

Assignment 10 Solutions

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

```
In [1]: 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: 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
Sum of Elements: 21
```

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

```
In [2]: 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: 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
720
```

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

```
In [7]: 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: 7
Enter a Element: 43
Enter a Element: 65
Enter a Element: 76
Enter a Element: 87
Enter a Element: 77
Enter a Element: 12
Enter a Element: 11
The Smallest Element in [43, 65, 76, 87, 77, 12, 11] is 11
```

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

```
In [10]: 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: 10
Enter a Element: 20
Enter a Element: 45
Enter a Element: 65
Enter a Element: 34
Enter a Element: 16
Enter a Element: 78
Enter a Element: 88
Enter a Element: 55
Enter a Element: 77
Enter a Element: 97
The Largest Element in [20, 45, 65, 34, 16, 78, 88, 55, 77, 97] is 97

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

```

In [11]: 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: 7
Enter a Element: 13
Enter a Element: 14
Enter a Element: 15
Enter a Element: 16
Enter a Element: 17
Enter a Element: 18
Enter a Element: 19
The Second Largest Element in [13, 14, 15, 16, 17, 18, 19] is 18

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

```

In [12]: 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: 12
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
Enter a Element: 11
Enter a Element: 12
The 4 Largest Element in [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12] is [12, 11, 10, 9]

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

```

In [13]: 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: 7
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
The Even Elements in [1, 2, 3, 4, 5, 6, 7] are [2, 4, 6]

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

```

In [14]: def oddNoInList():
        in_ele = int(input('Enter the No 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 elements in a list: 7
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
The Even Elements in [1, 2, 3, 4, 5, 6, 7] are [1, 3, 5, 7]

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

```

In [15]: 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'The is no [] List in the list {in_list}')

        checkEmptyList()

```

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

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

```

In [16]: 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] 2454599961664

[1, 2, 3, 4, 5, 6, 7, 8, 9, 0] 2454604380032

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

```
In [18]: def checkOccurrence():
          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} occurrence of {in_num} in {in_list}')

          checkOccurrence()
```

Enter the elements of the list: [2,1,4,3,6,5,1,2,3,7,8,6,5,4,2,1]

Enter the element to find: 6

There are 2 occurrence of 6 in [2, 1, 4, 3, 6, 5, 1, 2, 3, 7, 8, 6, 5, 4, 2, 1]

In []:

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