

'''

Experiment Number 5: Write a python program to store first year percentage of students in an 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

'''

```
def selection_sort(arr):
```

```
    n = len(arr)
```

```
    for i in range(n - 1):
```

```
        min_index = i
```

```
        for j in range(i + 1, n):
```

```
            if arr[j] < arr[min_index]:
```

```
                min_index = j
```

```
    arr[i], arr[min_index] = arr[min_index], arr[i]
```

```
def bubble_sort(arr):
```

```
    n = len(arr)
```

```
    for i in range(n - 1):
```

```
        for j in range(n - i - 1):
```

```
            if arr[j] > arr[j + 1]:
```

```
                arr[j], arr[j + 1] = arr[j + 1], arr[j]
```

```
def main():
```

```
num_students = int(input("Enter the number of students: "))

percentages = []

for i in range(num_students):

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

    percentages.append(percentage)

sorted_percentages_selection = percentages.copy()
selection_sort(sorted_percentages_selection)

sorted_percentages_bubble = percentages.copy()
bubble_sort(sorted_percentages_bubble)

print("\nTop Five Scores (Selection Sort):")

for i in range(1, 6):

    print(f"{i}. {sorted_percentages_selection[-i]:.2f}%")

print("\nTop Five Scores (Bubble Sort):")

for i in range(1, 6):

    print(f"{i}. {sorted_percentages_bubble[-i]:.2f}%")

if __name__ == "__main__":

    main()
```