145. Write code for Insertion Sort that manages arrays with duplicate elements during the sorting process. Ensure the algorithm's behavior when encountering duplicate values, including whether it preserves the relative order of duplicates and how it affects the overall sorting outcome.

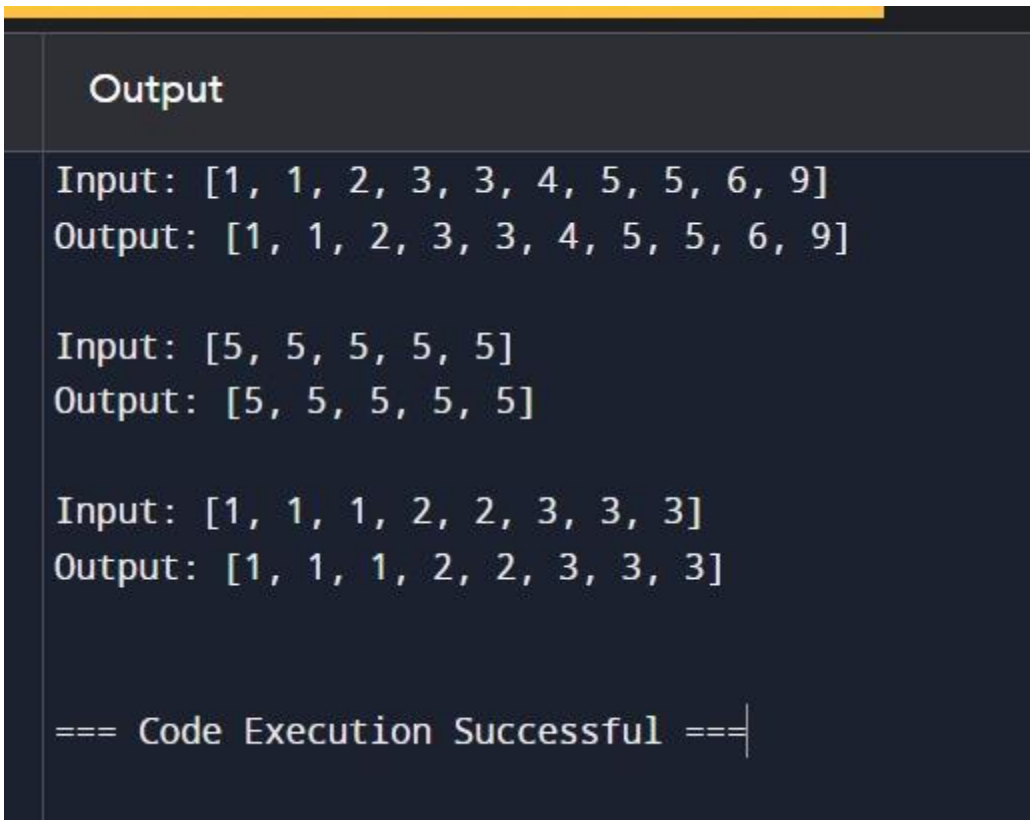
Program:-

```
def insertion_sort(arr):
    for i in range(1, len(arr)):
        key = arr[i]
        j = i - 1
        while j >= 0 and key < arr[j]:
            arr[j + 1] = arr[j]
            j -= 1
        arr[j + 1] = key
    return arr
```

input:-

```
test_cases = [ [3, 1, 4, 1, 5, 9, 2, 6, 5, 3], [5, 5, 5, 5, 5],   [2, 3, 1, 3, 2, 1, 1, 3]]
```

output:-



Time complexity:-O(n)