Lists in Python

A built-in data type that stores set of values

It can store elements of different types (integer, float, string, etc.)

```
marks = [87, 64, 33, 95, 76]          #marks[0], marks[1]..

student = [”Karan”, 85, “Delhi”]      #student[0], student[1]..

student[0] = “Arjun”      #allowed in python

len(student)      #returns length
```

List Slicing

Similar to String Slicing

```
list_name[ starting_idx : ending_idx ] #ending idx is not included
```

marks = [87, 64, 33, 95, 76]

marks[1 : 4] is [64, 33, 95]

marks[: 4] is same as marks[0 : 4]

marks[1 :] is same as marks[1 : len(marks)]

marks[-3 : -1] is [33, 95]

List Methods

```
list = [2, 1, 3]

list.append(4)  #adds one element at the end      [2, 1, 3, 4]

list.sort( )  #sorts in ascending order      [1, 2, 3]

list.sort( reverse=True )  #sorts in descending order    [3, 2, 1]

list.reverse( )  #reverses list      [3, 1, 2]

list.insert( idx, el )  #insert element at index
```

List Methods

```
list = [2, 1, 3, 1]

list.remove(1)  #removes first occurrence of element    [2, 3, 1]

list.pop( idx )  #removes element at idx
```

Tuples in Python

A built-in data type that lets us create immutable sequences of values.

```
tup = (87, 64, 33, 95, 76)    #tup[0], tup[1]..

tup[0] = 43      #NOT allowed in python


tup1 = ( )

tup2 = ( 1, )

tup3 = ( 1, 2, 3 )
```

Tuple Methods

```
tup = (2, 1, 3, 1)

tup.index( el )  #returns index of first occurrence    tup.index(1) is 1

tup.count( el )  #counts total occurrences             tup.count(1) is 2
```

Let's Practice

WAP to ask the user to enter names of their 3 favorite movies & store them in a list.

WAP to check if a list contains a palindrome of elements. (Hint: use copy( ) method)

[1, 2, 3, 2, 1]

[1, "abc", "abc", 1]

Let‘s Practice

WAP to count the number of students with the “A” grade in the following tuple.

[”C”, “D”, “A”, “A”, “B”, “B”, “A”]

Store the above values in a list & sort them from “A” to “D”.