

Python_basic_programming_10

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: 5
Enter a element: 1
Enter a element: 3
Enter a element: 4
Enter a element: 5
Enter a element: 7
Sum of Elements:20
```

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: 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: 33
Enter a Element: 41
Enter a Element: 15
Enter a Element: 29
Enter a Element: 38
The Smallest Element in[33, 41, 15, 29, 38]is15
```

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)[0]}')
        largestEleInList()
```

```
Enter the No of elements in a list: 5
Enter a Element: 45
Enter a Element: 32
Enter a Element: 66
Enter a Element: 57
Enter a Element: 73
The Largest Element in[45, 32, 66, 57, 73] is 73
```

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

```
In [8]: 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: 10
Enter a Element: 6
Enter a Element: 8
Enter a Element: 4
Enter a Element: 11
The Second Largest Element in[10, 6, 8, 4, 11] is 10
```

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

```
In [9]: 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: 3
Enter a Element: 5
Enter a Element: 7
Enter a Element: 9
Enter a Element: 11
Enter a Element: 12
Enter a Element: 13
Enter a Element: 13
Enter a Element: 15
The4Largest Element in[1, 3, 5, 7, 9, 11, 12, 13, 13, 15] is [15, 13, 13, 12]
```

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

```
In [10]: 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: 8
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
The Even Elements in[1, 2, 3, 4, 5, 6, 7, 8] are [2, 4, 6, 8]
```

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

```
In [11]: 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: 21
Enter a Element: 22
Enter a Element: 23
Enter a Element: 24
Enter a Element: 25
Enter a Element: 26
The Even Elements in[21, 22, 23, 24, 25, 26] are [21, 23, 25]
```

```
In [ ]: 9. Write a Python Program to remove empty list from list
```

```
In [14]: 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]
There is an Empty list in[1, 2, 3, 4, [], 5, 6, 7, 8] at Position 4
The List after removing [] is [1, 2, 3, 4, 5, 6, 7, 8]
```

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

```
In [19]: 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[1,22,4,5,6,7,8,9]
[1, 22, 4, 5, 6, 7, 8, 9] 1885281373440
[1, 22, 4, 5, 6, 7, 8, 9] 1885280166336
```

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

```
In [22]: 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} occurrences of {in_num} in {in_list}')
        checkOccurence()
```

```
Enter the elements of the list: 2,1,5,7,1,8,1,6,3,1
Enter the element to find: 1
There are 4 occurrences of 1 in (2, 1, 5, 7, 1, 8, 1, 6, 3, 1)
```