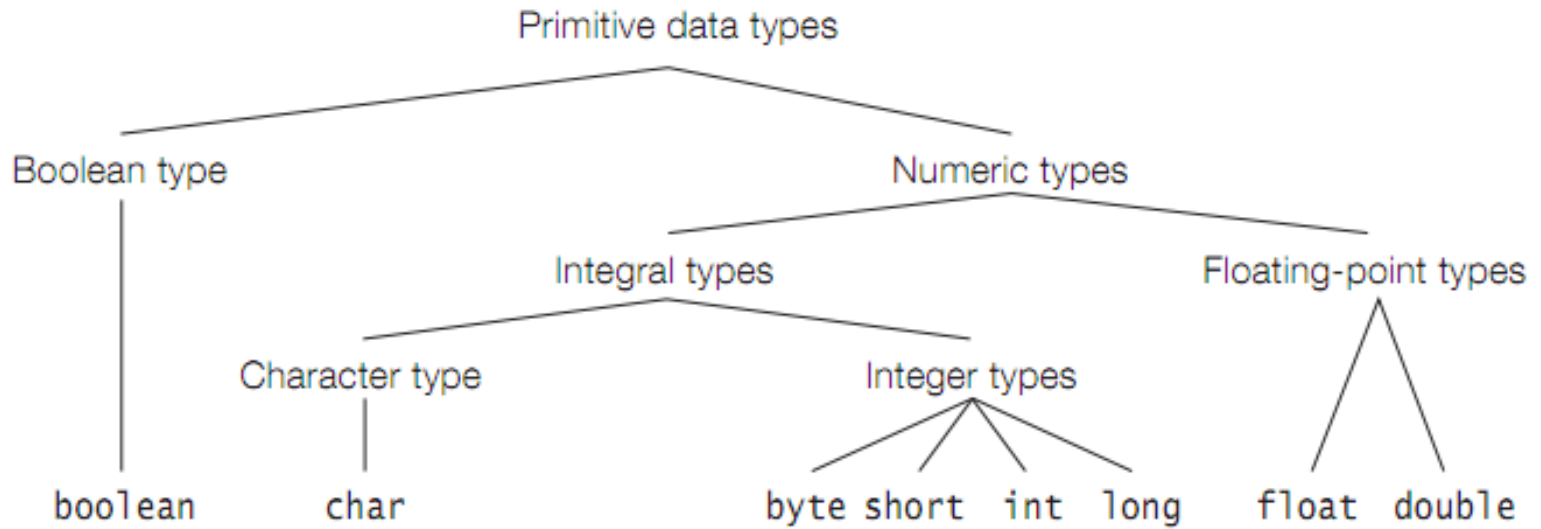
Line terminators can be:

- newline,
- carriage return,
- carriage return-newline sequence.

Comments

- Single-Line Comment   //
- Multiple-Line Comment   /*   */
- Documentation Comment   /**   */

Primitive Data Types

Integer Types

byte   8 -2^7 (-128) 2^7-1 (+127)

short   16 -2^{15} (-32768) $2^{15}-1$ (+32767)

int   32 -2^{31} (-2147483648) $2^{31}-1$ (+2147483647)

long   64 -2^{63} $2^{63}-1$

(-9223372036854775808L) (9223372036854775807L)

The char Type

char 16   0x0 (\u0000)   0xffff (\uffff)

The Floating-Point Types

float   32   1.401298464324817E-45f
                       3.402823476638528860e+38f

double 64   4.9406564584124654e-324
                       1.797693134862315570e+308