Practical No. 04 (Group B)

Name : Atharva B. Iparkar

Roll no : S211045

Class : S.E.

Div : A

Batch : A-2

Problem Statement :

Write a Python program to store first year percentage of students in array. Write function for sorting array of floating point numbers in ascending order using

a) Selection Sort

b) Bubble sort and display top five scores.

Code :

```
# SORTING
# CREATING A LIST
Marks = []
n = int(input("Enter no. of students : "))
for i in range(0, n):
    m = float(input("Enter marks : "))
    Marks.append(m)
print("List is : ")
print(Marks)
```

```
# BUBBLE SORT
def bubbleSort():
    for i in range(0, n):
        for j in range(0, n-i-1):
            if Marks[j] > Marks[j+1]:
                Marks[j],Marks[j+1] = Marks[j+1],Marks[j]
    print("Sorted List via Bubble Sort is : ")
    print(Marks)

# SELECTION SORT
def selectionSort():
    for i in range(0,n):
        min = i
        for j in range(i+1,n):
            if(Marks[min] > Marks[j]):
                min = j
        Marks[min],Marks[i] = Marks[i],Marks[min]
    print("Sorted List via Selection Sort is : ")
    print(Marks)

# TOP 5 SCORES
def topScores():
    print("Top 5 scores are : ")
    for i in range(1,6):
```

```
        print(Marks[-i])


choice = int(input(
    "1 : Bubble Sort    ""\n"
    "2 : Selection Sort    ""\n"
    "Enter your choice :"))


if choice == 1:
    bubbleSort()
    topScores()
if choice == 2:
    selectionSort()
    topScores()
```

Output :

```
/usr/bin/python3.8 /home/dcomp-proj/S211045_Atharva/Sorting.py
Enter no. of students : 6
Enter marks : 55
Enter marks : 20
Enter marks : 60
Enter marks : 40
Enter marks : 10
Enter marks : 75.5
List is :
[55.0, 20.0, 60.0, 40.0, 10.0, 75.5]
1 : Bubble Sort
2 : Selection Sort
Enter your choice :1
Sorted List via Bubble Sort is :
[10.0, 20.0, 40.0, 55.0, 60.0, 75.5]
Top 5 scores are :
75.5
60.0
55.0
40.0
20.0

Process finished with exit code 0
```