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".