ARITHMETIC OPERATORS

PYTHON BASICS

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TOPIC OUTLINE

Addition

Subtraction

Multiplication

Division

Modulo

Increment

Decrement

ARITHMETIC OPERATORS

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Arithmetic operators are used to perform **basic mathematical operations** on numeric values. These operators are fundamental to performing calculations and manipulating data in programs.

Unary Operators operates with a single operand (e.g., `~`, `not`).

Binary Operators operates with two operands (e.g., `+`, `-`, `*`, `%`).

ADDITION

example

```
a = 5

b = 3

a + b

# returns 8
```

The addition **(+)** operator **adds** two operands.

SUBTRACTION

example

```
a = 10

b = 4

a - b

# returns 6
```

The subtraction `(-)` operator **subtracts** the second operand from the first.

MULTIPLICATION

The multiplication `(*)` operator **multiplies** two operands.

The expression `x**n` represents **exponentiation**, meaning **x** raised to the power of **n**.

example

```
a = 7

b = 6

a * b

# returns 42
```

```
4**2

# returns 16
```

DIVISION

example

```
a = 10
b = 3
a / b
# returns 3.333
```

The division `(/)` operator **divides** the first operand by the second.

FLOOR DIVISION

For **positive numbers,** floor division **(//)** behaves like normal division but discards the fractional part.

For **negative numbers**, floor division rounds toward negative infinity.

example

```
a = 10
b = 3
a // b
# returns 3
```

```
a = 10
b = -3
a // b
# returns -4
```

MODULO

The modulo `(%)` operator returns the **remainder** of the division of the first operand by the second.

example

```
a = 10
b = 3
a % b
# returns 1
```

INCREMENT

The increment **(+=)** operator **increases** the value of a variable by a specified amount.

example

```
x = 5
x += 1
# x = 6
```

```
y = 5
y += 2
# x = 7
```

DECREMENT

The decrement **(-=)** operator **decreases** the value of a variable by a specified amount.

example

```
x = 5
x -= 1
# x = 4
```

```
y = 5
y -= 2
# y = 3
```

LABORATORY