**Assignment-21**

**1. What is the difference between list, tuple, dictionary and set?**

**Ans.**

**Lists**

List is a collection which is ordered.

Lists are mutable (changeable).

Allows duplicate members

Brackets used to represent: []

Lists are like arrays declared in other languages.

**Tuples**

Collection of items which is ordered.

Tuples are immutable (unchangeable).

Brackets used to represent: ()

Only difference between tuples and lists are that lists can be changed.

Tuples are faster than lists as they are immutable.

**Sets**

Collection of Unordered and Unindexed items.

Sets are mutable (changeable).

Does not take duplicate Values.

**2. What is the difference between array and list?**

Ans. An array is an ordered collection of items, where each item inside the array has an index. Taking the one dimensional array one step further, we can have arrays with two (or even more) dimensions.

It’s a collection of items (called nodes) ordered in a linear sequence is known as List. There is a general theoretical programming concept of a list, and there is the specific implementation of a list data structure, which may have taken this basic list idea and added a whole bunch of functionality.

**3. Explain the difference between remove (), discard () and pop () in python.**

Ans. The only notable difference is, remove () will throw an error message when the element which we are trying to remove is not there in the set, whereas, discard () will not intimate the absence of element which we try to remove.

Pop () -This operation removes and return an arbitrary element from the set.

**4. What is positive and negative indexing? Explain with example.**

Ans. Negative indexing

- Python arrays & list items can be accessed with positive or negative numbers (also known as index).

- For instance our array/list is of size n, then for positive index 0 is the first index, 1 second, last index will be n-1. For negative index, -n is the first index, - (n-1) second, last negative index will be – 1.

- A negative index accesses elements from the end of the list counting backwards.

Positive indexing