

# Q5 Explanation

## **What is a stable sorting algorithm?**

An algorithm that maintains the relative order of items with equal keys / values.

## **Is Insertion Sort a stable algorithm?**

Yes

## **What is insertion sort space and time complexity?**

Time: Worst Case  $O(n^2)$

Best Case  $O(n)$

Space:  $O(1)$

## **What is the sorting mechanism?**

It works like the way you sort playing cards in your hands. The array is virtually split into a sorted and an unsorted part. Values from the unsorted part are picked and placed at the correct position in the sorted part.