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

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

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

Python Assignment Operators

Assignment operators are used to assign values to variables:

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 »
/=	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 »

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|=	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 »

Python Comparison Operators

Comparison operators are used to compare two values:

Operator	Name	Example	Try it
==	Equal	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 »

Python Logical Operators

Logical operators are used to combine conditional statements:

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

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	False if the result is true

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

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^	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)
```

Submit Answer »

Start the Exercise

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