

```
//Add,Delete,Search One Dimentional Array
```

```
#include <iostream>
```

```
using namespace std;
```

```
void displayArray(int arr[], int size) {
```

```
    for (int i = 0; i < size; i++) {
```

```
        cout << arr[i] << " ";
```

```
    }
```

```
    cout << endl;
```

```
}
```

```
// Function to add an element to the array
```

```
int addElement(int arr[], int size, int element, int capacity)
```

```
{
```

```
    if (size >= capacity) {
```

```
        cout << "Array is full, cannot add more elements!" <<  
endl;
```

```
        return size;
```

```
    }
```

```
    arr[size] = element; // Adding element at the end of the  
array
```

```
    return size + 1; // Increasing the size of the array
```

```
}
```

```
// Function to delete an element from the array
int deleteElement(int arr[], int size, int element) {
    int pos = -1;
    // Searching for the element's position
    for (int i = 0; i < size; i++) {
        if (arr[i] == element) {
            pos = i;
            break;
        }
    }

    if (pos == -1) {
        cout << "Element not found in the array!" << endl;
        return size;
    }

    // Shifting elements to the left to delete the element
    for (int i = pos; i < size - 1; i++) {
        arr[i] = arr[i + 1];
    }
    return size - 1; // Decreasing the size of the array
}
```

```
// Function to search for an element in the array
bool searchElement(int arr[], int size, int element) {
    for (int i = 0; i < size; i++) {
        if (arr[i] == element) {
            return true; // Element found
        }
    }
    return false; // Element not found
}

int main() {
    int arr[10]; // Array of size 10
    int size = 0; // Initial size of the array
    int capacity = 10; // Capacity of the array

    // Adding elements to the array
    size = addElement(arr, size, 10, capacity);
    size = addElement(arr, size, 20, capacity);
    size = addElement(arr, size, 30, capacity);
    size = addElement(arr, size, 40, capacity);
```

```
cout << "Array after adding elements: ";  
displayArray(arr, size);
```

```
// Deleting an element from the array
```

```
size = deleteElement(arr, size, 20);  
cout << "Array after deleting element 20: ";  
displayArray(arr, size);
```

```
// Searching for an element
```

```
int searchFor = 30;  
if (searchElement(arr, size, searchFor)) {  
    cout << "Element " << searchFor << " found in the  
array." << endl;  
} else {  
    cout << "Element " << searchFor << " not found in the  
array." << endl;  
}  
return 0;}
```