

LAB#24

Example#1: Write a program to sort an unsorted array by using “insertion sort” algorithm.

```
1  from array import array
2
3  def insertion_sort(arr):
4
5      for i in range(1, len(arr)):
6          key = arr[i]
7          j = i - 1
8
9
10         while j >= 0 and key < arr[j]:
11             arr[j + 1] = arr[j]
12             j -= 1
13         arr[j + 1] = key
14
15
16  a1 = array('i', [23, 56, 12, 14, 5])
17
18  insertion_sort(a1)
19
20  for x in a1:
21      print(x, end=' ')
```

Result:

```
5 12 14 23 56
```

Class Assignment

Q: Write a complete explanation of the above code(Example#1 lab#24).