

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”.