

# Data Structure & Algorithm

Class X lab 9

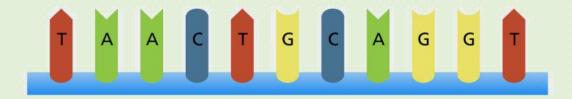




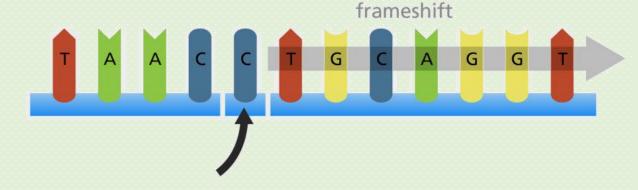
### **Insertion Sort**

an in-place comparison-based sorting algorithm

#### Original sequence



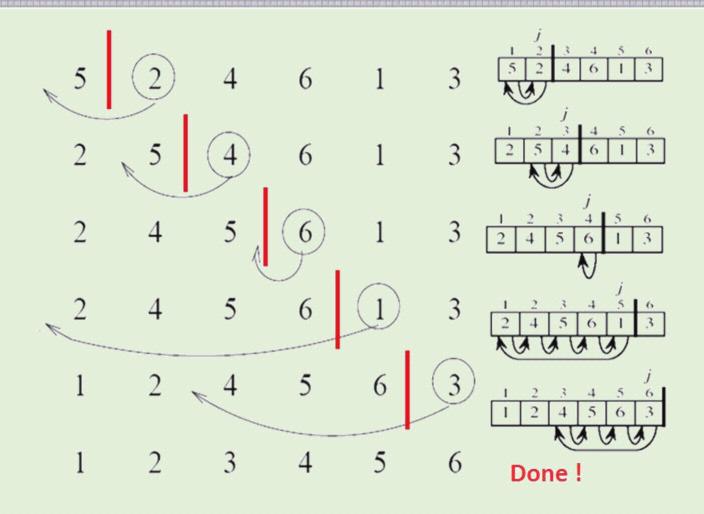
#### Insertion







## Example 1

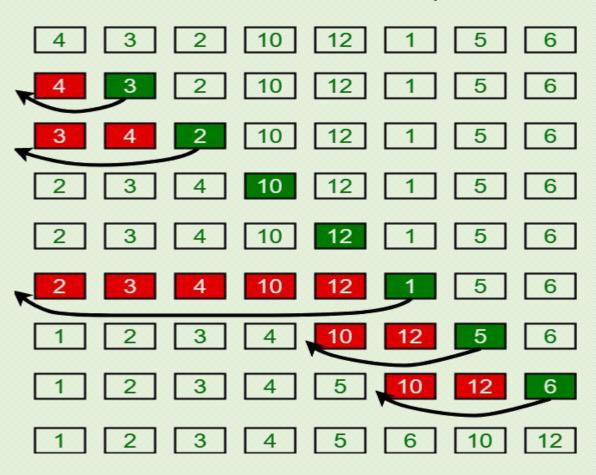






## Example 2

#### Insertion Sort Execution Example







## Algorithm

**Step 1** – If it is the first element, it is already sorted. return1;

**Step 2** – Pick next element

**Step 3** — Compare with all elements in the sorted sub-list

**Step 4** – Shift all the elements in the sorted sub-list that is greater than the value to be sorted

**Step 5** – Insert the value

Step 6 - Repeat until list is sorted











