**Theory:**

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

**• Python variables and memory allocation.**

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

 **Integers**: Whole numbers without a decimal (e.g., 5, -3).

 **Floats**: Decimal numbers used for more precise calculations (e.g., 3.14, -0.5).

 **Strings**: Sequences of characters enclosed in quotes (e.g., "Hello").

 **Lists**: Ordered, mutable collections of elements (e.g., [1, 2, 3]).

 **Tuples**: Ordered, immutable collections (e.g., (1, 2, 3)).

 **Dictionaries**: Key-value pairs for storing data (e.g., {'name': 'Alice'}).

 **Sets**: Unordered collections of unique elements (e.g., {1, 2, 3}).

 **Python Variables**: Variables dynamically allocate memory and refer to objects based on their value.

 **Memory Allocation**: Python handles memory automatically using reference counting and garbage collection.

 **Arithmetic Operators**: Perform mathematical operations like addition (+), subtraction (-), and multiplication (\*).

 **Comparison Operators**: Compare values (e.g., ==, >, <) to return boolean results.

 **Logical Operators**: Combine conditions (and, or, not) to return boolean values.

 **Bitwise Operators**: Perform operations at the bit level (e.g., &, |, ^).