



Java divides the **int** 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
+	Addition	Adds together two values	x + y	Try It
-	Subtraction	Subtracts one value from another	x - y	Try It
*	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

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### 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

int x = 10;

Try It Yourself

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

Example

int x = 5;

Try It Yourself

A list of all assignment operators:

Operator	Example	Name 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
/=	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
>>=	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:

Operator	Name	Description	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	

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

Operator	Name	Description	Example	Try It
&&	Logical and	Returns true if both statements are true	x < 5 && x < 10	Try It
	Logical or	Returns true if one of the statements is true	x < 5    x < 4	Try It
!	Logical not	Reverse the result, returns false if the result is true	!	Try It

Bit-masking

a	b	a & b
T	T	T
T	F	F
F	T	F
F	F	F

a	b	a   b
T	T	T
T	F	T
F	T	T
F	F	F

a	b	a ^ b
T	T	F
T	F	T
F	T	T
F	F	F

a	b	a && b
T	T	T
T	F	F
F	T	F
F	F	F

a	b	a    b
T	T	T
T	F	T
F	T	T
F	F	F

a	b	a != b
T	T	F
T	F	T
F	T	T
F	F	F

a	b	a == b
T	T	T
T	F	F
F	T	F
F	F	T

a	b	a > b
T	T	F
T	F	T
F	T	F
F	F	F

a	b	a < b
T	T	F
T	F	T
F	T	F
F	F	F

a	b	a >= b
T	T	T
T	F	T
F	T	F
F	F	T

a	b	a <= b
T	T	T
T	F	T
F	T	T
F	F	T

a	b	a != b
T	T	F
T	F	T
F	T	T
F	F	F

a	b	a == b
T	T	T
T	F	F
F	T	F
F	F	T

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