

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

a) Insertion sort

b) Shell Sort and display top five scores

```
def insertion_sort(array):
    for i in range(1, len(array)):
        key = array[i]
        j = i - 1
        while j >= 0 and key < array[j]:
            array[j + 1] = array[j]
            j -= 1
        array[j + 1] = key

def shell_sort(array):
    gap = len(array) // 2
    while gap > 0:
        for i in range(gap, len(array)):
            temp = array[i]
            j = i
            while j >= gap and array[j - gap] > temp:
                array[j] = array[j - gap]
                j -= gap
            array[j] = temp
        gap //= 2

# insert second year percentage of students
array = [78.5, 68.2, 85.6, 70.2, 80.2, 67.7, 75.2, 82.5, 66.8, 83.0]

print("Original array: ")
print(array)

insertion_sort(array)
shell_sort(array)

print("\nSorted array: ")
print(array)

print("\nTop 5 scores: ")
print(array[:5])
```

OUTPUT :

```
pll0112@pll0112-ThinkCentre-M70s:~$ python3 shell.py
Original array:
[78.5, 68.2, 85.6, 70.2, 80.2, 67.7, 75.2, 82.5, 66.8, 83.0]

Sorted array:
[66.8, 67.7, 68.2, 70.2, 75.2, 78.5, 80.2, 82.5, 83.0, 85.6]

Top 5 scores:
[66.8, 67.7, 68.2, 70.2, 75.2]
pll0112@pll0112-ThinkCentre-M70s:~$
```