



Tutorials ▾

Exercises ▾

Certificates ▾

Services ▾

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HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments ▾

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

Java Operators

< Previous

Next >

Java Operators

Operators are used to perform operations on variables and values.

In the example below, we use the **+** **operator** to add together two values:

Example

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```
int x = 100 + 50;
```

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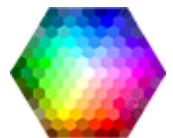
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W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

Example

```
int sum1 = 100 + 50;      // 150 (100 + 50)
int sum2 = sum1 + 250;    // 400 (150 + 250)
int sum3 = sum2 + sum2;    // 800 (400 + 400)
```

[Try it Yourself »](#)

Java divides the operators into the following groups:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Bitwise operators

Arithmetic Operators

Arithmetic operators are used to perform common mathematical operations.

Operator	Name	Description	Example	Try it
----------	------	-------------	---------	--------



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Exercises ▾

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Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

*	Multiplication	Multiplies two values	$x * y$	Try it »
/	Division	Divides one value by another	x / y	Try it »
%	Modulus	Returns the division remainder	$x \% y$	Try it »
++	Increment	Increases the value of a variable by 1	$++x$	Try it »
--	Decrement	Decreases the value of a variable by 1	$--x$	Try it »

Java Assignment Operators

Assignment operators are used to assign values to variables.

In the example below, we use the **assignment** operator (`=`) to assign the value **10** to a variable called **x**:

Example



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JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

Try it Yourself »

The **addition assignment** operator (**+=**) adds a value to a variable:

Example

```
int x = 10;  
x += 5;
```

Try it Yourself »

A list of all assignment operators:

Operator	Example	Same As	Try it
=	x = 5	x = 5	Try it »
+=	x += 3	x = x + 3	Try it »
-=	x -= 3	x = x - 3	Try it »
*=	x *= 3	x = x * 3	Try it »



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Exercises ▾

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CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



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Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

&=

x &= 3

x = x & 3

Try it »

|=

x |= 3

x = x | 3

Try it »

^=

x ^= 3

x = x ^ 3

Try it »

>>=

x >>= 3

x = x >> 3

Try it »

<<=

x <<= 3

x = x << 3

Try it »

Java Comparison Operators

Comparison operators are used to compare two values (or variables). This is important in programming, because it helps us to find answers and make decisions.

The return value of a comparison is either `true` or `false`. These values are known as *Boolean values*, and you will learn more about them in the [Booleans](#) and [If..Else](#) chapter.

In the following example, we use the **greater than** operator (`>`) to find out if 5 is greater than 3:

Example



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Exercises ▾

Certificates ▾

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Log in

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CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments ▾

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

Try it Yourself »

Operator	Name	Example	Try it
==	Equal to	x == y	Try it »
!=	Not equal	x != y	Try it »
>	Greater than	x > y	Try it »
<	Less than	x < y	Try it »
>=	Greater than or equal to	x >= y	Try it »
<=	Less than or equal to	x <= y	Try it »

Java Logical Operators

You can also test for `true` or `false` values with logical operators.

Logical operators are used to determine the logic between variables or values:

Operator	Name	Description	Example	Try it
----------	------	-------------	---------	--------



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Certificates ▾

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CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▾

Java Comments

Java Variables ▾

Java Data Types ▾

Java Type Casting

Java Operators

Java Strings ▾

Java Math

Java Booleans

Java If...Else ▾

Java Switch

Java While Loop ▾

Java For Loop ▾

Java Break/Continue

Java Arrays ▾

Java Methods

Java Methods

Java Method Parameters ▾

Java Method Overloading ▾

the statements is true

4

!

Logical not

Reverse the result,
returns false if the result
is true!(x < 5 && x
< 10)

Try it »

Exercise ?

Operators are used to:

- Create constant variables and values
- Perform operations on variables and values
- Create objects and classes
- Access comments to display them to the screen

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[Java HOME](#)[Java Intro](#)[Java Get Started](#)[Java Syntax](#)[Java Output](#)[Java Comments](#)[Java Variables](#)[Java Data Types](#)[Java Type Casting](#)[Java Operators](#)[Java Strings](#)[Java Math](#)[Java Booleans](#)[Java If...Else](#)[Java Switch](#)[Java While Loop](#)[Java For Loop](#)[Java Break/Continue](#)[Java Arrays](#)

Java Methods

[Java Methods](#)[Java Method Parameters](#)[Java Method Overloading](#)

Java Operators

Introduction to Operators in Java



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[Java HOME](#)[Java Intro](#)[Java Get Started](#)[Java Syntax](#)[Java Output](#) ▼[Java Comments](#)[Java Variables](#) ▼[Java Data Types](#) ▼[Java Type Casting](#)[Java Operators](#)[Java Strings](#) ▼[Java Math](#)[Java Booleans](#)[Java If...Else](#) ▼[Java Switch](#)[Java While Loop](#) ▼[Java For Loop](#) ▼[Java Break/Continue](#)[Java Arrays](#) ▼

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[Java Methods](#)[Java Method Parameters](#) ▼[Java Method Overloading](#) ▼

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Exercises ▼

Certificates ▼

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HTML

CSS

JAVASCRIPT

SQL

PYTHON

JAVA

PHP

HOW TO

W3.CSS

C

C++

C#

BOOTSTRAP

REACT



Java Tutorial

Java HOME

Java Intro

Java Get Started

Java Syntax

Java Output ▼

Java Comments

Java Variables ▼

Java Data Types ▼

Java Type Casting

Java Operators

Java Strings ▼

Java Math

Java Booleans

Java If...Else ▼

Java Switch

Java While Loop ▼

Java For Loop ▼

Java Break/Continue

Java Arrays ▼

Java Methods

Java Methods

Java Method Parameters ▼

Java Method Overloading ▼

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