Insertion sort

The mechanism:

- The array of values to be sorted is divided into two sets. One that stores sorted values and

another that contains unsorted values.

- The sorting algorithm will proceed until there are elements in the unsorted set.
- Suppose there are n elements in the array. Initially, the element with index 0 (assuming LB =

0) is in the sorted set. Rest of the elements are in the unsorted set.

- The first element of the unsorted partition has array index 1 (if LB = 0).
- During each iteration of the algorithm, the first element in the unsorted set is picked up and

inserted into the correct position in the sorted set.

Time & space complexity

Time: o(n^2)

Space:O(1)

Stable sorting algoritm:

A sorting algorithm is said to be stable if two objects with equal keys appear in the same order in sorted output as they appear in the input data set

Therefore the **insertion sort** mechanism is **stable**.