



Python Operators

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Python 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

```
print(10 + 5)
```

[Run example »](#)

Python divides the operators in the following groups:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Identity operators
- Membership operators
- Bitwise operators

Python Arithmetic Operators

Arithmetic operators are used with numeric values to perform common mathematical operations:

Operator	Name	Example	Try it
+	Addition	<code>x + y</code>	Try it »
-	Subtraction	<code>x - y</code>	Try it »
*	Multiplication	<code>x * y</code>	Try it »
/	Division	<code>x / y</code>	Try it »
%	Modulus	<code>x % y</code>	Try it »
**	Exponentiation	<code>x ** y</code>	Try it »
//	Floor division	<code>x // y</code>	Try it »

Python Assignment Operators

Assignment operators are used to assign values to variables:

Operator	Example	Same As	Try it
=	<code>x = 5</code>	<code>x = 5</code>	Try it »
+=	<code>x += 3</code>	<code>x = x + 3</code>	Try it »
-=	<code>x -= 3</code>	<code>x = x - 3</code>	Try it »
*=	<code>x *= 3</code>	<code>x = x * 3</code>	Try it »
/=	<code>x /= 3</code>	<code>x = x / 3</code>	Try it »
%=	<code>x %= 3</code>	<code>x = x % 3</code>	Try it »
//=	<code>x //= 3</code>	<code>x = x // 3</code>	Try it »
**=	<code>x **= 3</code>	<code>x = x ** 3</code>	Try it »

<code>&=</code>	<code>x &= 3</code>	<code>x = x & 3</code>	Try it »
<code> =</code>	<code>x = 3</code>	<code>x = x 3</code>	Try it »
<code>^=</code>	<code>x ^= 3</code>	<code>x = x ^ 3</code>	Try it »
<code>>>=</code>	<code>x >>= 3</code>	<code>x = x >> 3</code>	Try it »
<code><<=</code>	<code>x <<= 3</code>	<code>x = x << 3</code>	Try it »

Python Comparison Operators

Comparison operators are used to compare two values:

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

Python Logical Operators

Logical operators are used to combine conditional statements:

Operator	Description	Example	Try it
<code>and</code>	Returns True if both statements are true	<code>x < 5 and x < 10</code>	Try it »
<code>or</code>	Returns True if one of the statements is true	<code>x < 5 or x < 4</code>	Try it »

not

Reverse the result, returns
False if the result is true

not(x < 5 and x < 10)

[Try it »](#)

Python Identity Operators

Identity operators are used to compare the objects, not if they are equal, but if they are actually the same object, with the same memory location:

Operator	Description	Example	Try it
is	Returns True if both variables are the same object	x is y	Try it »
is not	Returns True if both variables are not the same object	x is not y	Try it »

Python Membership Operators

Membership operators are used to test if a sequence is presented in an object:

Operator	Description	Example	Try it
in	Returns True if a sequence with the specified value is present in the object	x in y	Try it »
not in	Returns True if a sequence with the specified value is not present in the object	x not in y	Try it »

Python Bitwise Operators

Bitwise operators are used to compare (binary) numbers:

Operator	Name	Description
&	AND	Sets each bit to 1 if both bits are 1

	OR	Sets each bit to 1 if one of two bits is 1
^	XOR	Sets each bit to 1 if only one of two bits is 1
~	NOT	Inverts all the bits
<<	Zero fill left shift	Shift left by pushing zeros in from the right and let the leftmost bits fall off
>>	Signed right shift	Shift right by pushing copies of the leftmost bit in from the left, and let the rightmost bits fall off

Test Yourself With Exercises

Exercise:

Multiply **10** with **5** , and print the result.

```
print(10    5)
```

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[Start the Exercise](#)

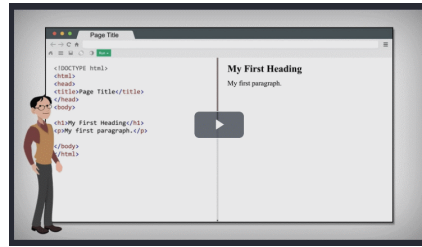
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