INSERT UNSORTED

Insert Unsorted ( ):

Description: Here **A** is a sorted linear array with **N** elements. **LOC** is the location where **ITEM** is to be inserted.

```
1.   Set I = N                              [Initialize counter]
2.   Repeat While (I >= LOC)
3.        Set A[I+1] = A[I]                 [Move elements downward]
4.        Set I = I - 1                     [Decrease counter by 1]
     [End of While Loop]
5.   Set A[LOC] = ITEM                      [Insert element]
6.   Set N = N + 1                          [Reset N]
7.   Exit
```

Explanation: Here A is an unsorted array stored in memory with N elements. This algorithm inserts a data element ITEM into the loc^{th} position in an array A. The first four steps create space in A by moving downward the elements of A. These elements are moved in reverse order i.e. first A[N], then A[N−1], A[N−2]..... and last A[LOC], otherwise data will be overwritten. We first set I=N and then, using I as a counter, decrease it each time the loop is executed until I reaches LOC. In the next step, Step 5, it inserts ITEM into the array in the space just created. And at last, the total number of elements N is increased by 1.