

## Experiment 7: Array Operations

Aim:

To implement array operations such as insert, delete and display.

Algorithm:

1. Start.
2. Initialize array.
3. Use menu-driven program:
  - Insert element.
  - Delete element.
  - Display array.
4. Repeat until exit.
5. Stop.

Code:

```
#include <stdio.h>

int main() {
    int arr[100], n = 0, choice, pos, val, i;
    while(1) {
        printf("\nMenu:\n1. Insert\n2. Delete\n3. Display\n4. Exit\n");
        printf("Enter choice: ");
        scanf("%d", &choice);
        switch(choice) {
            case 1:
                printf("Enter position and value: ");
                scanf("%d %d", &pos, &val);
                if(pos > n+1 || pos < 1) {
                    printf("Invalid position!\n");
                } else {
```

```
    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);  
if(pos > n || pos < 1) {  
    printf("Invalid position!\n");  
} else {  
    for(i = pos-1; i < n-1; i++)  
        arr[i] = arr[i+1];  
    n--;  
}  
break;
```

case 3:

```
printf("Array elements: ");  
for(i = 0; i < n; i++)  
    printf("%d ", arr[i]);  
printf("\n");  
break;
```

case 4:

```
return 0;
```

```
        default:
            printf("Invalid choice!\n");
        }
    }
}
```

Sample Output:

```
Menu:
1. Insert
2. Delete
3. Display
4. Exit
Enter choice: 1
Enter position and value: 1
2

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

Menu:
1. Insert
2. Delete
3. Display
4. Exit
Enter choice: 3
Array elements:
```

Result:

The program implements insertion, deletion, and display in arrays.