

Aim:

To implement basic array operations like **Insertion, Deletion, and Display**.

Algorithm:

1. Start
2. Initialize an empty array with size = 10.
3. Provide a menu to perform operations:
 - **Insert:** Add an element at the end.
 - **Delete:** Remove element from given position.
 - **Display:** Print all elements.
4. Repeat until user exits.
5. Stop.

CODE:

```
#include <stdio.h>
#define SIZE 10

int main() {
    int arr[SIZE], n = 0, choice, pos, val;

    while (1) {
        printf("\n1.Insert 2.Delete 3.Display 4.Exit\n");
        printf("Enter choice: ");
        scanf("%d", &choice);
        if (choice == 1) { // Insert
```

```

    if (n == SIZE)
        printf("Array is full!\n");
    else {
        printf("Enter element: ");
        scanf("%d", &val);
        arr[n++] = val;
    }
}
else if (choice == 2) { // Delete
    if (n == 0)
        printf("Array is empty!\n");
    else {
        printf("Enter position (0-%d): ", n-1);
        scanf("%d", &pos);
        if (pos < 0 || pos >= n)
            printf("Invalid position!\n");
        else {
            for (int i = pos; i < n-1; i++)
                arr[i] = arr[i+1];
            n--;
        }
    }
}
else if (choice == 3) { // Display
    if (n == 0)
        printf("Array is empty!\n");
    else {
        printf("Array: ");
        for (int i = 0; i < n; i++)
            printf("%d ", arr[i]);
        printf("\n");
    }
}
else if (choice == 4) // Exit
    break;
else
    printf("Invalid choice!\n");
}
return 0;
}

```

Output

```
1.Insert  2.Delete  3.Display  4.Exit
Enter choice: 1
Enter element: 10

1.Insert  2.Delete  3.Display  4.Exit
Enter choice: 1
Enter element: 20

1.Insert  2.Delete  3.Display  4.Exit
Enter choice: 2
Enter position (0-1): 1

1.Insert  2.Delete  3.Display  4.Exit
Enter choice: 3
Array: 10

1.Insert  2.Delete  3.Display  4.Exit
Enter choice: 4

=== Code Execution Successful ===
```

OUTPUT:

RESULT:

The program successfully executed and displayed the array operations like Insertion, Deletion, and Display.