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Roll no: 22

subject: DSA
date:13/9/2023

Prac5

Bubble sort

```
def bubblesort(collection):  
    for value in range(len(collection)-1,0,-1):  
        for i in range(value):  
            if collection[i]>collection[i+1]:  
                #swap  
                collection[i],collection[i+1]=collection[i+1],collection[i]  
  
collection= [123,456,789,987,654,321,159,357,753,951]  
print("collection before sort",collection)  
bubblesort(collection)  
print("Sorted collection is",collection)  
#end
```

```
collection before sort [123, 456, 789, 987, 654, 321, 159, 357, 753, 951]  
Sorted collection is [123, 159, 321, 357, 456, 654, 753, 789, 951, 987]  
PS C:\Users\user42>
```

Selection sort

```
def selectionsort(collection):  
    for i in range(len(collection)):  
        #for the minimum element in remaining  
        min = i  
        for j in range(i,len(collection)):  
            if collection[min]>collection[j]:  
                min=j  
                #swap the found minimum element with min  
                collection[i],collection[min]=collection[min],collection[i]  
    return collection  
collection=[314,526,101,419,450,90,567,456,354,79]  
print("collection before sorting",collection)  
selectionsort(collection)  
print("collection after sorting",collection)  
#end
```

```
collection before sorting [314, 526, 101, 419, 450, 90, 567, 456, 354, 79]  
collection after sorting [79, 90, 101, 314, 354, 419, 450, 456, 526, 567]  
PS C:\Users\user42>
```

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Insertion sort

```
def insertionsort(collection):  
    for i in range(1,len(collection)):  
        cur_val = collection[i]  
        while i>0 and collection [i-1]>cur_val:  
            collection[i]= collection[i-1]  
            i=i-1  
        collection[i]=cur_val  
    return collection  
collection =[34,56,11,89,45,90,567,456,345,79]  
print("Collection before sorting", collection)  
insertionsort(collection)  
print("Collection after sorting", collection)
```

```
PS C:\Users\user43> python3 C:\Users\user43\Desktop\DSA\insertionsort.py  
Collection before sorting [34, 56, 11, 89, 45, 90, 567, 456, 345, 79]  
Collection after sorting [11, 34, 45, 56, 79, 89, 90, 345, 456, 567]  
PS C:\Users\user43>
```