# Assignment 10

#### 1.Write a Python Program to find sum of elements in a list ?

***Answer:***

def sumofList():  
 in\_ele = int(input('Enter the No of Entries in a List: '))  
 in\_list = []  
 for itr in range(in\_ele):  
 in\_list.append(int(input('Enter a element: ')))  
 print(f'Sum of Elements: {sum(in\_list)}')  
  
sumofList()

Enter the No of Entries in a List: 5  
Enter a element: 1  
Enter a element: 2  
Enter a element: 3  
Enter a element: 4  
Enter a element: 5  
Sum of Elements: 15

#### 2.Write a Python Program to multiply all numbers in the list ?

***Answer:***

**def** mulofList():  
 in\_ele = int(input('Enter the No of Entries in a List: '))  
 in\_list = []  
 mul = 1  
 **for** itr **in** range(in\_ele):  
 in\_list.append(int(input('Enter a element: ')))  
 **for** ele **in** in\_list:  
 mul = mul \* ele  
 print(mul)  
  
mulofList()

Enter the No of Entries in a List: 5  
Enter a element: 1  
Enter a element: 2  
Enter a element: 3  
Enter a element: 4  
Enter a element: 5  
120

#### 3.Write a Python Program to find smallest number in the list ?

***Answer:***

def smallEleInList():  
 in\_ele = int(input('Enter the No of elements in a list: '))  
 in\_list = []  
 for ele in range(in\_ele):  
 in\_list.append(int(input('Enter a Element: ')))  
 print(f'The Smallest Element in {in\_list} is {sorted(in\_list)[0]}')  
smallEleInList()

Enter the No of elements in a list: 5  
Enter a Element: 34  
Enter a Element: 56  
Enter a Element: 67  
Enter a Element: 87  
Enter a Element: 12  
The Smallest Element in [34, 56, 67, 87, 12] is 12

#### 4.Write a Python Program to find largest number in the list ?

***Answer:***

def largestEleInList():  
 in\_ele = int(input('Enter the No of elements in a list: '))  
 in\_list = []  
 for ele in range(in\_ele):  
 in\_list.append(int(input('Enter a Element: ')))  
 print(f'The Largest Element in {in\_list} is {sorted(in\_list, reverse=True)[0]}')  
  
largestEleInList()

Enter the No of elements in a list: 12  
Enter a Element: 10  
Enter a Element: 98  
Enter a Element: 12  
Enter a Element: 14  
Enter a Element: 15  
Enter a Element: 65  
Enter a Element: 76  
Enter a Element: 87  
Enter a Element: 34  
Enter a Element: 56  
Enter a Element: 87  
Enter a Element: 34  
The Largest Element in [10, 98, 12, 14, 15, 65, 76, 87, 34, 56, 87, 34] is 98

#### 5.Write a Python Program to find second largest number in the list ?

***Answer:***

def secondLargestEleInList():  
 in\_ele = int(input('Enter the No of elements in a list: '))  
 in\_list = []  
 for ele in range(in\_ele):  
 in\_list.append(int(input('Enter a Element: ')))  
 print(f'The Second Largest Element in {in\_list} is {sorted(in\_list, reverse=True)[1]}')  
  
secondLargestEleInList()

Enter the No of elements in a list: 5  
Enter a Element: 12  
Enter a Element: 13  
Enter a Element: 14  
Enter a Element: 15  
Enter a Element: 16  
The Second Largest Element in [12, 13, 14, 15, 16] is 15

#### 6.Write a Python Program to find N largest elements in the list ?

***Answer:***

def nLargestEleInList(k):  
 in\_ele = int(input('Enter the No of elements in a list: '))  
 in\_list = []  
 for ele in range(in\_ele):  
 in\_list.append(int(input('Enter a Element: ')))  
 print(f'The {k} Largest Element in {in\_list} is {sorted(in\_list, reverse=True)[0:k]}')  
  
nLargestEleInList(4)

