

## Java Language Elements

Training on web development and Internet programming is provided in the following areas:

- Windows Operating System
- Networking
- Contact Management
- Web Servers
- Scripting
- Databases
- Java
- .NET

To review our 1000+ course titles and topics, visit [www.sysed.com](http://www.sysed.com).

*Get on the  
Fast Track!*



TM

### Basic Data Types

Data Type	Size	Range
byte	8	-128 to 127
short	16	-32,768 to 32,767
int	32	-2,147,483,648 to 2,147,483,647
long	64	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
float	32	3.4e-0.38 to 3.4e+0.38
double	64	1.7e-308.. 1.7e+308
char	16	Complete unicode character set.
Boolean		true, false.

### Arrays

Declaration	Description
int array_name[ ];	Declare an integer array and allocate.
array_name=new int[100];	100 elements of memory.
int array_name[ ] = new int [100];	Declare and allocate an integer array in one statement.
int array_name [ ] = {10, 20, 30, 40};	Declare and allocate an integer array in one statement.
Int array_name[] = new int[10][20];	Multidimensional array.
Null	For reference type (class, array).

### Declaration Statements

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

### Adding Comments

<i>// rest of line</i>
<i>/* multiline comment */</i>
<i>/** documentation comment */</i>



Arithmetic Operators	
Operator	Description
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus
++	Increment
--	Decrement

Relational Operators	
Operator	Description
==	Equal to
!=	Not equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Logical Operators	
Operator	Description
&&	AND
	OR
!	NOT
^	Exclusive OR

Bitwise Operators	
Operator	Description
&	AND
	OR
~	NOT
^	Exclusive OR
>>	Shift right
>>>	Shift right zero fill
<<	Shift left

**Compile and Run**

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

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

Control Structures	
<b>If Conditional</b>	
if (Boolean-expression) statement1; [ else statement2; ]	
<b>while Loop</b>	
[initialization] while (termination-clause) { body; [iteration;] }	
<b>do while Loop</b>	
do { body; [iteration;] } while (termination-clause);	
<b>for Loop</b>	
for (initialization; termination-clause; iteration) body;	

**Program Structure**

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

Java Keywords			
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	