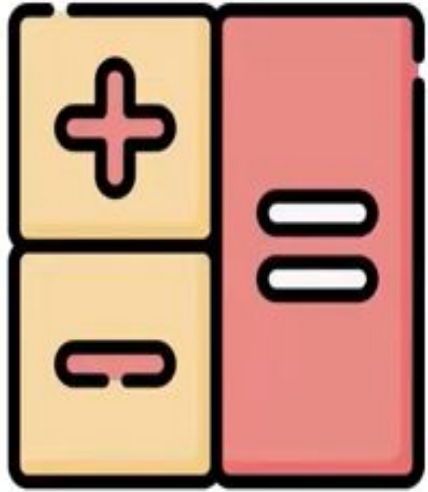


Python Operators

Operators in Python



PYTHON



Arithmetic Operators



$+$, $-$, $*$, $/$, $\%$, $**$,

Comparison Operators



$<$, $>$, $<=$, $>=$, $!=$, $==$

Assignment Operators



$=$, $+=$, $-=$, $*=$, $\%=$, $**=$, $//=$

Logical Operators



and, or, not

Bitwise Operators



$\&$, $|$, $>>$, $<<$, \sim

Identity Operators



is, is not

Membership Operators



in, not in

Arithmetic Operators



+, -, *, /, %, **,

```
In [1]: ▶ #Arithmetic Operators
```

```
x = 10  
y = 4  
print(x+y)
```

14

```
In [2]: ▶ print(x - y)
```

6

```
In [6]: ▶ print(x ** y)
```

10000

```
In [8]: ▶ 2 ** 3
```

Out[8]: 8

```
In [3]: ▶ print(x * y)
```

40

```
In [4]: ▶ print(x / y)
```

2.5

```
In [5]: ▶ print(x % y)
```

2

```
[26]: # Floor Division: this is comment
```

```
[27]: print(10 // 4)
```

2

Assignment Operators



=, +=, -=, *=, %=, **=, //=

```
In [10]: # Assignment operators
```

```
x = 7
```

```
In [11]: x
```

```
Out[11]: 7
```

```
In [12]: x = 7  
x += 3  
print(x)
```

```
10
```

```
In [13]: x = 7  
x -= 3  
print(x)
```

```
4
```

```
In [14]: x *= 3
```

```
In [15]: x
```

```
Out[15]: 12
```

```
In [16]: x /= 3
```

```
In [17]: x
```

```
Out[17]: 4.0
```

```
[29]: x = 10  
x **= 3  
print(x)
```

```
1000
```

```
[30]: x //= 5  
print(x)
```

```
200
```

Comparison Operators



<, >, <=, >=, !=, ==

In [24]: ▶ `# Comparison operators`

```
x = 7  
y = 3  
print(x == y)
```

False

In [25]: ▶ `x = 7
y = 3
print(x != y)`

True

In [27]: ▶ `x = 7
y = 3
print(x < y)`

False

In [28]: ▶ `x = 7
y = 3
print(x >= y)`

True

In [29]: ▶ `x = 7
y = 3
print(x <= y)`

False

Logical Operators



and, or, not

```
In [30]: ▶ # Logical operators
          # and
          x = 7
          y = 12
          print(x > 2 and y < 10)

False
```

```
In [31]: ▶ x = 5
          print(x > 3 or x < 10)

True
```

```
In [33]: ▶ # not
          x = 5
          print(x > 3 and x < 10)

True
```

```
In [34]: ▶ print(not(x > 3 and x < 10))

False
```

Identity Operators



is, is not

```
In [35]: ▶ # Identity operators  
x = 505  
y = 500 + 5  
print(x, y)  
505 505
```

```
In [36]: ▶ x == y  
Out[36]: True
```

```
In [37]: ▶ x is y  
Out[37]: False
```

```
In [38]: ▶ id(x)  
Out[38]: 2565453835088
```

```
In [39]: ▶ id(y)  
Out[39]: 2565453835152
```

```
In [40]: ▶ x = 100  
y = 200  
x is not y  
Out[40]: True
```


Membership Operators



in, not in

```
[63]: a = "mac108"  
      b = "Python"
```

```
[65]: "m" in a
```

```
[65]: True
```

```
[67]: "y" in b
```

```
[67]: True
```

```
[68]: "p" not in b
```

```
[68]: True
```

```
[70]: "x" in a
```

```
[70]: False
```