Insertion after given index of an array:-

In this type of insertion, we have given a location (index), after which a new data element has to be inserted. Only the seek process varies, rest of the activities are same as in previous example.

Algorithm → Let us consider A is an array with N elements. MAX is the maximum number of element it can store is defined.

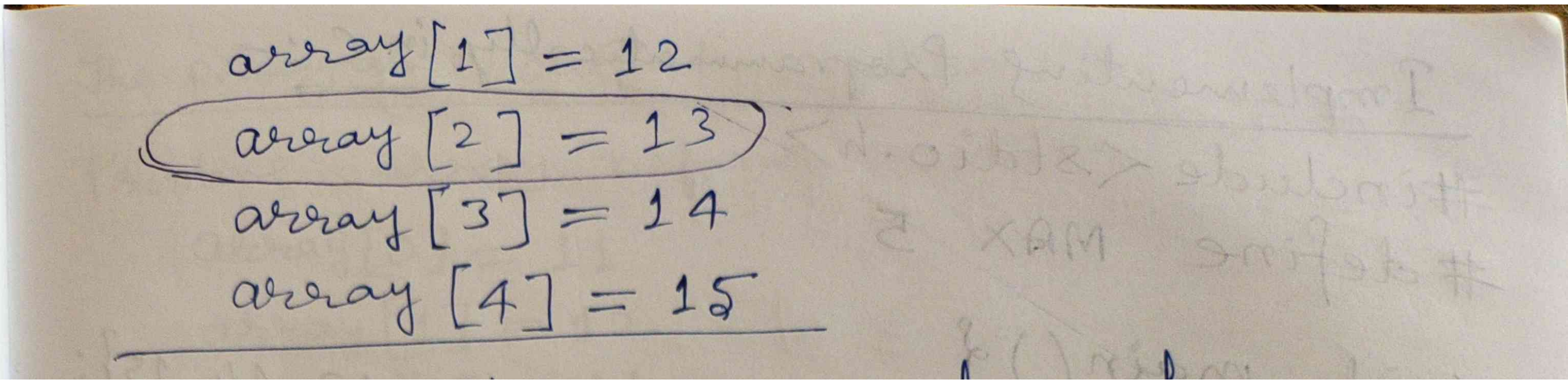
```
Begin
  If N = MAX, return
  ELSE
        N = N + 1
        Seek Location index
        For all elements from A[index+1] to A[N]
            Move to next adjacent location
        A[index + 1] = New_Element
End
```

Implementing Programmatically in C:-

```
#include<stdio.h>
#define MAX 5
void main(){
      int array[MAX] = {10, 12, 14, 15};
      int N=4; //Numbers of elements in array
      int i=0; //loop variable
      int index=1; //index location after which
                    //value will be inserted
      int value=13; //new value to be inserted
printf("Printing array before insertion:\n");
for(i=0 ;  i< N ;  i++){
   printf("array[%d] = %d \n", i, array[i]);
  }
for(i=N;   i>= index+1;  i--){
   array[i+1] = array[i];
    }
   array[index +1] = value;
   N++;
 printf("Printing array after insertion:\n");
   for(i=0;   i<N ;  i++){
  printf("array[%d] = %d \n", i, array[i]);
    }
getch();
}
```

Output of the program is as follows:—

```
 Printing array before insertion:
  array[0] = 10
  array[1] = 12
  array[2] = 14
  array[3] = 15
Printing array after insertion:
      array[0] = 10
```



array[1] = 12

array[2] = 13

array[3] = 14

array[4] = 15