PROBLEM: 1. Write a C++ program to delete an array element using its index number.

CODE:

delete_an_array_element_using_its_index_number.cpp > main()

```cpp
#include<iostream>
using namespace std;

int main() {
    int n,x;

    cout << "Enter array size:" ;
    cin >> n;

    int arr[n];

    cout << "Enter array elements:" ;
    for(int i=0; i<n ; i++){
        cin >> arr[i] ;
    }

    cout << "Enter the index number in array you wont to delete:" ;
    cin >> x;

    for(int i=x; i<n ; i++){
        if(x>=n) cout << "index out of bound" << endl; break;
        arr[i]=arr[i+1];
    }

    cout << "Array after delete index:" ;
    for(int i=0; i<n-1 ; i++){
        cout << arr[i] << " " ;
    }

    return 0;
}
```

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Active code page: 65001
C:\Users\NoBody\Desktop\3rs Lab 10022025>cd "c:\Users\NoBody\Desktop\3rs Lab 10022025\output"

c:\Users\NoBody\Desktop\3rs Lab 10022025\output>.\"delete_an_array_element_using_its_index_number.exe"
Enter array size:8
Enter array elements:1 4 7 5 8 9 6 3
Enter the index number in array you wont to delete:5
Array after delete index:1 4 7 5 8 9 6
c:\Users\NoBody\Desktop\3rs Lab 10022025\output>
```

PROBLEM: 2. Write a C++ program to delete an array element by its value using linear search.

CODE:

C: > Users > NoBody > Desktop > 3rs Lab 10022025 > delete_an_array_elem

```cpp
#include<iostream>
using namespace std;

int main() {
    int n,x;

    cout << "Enter array size:" ;
    cin >> n;

    int arr[n];

    cout << "Enter array elements:" ;
    for(int i=0; i<n ; i++){
        cin >> arr[i] ;
    }

    cout << "Enter element in array you wont to delete:" ;
    cin >> x;

    for(int i=0; i<n ; i++){
        if(arr[i]==x){
        arr[i]=arr[i+1];
        }
    }

    cout << "Array after deleting element:" ;
    for(int i=0; i<n-1 ; i++){
        cout << arr[i] << " " ;
    }

    return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
ng_linear_search.cpp -o delete_an_array_element_by_its_value_using_linear_sear
ch && "c:\Usersng_linear_search.cpp -o delete_an_array_element_by_its_value_us
ing_linear_search && "c:\Ung_linear_search.cpp -o delete_an_array_element_bng_
ng_linear_search.cpp -o delete_an_array_element_by_its_value_using_linear_sear
ch && "c:\Users\NoBody\Desktop\3rs Lab 10022025\"delete_an_array_element_by_it
s_value_using_linear_search
Enter array size:7
Enter array elements:1 5 8 6 7 9 4
Enter element in array you wont to delete:8
Array after deleting element:1 5 6 6 7 9
c:\Users\NoBody\Desktop\3rs Lab 10022025>
```

PROBLEM: 3. Write a C++ program to perform a binary search on an array.
CODE:

perform_a_binary_search_on_an_array.cpp > ...

```cpp
#include<iostream>
using namespace std;

int main() {
    int size,elem;

    cout << "Enter array size:" ;
    cin >> size;

    int arr[size];

    cout << "Enter array elements:" ;
    for(int i=0; i<size ; i++){
        cin >> arr[i] ;
    }

    cout << "Enter the element in array you wont to search:" ;
    cin >> elem;

    for(int i=0; i<size ; i++){
        if(elem==arr[i]) cout << elem << " is found in index [" << i << "] " << endl;
    }

    return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Active code page: 65001

C:\Users\NoBody\Desktop\3rs Lab 10022025>cd "c:\Users\NoBody\Desktop\3rs Lab 10022025\output"

c:\Users\NoBody\Desktop\3rs Lab 10022025\output>.\"perform_a_binary_search_on_an_array.exe"
Enter array size:10
Enter array elements:1 5 74 6 9 3 1 5 6 8
Enter the element in array you wont to search:6
6 is found in index [3]
6 is found in index [8]

c:\Users\NoBody\Desktop\3rs Lab 10022025\output>
```