4. Tuple

Theory:

• Introduction to tuples, immutability.

• Creating and accessing elements in a tuple.

• Basic operations with tuples: concatenation, repetition, membership

**1. Introduction to Tuples**

* **Definition**: A tuple is an ordered, immutable collection of elements in Python.
* **Immutability**: Once a tuple is created, its elements cannot be modified, added, or removed.

**2. Creating and Accessing Elements in a Tuple**

* **Creating a Tuple**:  
  Tuples can store elements of any data type (e.g., integers, strings).
  + Example: (1, "Python", 3.14)
* **Accessing Elements**:
  + Use indexing (positive or negative) to access elements.

**3. Basic Operations with Tuples**

1. **Concatenation**:
   * Combine two or more tuples using the + operator to create a new tuple.
2. **Repetition**:
   * Repeat the elements of a tuple using the \* operator to create a new tuple.
3. **Membership**:
   * Check if an element exists in a tuple using the in or not in operators.
   * Returns a boolean value (True or False).