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| **Program 01** | |
| Write a program to implement for the Array operations. | |
| **Input** | **Output** |
| #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;  } | 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 |