Assignment 10 Solutions ¶

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

```python
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: 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 ?

```python
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: 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 ?

```
In [3]: 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 ?

```
In [4]: 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)|

        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 ?

```
In [5]: 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

        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 ?

```
In [6]: 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=Tr

        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 ?

In [7]:
```python
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 ?

In [8]:
```python
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 ?

```
In [9]:  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 ?

```
In [10]:  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 ?

```
In [11]:  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]
```