Enter the No of elements in a list: 10  
Enter a Element: 1  
Enter a Element: 2  
Enter a Element: 3  
Enter a Element: 4  
Enter a Element: 5  
Enter a Element: 6  
Enter a Element: 7  
Enter a Element: 8  
Enter a Element: 9  
Enter a Element: 10  
The 4 Largest Element in [1, 2, 3, 4, 5, 6, 7, 8, 9, 10] is [10, 9, 8, 7]

#### 7.Write a Python Program to find even numbers in the list ?

***Answer:***

def evenNoInList():  
 in\_ele = int(input('Enter the No of elements in a list: '))  
 in\_list = []  
 even\_list = []  
 for ele in range(in\_ele):  
 in\_list.append(int(input('Enter a Element: ')))  
 for ele in in\_list:  
 if ele%2 == 0:  
 even\_list.append(ele)  
 print(f'The Even Elements in {in\_list} are {even\_list}')  
  
evenNoInList()

Enter the No of elements in a list: 6  
Enter a Element: 1  
Enter a Element: 2  
Enter a Element: 3  
Enter a Element: 4  
Enter a Element: 5  
Enter a Element: 6  
The Even Elements in [1, 2, 3, 4, 5, 6] are [2, 4, 6]

#### 8.Write a Python Program to find odd numbers in the list ?

***Answer:***

def oddNoInList():  
 in\_ele = int(input('Enter the No of elements in a list: '))  
 in\_list = []  
 odd\_list = []  
 for ele in range(in\_ele):  
 in\_list.append(int(input('Enter a Element: ')))  
 for ele in in\_list:  
 if ele%2 != 0:  
 odd\_list.append(ele)  
 print(f'The Even Elements in {in\_list} are {odd\_list}')  
  
oddNoInList()

Enter the No of elements in a list: 6  
Enter a Element: 1  
Enter a Element: 2  
Enter a Element: 3  
Enter a Element: 4  
Enter a Element: 5  
Enter a Element: 6  
The Even Elements in [1, 2, 3, 4, 5, 6] are [1, 3, 5]

#### 9.Write a Python Program to remove empty list from list ?

***Answer:***

def checkEmptyList():  
 in\_list = eval(input('Enter all elements of the list: '))  
 if [] in in\_list:  
 print(f'There is an Empty list in {in\_list} at Position {in\_list.index([])}')  
 in\_list.remove([])  
 print(f'The List after removing [] is {in\_list}')  
 else:  
 print(f'There is no [] List in the list {in\_list}')  
   
checkEmptyList()

Enter all elements of the list: [1,2,3,4,5,[],6,7,8,9,0]  
There is an Empty list in [1, 2, 3, 4, 5, [], 6, 7, 8, 9, 0] at Position 5  
The List after removing [] is [1, 2, 3, 4, 5, 6, 7, 8, 9, 0]

#### 10.Write a Python Program to Cloning or Copying a list ?

***Answer:***

import copy  
  
def cloneList():  
 in\_list = eval(input('Enter a list'))  
 print(in\_list, id(in\_list))  
 cloned\_list = in\_list.copy()  
 print(cloned\_list, id(cloned\_list))  
  
cloneList()

Enter a list[1,2,3,4,5,6,7,8,9,0]  
[1, 2, 3, 4, 5, 6, 7, 8, 9, 0] 1804715913280  
[1, 2, 3, 4, 5, 6, 7, 8, 9, 0] 1804715963072

#### 11.Write a Python Program to count occurences of an element in a list ?

***Answer:***

def checkOccurence():  
 in\_list = eval(input('Enter the elements of the list: '))  
 in\_num = eval(input('Enter the element to find: '))  
 count = 0  
 if in\_num in in\_list:  
 for ele in in\_list:  
 if ele == in\_num:  
 count = count+1  
 print(f'There are {count} occurences of {in\_num} in {in\_list}')  
   
checkOccurence()

Enter the elements of the list: [1,2,3,1,2,3,1,2,3,4,5,6,4,5,6]  
Enter the element to find: 6  
There are 2 occurences of 6 in [1, 2, 3, 1, 2, 3, 1, 2, 3, 4, 5, 6, 4, 5, 6]