'''

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

'''

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 # Function to perform Insertion Sort on the given array.

Parameters:
    arr (list): List of floating point numbers.

Returns:
    list: Sorted list of floating point numbers in ascending order.
'''
n = len(arr)

for i in range(1, n):
    key = arr[i]
    j = i - 1

    while j >= 0 and arr[j] > key:
        arr[j + 1] = arr[j]
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        j -= 1

    arr[j + 1] = key

return arr

 # Function to perform Shell Sort on the given array.

Parameters:
    arr (list): List of floating point numbers.

Returns:
    list: Sorted list of floating point numbers in ascending order.
'''
n = len(arr)
gap = n // 2

while gap > 0:
    for i in range(gap, n):
        temp = arr[i]
        j = i

        while j >= gap and arr[j - gap] > temp:
            arr[j] = arr[j - gap]
            j -= gap
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        arr[j] = temp


    gap //= 2


return arr


# if name == "main": # Taking input of number of students n = int(input("Enter the number of students:
"))


# Taking input of percentages of students

percentages = []


for i in range(n):

    percentage = float(input(f"Enter percentage of student {i + 1}: "))

    percentages.append(percentage)


# Sorting the array using Insertion Sort

sorted_insertion = insertionSort(percentages)


# Sorting the array using Shell Sort

sorted_shell = shellSort(percentages)


# Displaying top five scores

print("\nTop five scores (sorted using Insertion Sort):")

for i in range(n - 1, n - 6, -1):
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    print(sorted_insertion[i])


print("\nTop five scores (sorted using Shell Sort):")
for i in range(n - 1, n - 6, -1):
    print(sorted_shell[i])
```