# Module Python -Fundamentals of Python Language

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**Understanding data types: integers, floats, strings, lists, tuples, dictionaries, sets.**

** Python variables and memory allocation.**

** Python operators: arithmetic, comparison, logical, bitwise.**

🔹 Basic Types:

* int: Whole numbers (e.g., 10)
* float: Decimal numbers (e.g., 10.5)
* str: Text (e.g., "Hello")

🔹 Collections:

* list: Ordered, mutable → [1, 2, 3]
* tuple: Ordered, immutable → (1, 2, 3)
* dict: Key-value pairs → {"name": "Alice"}
* set: Unordered, unique values → {1, 2, 3}

Python Variables and Memory Allocation

* A variable is a name that refers to a value stored in memory.
* Python manages memory automatically (dynamic typing).
* Example: x = 5

## Python Operators

### 🔹 Arithmetic: +, -, \*, /, //, %, \*\*

### 🔹 Comparison: ==, !=, >, <, >=, <=

### 🔹 Logical: and, or, not

### 🔹 Bitwise: &, |, ^, ~, <<, >>