Laboratory Report Cover Sheet

SRM Institute of Science and Technology College of Engineering and Technology Department of Electronics and Communication Engineering
18ECO109J Embedded System Design using **Raspberry Pi** **Sixth Semester, 2022-23 (Even semester)**

Name   :

Register Number :

Day Order   :

Venue   :

Title of the Experiment :

Date of conduction :

Date of Submission :

Particulars	Max. Marks	Marks Obtained
Pre-lab / Algorithm	10	
Lab Performance	20	
Post-lab	10	
Total	**40**	

REPORT VERIFICATION

Date :

Faculty Name   :

Signature   :

LAB-3 Programs on List Operations

Aim:
To explore programs on list operations using python 3
Task:

1. Write a python program to interchange first and last elements in a list.
2. Write a Python program to find N largest and smallest elements from the list
3. Write a python program to find the cumulative sum of elements in a list
4. Write a python program to find positive numbers from a list.
5. Write a Python program to generate and print a list of first and last 5 elements where the values are square of numbers between 1 and 30 (both included).

Algorithms:

1.) Start
2.) list is created and the first and the last element are swapped using the function swapPositions()
3.) To find the N largest and smallest numbers the array is sorted and then the with the help of for loop first N elements will be the smallest and last N elements will be the largest.
4.) With the help of for loop each element is added to the variable sum and using for loop we can calculate the sum.
5.) For loop is used to generate the square of first and last five elements.
6.) End

Programs:

```
C: > Users > hy717 > Documents > java > 🐍 Lab3.py
1    # Ques.1(Swap first and last element of a list)
2    list = [2,3,-4,5,-66,7]
3    temp =0
4    temp = list[0]
5    list[0] =list[5]
6    list[5]=temp
7    print(f"Swapped list is: {list}")
8
9    # Ques.2
10   list.sort()
11   print(f"Smallest N numbers: {list[:3]}")
12   print(f"Greatesst N numbers: {list[len(list)-3:]}")
13
14   # Ques.3
15   sum=0
16   for i in range(len(list)):
17       sum = sum+list[i]
18   print(f"Sum is: {sum}")
19
20   # Ques.4
21   print("Positive numbers are: ")
22   for i in range(len(list)):
23       if list[i] >= 0:
24           print(f" {list[i]} ")
25
26   # Ques.5
27   print('First 5 and last 5 numbers are: ')
28   for i in range(1, 31):
29       if i <= 5 or i>25:
30           print(f"{i**2}")
31
```

Output :

```
PS C:\Users\hy717> & C:/Users/hy717/AppData
Swapped list is: [7, 3, -4, 5, -66, 2]
Smallest N numbers: [-66, -4, 2]
Greatesst N numbers: [3, 5, 7]
Sum is: -53
Positive numbers are:
 2
 3
 5
 7
```

```
First 5 and last 5 numbers are:
1
4
9
16
25
676
729
784
841
900
PS C:\Users\hy717>
```

Post Lab Questions:
1. Write a Python | Program to create two lists with EVEN numbers and ODD numbers from a list
2. Write a Python program to multiply all numbers of a list

```python
C: > Users > hy717 > Documents > java >  PostLab3.py
1    # Ques.1
2    list = [2,34,5,6,7,8,9,10]
3    even=[]
4    odd=[]
5
6    for i in range(len(list)):
7        if list[i]%2==0:
8            even.append(list[i])
9        else:
10           odd.append(list[i])
11
12   print(f"Even numbers are: {even}")
13   print(f"Odd numbers are: {odd}")
14
15   # Ques.2
16   mul=1
17   for i in range(len(list)):
18       mul = mul*list[i]
19   print(f"Multiplication of list gives: {mul}")
```

```
PS C:\Users\hy717> & C:/Users/hy717/AppData/Local
Even numbers are: [2, 34, 6, 8, 10]
Odd numbers are: [5, 7, 9]
Multiplication of list gives: 10281600
PS C:\Users\hy717>
```

Result: