**Labsheet 2**

**Insertion Sort**

def insertionsort(a):

    n=len(a)

    for i in range(1,n):

        val=a[i]

        pos=i

        while pos>0 and a[pos-1]>val:

            a[pos]=a[pos-1]

            pos=pos-1

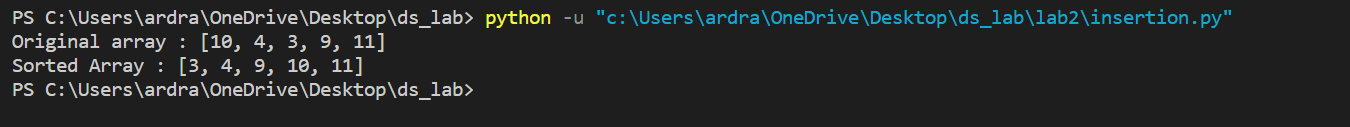
            a[pos]=val

a = [10,4,3,9,11]

print('Original array :', a)

insertionsort(a)

print('Sorted Array :',a)

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**Quick Sort**

def partition(array, low, high):

  pivot = array[high]

  i = low - 1

  for j in range(low, high):

    if array[j] <= pivot:

      i = i + 1

      (array[i], array[j]) = (array[j], array[i])

  (array[i + 1], array[high]) = (array[high], array[i + 1])

  return i + 1

def quickSort(array, low, high):

  if low < high:

    pi = partition(array, low, high)

    quickSort(array, low, pi - 1)

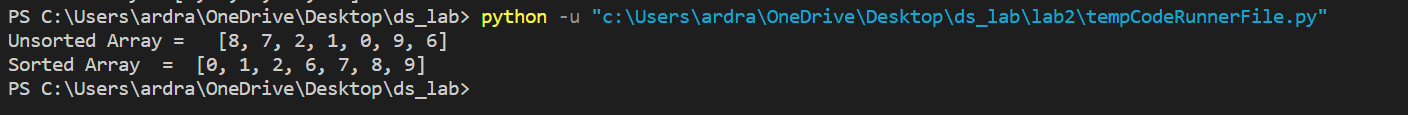
    quickSort(array, pi + 1, high)

data = [8, 7, 2, 1, 0, 9, 6]

print("Unsorted Array =  " , data)

quickSort(data, 0, len(data) - 1)

print('Sorted Array  = ', data)

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