

Operators Operands

Operators and Operands in Python

In Python, **operators** are symbols used to perform operations on variables and values (known as **operands**). Python supports various types of operators, including **arithmetic**, **comparison**, **logical**, **assignment**, **boolean**, and **membership** operators.

1. Arithmetic Operators

- `+` : Addition
- `-` : Subtraction
- `*` : Multiplication
- `/` : Division (float)
- `//` : Integer Division (floor division)
- `%` : Modulus (remainder)
- `**` : Exponentiation (power)

```
x = 10
y = 3

addition = x + y      # 13
subtraction = x - y   # 7
multiplication = x * y # 30
division = x / y       # 3.333...
integer_division = x // y # 3
modulus = x % y        # 1
power = x ** y         # 1000
```


4. Assignment Operators

- `=` : Assign value
- `+=` : Add and assign
- `-=` : Subtract and assign
- `*=` : Multiply and assign
- `/=` : Divide and assign
- `//=` : Floor divide and assign
- `%=` : Modulus and assign
- `**=` : Exponent and assign

```
x = 10
x += 5 # Equivalent for x = x + 5 (x becomes 15)
x -= 3 # Equivalent for x = x - 3 (x becomes 12)
x *= 2 # Equivalent for x = x * 2 (x becomes 24)
x /= 4 # Equivalent for x = x / 4 (x becomes 6.0)
```

5. Boolean Operators

- `True` : Boolean True value
- `False` : Boolean False value

```
is_sunny = True
is_raining = False

print(is_sunny) # Output: True
print(is_raining) # Output: False
```

6. Membership Operators

- `in` : Returns True if a value is found in a sequence
- `not in` : Returns True if a value is not found in a sequence

```
fruit = "apple"  
print("a" in fruit)      # True, 'a' is in "apple"  
print("b" not in fruit)  # True, 'b' is not in  
                          "apple"
```