Aim

To write a C program to insert, delete, and display elements in an array.

Algorithm

1. Start program.

2. Create an array and take initial size.

3. Display menu: Insert, Delete, Display, Exit.

4. Perform chosen operation using switch-case.

5. Repeat until exit.

Code

```c
#include <stdio.h>

int main() {
    int arr[100], n, i, pos, val, choice;
    printf("Enter size of array: ");
    scanf("%d", &n);
    printf("Enter elements:\n");
    for (i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    do {
        printf("\n1. Insert\n2. Delete\n3. Display\n4. Exit\nEnter choice: ");
        scanf("%d", &choice);
        switch(choice) {
            case 1:
                printf("Enter position and value: ");
                scanf("%d %d", &pos, &val);
```

```c
            for (i = n; i >= pos; i--)
                arr[i] = arr[i-1];
            arr[pos-1] = val;
            n++;
            break;
        case 2:
            printf("Enter position to delete: ");
            scanf("%d", &pos);
            for (i = pos-1; i < n-1; i++)
                arr[i] = arr[i+1];
            n--;
            break;
        case 3:
            printf("Array: ");
            for (i = 0; i < n; i++)
                printf("%d ", arr[i]);
            printf("\n");
            break;
        }
    } while(choice != 4);

    return 0;
}
```

Sample Output

```
Enter size of array: 4
Enter elements:
1 2 3 4

1. Insert
2. Delete
3. Display
4. Exit
Enter choice: 2
Enter position to delete: 2
```

Result

Performs insertion, deletion, and display operations on arrays.