Practical No. 06 (Group B)

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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 quick

sort and display top five scores.

Code :

```
def pivot_pos(list1, first, last):
    pivot = list1[first]
    left = first + 1
    right = last
    while True:
        while left <= right and list1[left] <= pivot:
            left += 1
        while left <= right and list1[right] >= pivot:
            right -= 1
        if right < left:
            break
        else:
            list1[left], list1[right] = list1[right], list1[left]
    list1[first], list1[right] = list1[right], list1[first]
    return right

def quick_sort(list1, first, last):
```

```
    if first < last:
        p = pivot_pos(list1, first, last)
        quick_sort(list1, first, p - 1)
        quick_sort(list1, p + 1, last)

def top_five(sorted_list):
    print("Top 5 Scores : ")
    top5 = sorted_list[::-1]  # Reverse to get top scores
    print("Top 5 scores: ", top5[:5])

# Input section
x = int(input("Enter No. of Elements: "))
list1 = []
for i in range(x):
    num = int(input("Enter No. to Be sorted: "))
    list1.append(num)

print("Original List: ", list1)
l = len(list1)
quick_sort(list1, 0, l - 1)
print("Sorted List: ", list1)
top_five(list1)
```

Output :