Algorithm1:

Algorithm for inserting One element into an empty array

Note: The element can be easily inserted into an empty array.

INSERT [A, N, ITEM]

(A = Linear array, ITEM= The element to insert)

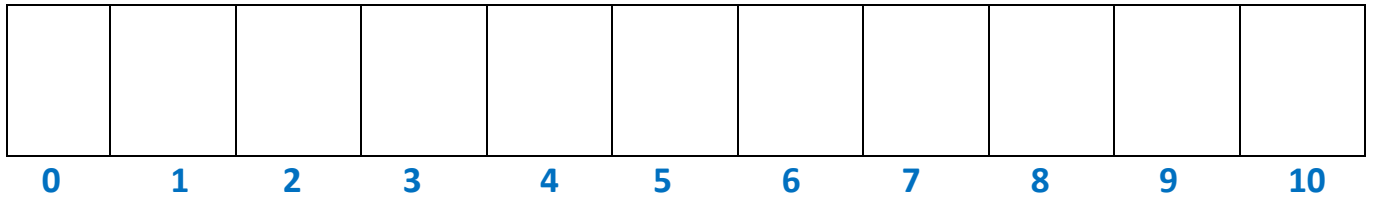
Step1: [insert element] A[0]=ITEM

STEP 2: EXIT

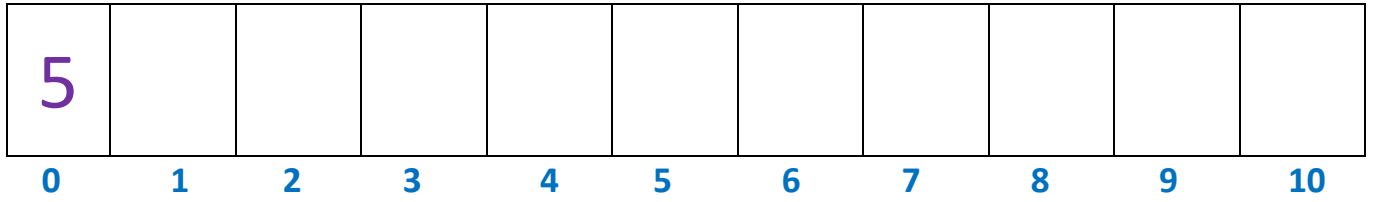
Example:

Item=5

Initial Stage



After step 1:



Algorithm 2:

Algorithm for inserting More elements into an empty array

INSERT [A, N, ITEM]

(A = Linear array, N= Number of elemnts to insert, ITEM= The element to insert)

Step1: [initialize counter c] Set c=0

Step 2: [Loop] Repeat step 3 while c<N

Step 3: [insert element] A[c]=ITEM,c=c+1

Step 4:Exit

Algorithm 3:

Algorithm for inserting one element into an occupied array

INSERT [A, N, ITEM]

(A = Linear array, N= Number of elemnts in the array , ITEM= The element to insert)

Step1: [insert element] A[N]=ITEM

STEP 2: EXIT

Algorithm 4:

Algorithm for inserting more elements into an occupied array

INSERT [A, N, ITEM,S]

(A = Linear array, N= Number of elemnts in the array, ITEM= The element to insert, S= number of elements to insert)

Step1: [initialize counter c] Set c=0

Step 2: [Loop] Repeat step 3 while c<S

Step 3: [insert element] A[N]=ITEM,c=c+1

Step 4:Exit

Algorithm 5:

Algorithm for inserting One element into a specific position of an ocuupied array

INSERT [A, N, ITEM,Pos]

(A = Linear array, N= Number of elemnts in the array, ITEM= The element to insert, pos=position of the elemnt to insert)

Note : we have to shift the elements

Step1: [initialize counter c] Set c=N

Step 2: [Loop] Repeat step 3 while c>=pos

Step 3: [shift element to right, and increment counter] A[c]=A[c-1],c=c-1

Step 4:[insert element, and increment size of the array] A[pos-1]=item,N=N+1

Step 4:Exit

Algorithm 6:

Algorithm for Deleting One element from last of an ocuupied array

DELETE [A, N, ITEM]

(A = Linear array, N= Number of elemnts in the array, ITEM= is a variable to store the deleted item)

Step1: [Assign the element] item =A[N-1]

Step 2: [Decrement size] N=N-1

Step 4:Exit

Algorithm 7:

Algorithm for Deleting One element from a specific position of an occupied array

DELETE [A, N, ITEM,Pos]

(A = Linear array, N= Number of elemnts in the array, ITEM= is a variable to store the deleted item)

Step1:[initialize counter, and assign deleted element to ITEM]

set c=pos-1, ITEM=A[pos-1]

Step 2:repeat step 3 while c<N-1

Step 3:A[c]=A[c+1],c=c+1

Step 4:N=N-1

Step 4:Exit