**List**

-- **Python Lists** are just like dynamically sized arrays.

-- A list is a collection of things, enclosed in [ ] and separated by commas.

-- The list is a sequence data type which is used to store the collection of data.

Var = ["Chandlar", "Joey", "Ross"]

-- Lists are the simplest containers that are an integral part of the Python language.

-- Lists need not be homogeneous always which makes it the most powerful tool in Python.

-- A single list may contain DataTypes like Integers, Strings, as well as Objects.

-- Lists are mutable, and hence, they can be altered even after their creation.

-- Lists in Python can be created by just placing the sequence inside the square brackets[]. Unlike Sets, a list doesn’t need a built-in function for its creation of a list.

# *Python program to demonstrate Creation of List*

# *Creating a List*

List = []

print("Blank List: ")

print(List)

# *Creating a List of numbers*

List = [10, 20, 14]

print("\nList of numbers: ")

print(List)

# *Creating a List of strings and accessing using index*

List = ["Monica", "Rachel", "Pheebe"]

print("\nList Items: ")

print(List[0])

print(List[2])

-- A list may contain duplicate values with their distinct positions and hence, multiple distinct or duplicate values can be passed as a sequence at the time of list creation.

# *Creating a List with the use of Numbers*

# *(Having duplicate values)*

List = [1, 2, 4, 4, 3, 3, 3, 6, 5]

print("\nList with the use of Numbers: ")

print(List)

# *Creating a List with mixed type of values*

# *(Having numbers and strings)*

List = [1, 2, 'The 100', 4, 'For', 6, 'The Office']

print("\nList with the use of Mixed Values: ")

print(List)

**Accessing Elements From the List**

-- In order to access the list items refer to the index number. Use the index operator [ ] to access an item in a list.

-- The index must be an integer. Nested lists are accessed using nested indexing.

# *Creating a List with the use of multiple values*

List = ["Lagaan", "Vastav", "Tumbaad"]

# *accessing a element from the*

# *list using index number*

print("Accessing a element from the list")

print(List[0])

print(List[2])

# *Creating a Multi-Dimensional List (By Nesting a list inside a List)*

List = [['The Last Czar', 'Sense and Sensibility'], ['The Crown']]

# *accessing an element from the Multi-Dimensional List using index number*

print("Accessing a element from a Multi-Dimensional list")

print(List[0][1])

print(List[1][0])

**Negative Indexing**

-- In Python, negative sequence indexes represent positions from the end of the array. Instead of having to compute the offset as in List[len(List)-3], it is enough to just write List[-3].

-- Negative indexing means beginning from the end, -1 refers to the last item, -2 refers to the second-last item, etc.

**Getting Size of the Python List**

-- Python len() is used to get the length of the list.

# *Creating a List*

List1 = []

print(len(List1))

# *Creating a List of numbers*

List2 = [10, 20, 14]

print(len(List2))

**Taking Input of a Python List**

-- We can take the input of a list of elements as string, integer, float, etc. But the default one is a string.

# *To take space separated input as a string split and store it to a list and print the string list*

# *input the list as string*

string = input("Enter elements (Space-Separated): ")

# *split the strings and store it to a list*

lst = string.split()

print('The list is:', lst)   # *printing the list*

# *input size of the list*

n = int(input("Enter the size of list : "))

# *store integers in a list using map, split and strip functions*

lst = list(map(int, input("Enter the integer elements:").strip().split()))[:n]

# *printing the list*

print('The list is:', lst)