Python

Om Ghanshyam Bhamare

Div: A Roll No:3 SE

Experiment 1

Theory:

**List**

A list in Python is used to store the sequence of various types of data. Python lists are mutable type its mean we can modify its element after it created.

Eg.

 L1 = ["John", 102, "USA"]

 L2 = [1, 2, 3, 4, 5, 6]

### Characteristics of Lists

The list has the following characteristics:

* The lists are ordered.
* The element of the list can access by index.
* The lists are the mutable type.
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* A list can store the number of various elements.

The indexing is processed in the same way as it happens with the strings. The elements of the list can be accessed by using the slice operator [].

The index starts from 0 and goes to length - 1. The first element of the list is stored at the 0th index, the second element of the list is stored at the 1st index, and so on.

# Dictionary

Python Dictionary is used to store the data in a key-value pair format. The dictionary is the data type in Python, which can simulate the real-life data arrangement where some specific value exists for some particular key. It is the mutable data-structure. The dictionary is defined into element Keys and values.

* Keys must be a single element
* Value can be any type such as list, tuple, integer, etc.

# Set

A Python set is the collection of the unordered items. Each element in the set must be unique, immutable, and the sets remove the duplicate elements. Sets are mutable which means we can modify it after its creation.

# Tuple

Python Tuple is used to store the sequence of immutable Python objects. The tuple is similar to lists since the value of the items stored in the list can be changed, whereas the tuple is immutable, and the value of the items stored in the tuple cannot be changed