Week 9- Day 2 : Coding Challenge

(Maximum marks -15)

Q-1) Select the appropriate code that performs selection sort.

a)

```
for j in range(n):

    min = j
    for k in range(j+1,n):

        if(arr[k] < arr[min])
            min = k

    temp = arr[min]
    arr[min] = arr[j]
    arr[j] = temp
```

b)

```
for j  in range(n):

    min = j
    for k in range(j+1,n+1):

        if(arr[k] < arr[min])
            min = k

    temp = arr[min]
    arr[min] = arr[j]
    arr[j] = temp
```

c)

```
for j  in range(n):

    min = j
```

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

                    if(arr[k] > arr[min])
                            min = k

            int temp = arr[min]
            arr[min] = arr[j]
            arr[j] = temp
```

d)

```
        for j  in range(n):

            min = j
            for k in range(j+1,n+1):

                    if(arr[k] > arr[min])
                            min = k

            int temp = arr[min]
            arr[min] = arr[j]
            arr[j] = temp
```

Q-2) What is the worst case complexity of selection sort? (5 marks)

a) O(nlogn)
b) O(logn)
c) O(n)
d) $O(n^2)$

Q-3) Write a program perform selection sort using an auxiliary (extra) list, and tell the time complexity and space complexity of your code. (5 marks)

Q-4)[BONUS QUESTION] Write a while loop implementation of selection sort? (5 marks)

Marks distribution:
Question 1,2 and 3 carry 5 marks each.

Question 4 is a bonus question, that means if you leave that question you don't lose a mark, but if you solve it, you can extra 5 marks.

Remark: maximum marks you can get is 15, bonus question helps only of you are not able to solve another question.