Program 01

Write a program to implement for the Array operations.

Input

```
#include <stdio.h>

#define MAX_SIZE 100
int main() {
   int arr[MAX_SIZE];
   int n, i, pos, value;

   printf("Enter the number of elements in the array (max %d): ",
MAX_SIZE);
   scanf("%d", &n);


   printf("Enter the elements of the array:\n");
   for (i = 0; i < n; i++) {
      printf("arr[%d] = ", i);
      scanf("%d", &arr[i]);
   }


   printf("The array is: ");
   for (i = 0; i < n; i++) {
      printf("%d ", arr[i]);
   }
   printf("\n");


   printf("Enter the position where you want to insert an element (0-
%d): ", n);
   scanf("%d", &pos);
   printf("Enter the value of the element to insert: ");
   scanf("%d", &value);

   if (pos < 0 || pos > n) {
      printf("Invalid position!\n");
   } else {
      for (i = n - 1; i >= pos; i--) {
         arr[i+1] = arr[i];
      }
      arr[pos] = value;
      n++;
      printf("Element inserted successfully.\n");
   }


   printf("The array is now: ");
   for (i = 0; i < n; i++) {
      printf("%d ", arr[i]);
   }
   printf("\n");


   printf("Enter the position where you want to delete an element (0-
%d): ", n-1);
   scanf("%d", &pos);

   if (pos < 0 || pos >= n) {
      printf("Invalid position!\n");
   } else {
      for (i = pos; i < n-1; i++) {
         arr[i] = arr[i+1];
      }
      n--;
      printf("Element deleted successfully.\n");
   }


   printf("The array is now: ");
   for (i = 0; i < n; i++) {
      printf("%d ", arr[i]);
   }
   printf("\n");

   return 0;
}
```

Output

```
Enter the number of elements in the array (max 100): 5
Enter the elements of the array:
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
The array is: 1 2 3 4 5
Enter the position where you want to insert an element (0-5): 3
Enter the value of the element to insert: 5
Element inserted successfully.
The array is now: 1 2 3 5 4 5
Enter the position where you want to delete an element (0-5): 2
Element deleted successfully.
The array is now: 1 2 5 4 5
```