**Chapter 4 – Lists and Tuples**

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friends = [‘Apple’, ‘Akash’, ‘Rohan’, 7, False]

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The list can contain different types of elements such as int, float, string, Boolean, etc. Above list is a collection of different types of elements.

##### **List Indexing**

A list can be index just like a string.

L1 = [7, 9, ‘harry’]

L1[0] – 7

L1[1] – 9

L1[70] – Error

L1[0:2] – [7,9] (This is known as List Slicing)

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##### **List Methods**

Consider the following list:

L1 = [1, 8, 7, 2, 21, 15]

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1. sort() – updates the list to [1,2,7,8,15,21]
2. reverse() – updates the list to [15,21,2,7,8,1]
3. append(8) – adds 8 at the end of the list
4. insert(3,8) – This will add 8 at 3 index
5. pop(2) – It will delete the element at index 2 and return its value
6. remove(21) – It will remove 21 from the last

##### **Tuples in Python:**

A tuple is an immutable (can’t change or modified) data type in Python.

a = () #It is an example of empty tuple

a = (1,) #Tuple with only one element needs a comma

a = (1, 7, 2) #Tuple with more than one element

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Once defined, tuple elements can’t be manipulated or altered.

**Tuple methods:**

Consider the following tuple,

a = (1, 7, 2)

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1. **count(1) –**It will return the number of times 1 occurs in a.
2. **index(1) –**It will return the index of the first occurrence of 1 in a.

#### Chapter 4 – Practice Set

1. Write a program to store seven fruits in a list entered by the user.
2. Write a program to accept the marks of 6 students and display them in a sorted manner.
3. Check that a tuple cannot be changed in Python.
4. Write a program to sum a list with 4 numbers.
5. Write a program to count the number of zeros in the following tuple:

a = (7, 0, 8, 0, 0, 9)