

### Python Arithmetic Operators

Addition	9 + 2	>> 11
Subtraction	9 - 2	>> 7
Multiplication	9 * 2	>> 18
Division	9 / 2	>> 4.5
Modulus	9 % 2	>> 1
Exponentiation	3 ** 2	>> 81
Floor division	9 // 2	>> 4

### Python Assignment Operators

Operator	Example	Same As
=	x = 2	x = 2
+=	x += 2	x = x + 2
-=	x -= 2	x = x - 2
*=	x *= 2	x = x * 2
/=	x /= 2	x = x / 2
%=	x %= 2	x = x % 2
//=	x //= 2	x = x // 2
**=	x **= 2	x = x ** 2

### Python Comparison Operators

Equal	x == y
Not equal	x != y
Greater than	x > y
Less than	x < y
Greater than or equal to	x >= y
Less than or equal to	x <= y

### Boolean Values

In programming you often need to know if an expression is `True` or `False`.

You can evaluate any expression in Python, and get the answer.

```
print(5 < 8) >>> True
```

```
print(5 > 8) >>> False
```

### Python Logical Operators

**and** Returns True if both statements are true

```
x < 5 and x < 10
```

**or** Returns True if one of the statements is true

```
x < 5 or x < 4
```

**not** Reverse the result, returns False if the result is true

```
not(x < 5 and x < 10)
```

### Python Identity Operators

**is** Returns true if both variables are the same object

```
x is y
```

**is not** Returns true if both variables are not the same object

```
x is not y
```

### Python Membership Operators

**in** Returns True if a sequence with the specified value is present in the object

```
x in y
```

**not in** Returns True if a sequence with the specified value is not present in the object

```
x not in y
```

### Python Bitwise Operators

**&** 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



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