

Python-Introduction to Python

Variables

In Python, you can store values in variables. Variables are nothing but names given to a location in memory where a value can be stored.

- Example: `x = 5` (stores the integer value 5 in a variable named x)
- Print the value using `print(x)` which will output: `5`

Data Types

Python has several built-in data types:

1. Integers (int): whole numbers, e.g., 1, 2, 3, etc.

◦ Example: `x = 10`

2. Floats (float): decimal numbers, e.g., 3.14, -0.5, etc.

◦ Example: `y = 3.14`

3. Strings (str): sequences of characters, e.g., "hello", 'goodbye', etc.

◦ Example: `greeting = "Hello, World!"` OR `greeting = 'Hello, World!'`

4. Boolean (bool): true or false values

◦ Example: `x = True`

Operators

Python has various operators for performing arithmetic, comparison, logical, and assignment operations:

1. Arithmetic Operators:

- Addition: `a + b`
- Subtraction: `a - b`
- Multiplication: `a * b`
- Division: `a / b` (returns a float)
- Floor Division: `a // b` (returns an integer)

2. Comparison Operators:

- Equal to: `a == b`
- Not equal to: `a != b`
- Greater than: `a > b`
- Less than: `a < b`

3. Logical Operators:

- AND: `a and b`
- OR: `a or b`

4. Assignment Operators:

- Assign: `x = 5`
- Add and assign: `x += 5`

Control Structures

Control structures determine the flow of a program's execution:

1. Conditional statements (if-else):

- If statement: `if x > 10: print("x is greater than 10")`

2. Loops:

- For loop: `for i in range(5): print(i)`
- While loop: `i = 0; while i < 5: print(i); i += 1`

Functions

A function is a block of code that can be executed multiple times:

1. Defining a function: `def greet(name): print("Hello, " + name)`
2. Calling a function: `greet("John")`

These are the basic concepts in Python programming. This summary should give you a good starting point to learn more about the language!

Curated by Brajesh Kumar