

MUHAMMAD SARMA CHUGHTAI

54915 CS3-1

DATA STRUCTURE

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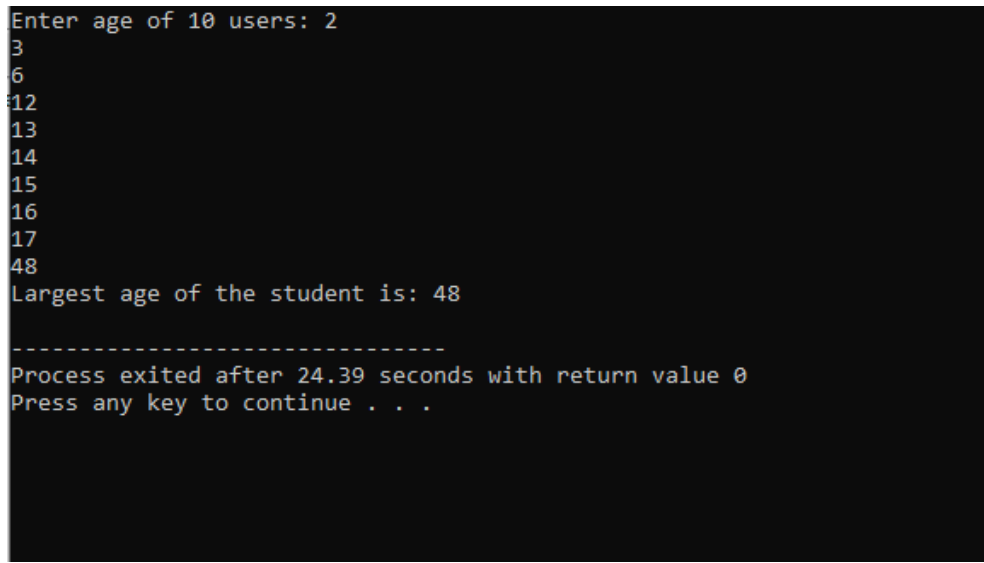
Lab Task 02

Question no 1:

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

int main() {
    int a[10];
    cout << "Enter age of 10 users: ";
    for (int i = 0; i < 10; i++) {
        cin >> a[i];
    }
    int max_age = a[0];
    for (int i = 1; i < 10; i++) {
        if (a[i] > max_age) {
            max_age = a[i];
        }
    }
    cout << "Largest age of the student is: " << max_age << endl;
    return 0;
}end main
```

Output



```
Enter age of 10 users: 2
3
6
12
13
14
15
16
17
48
Largest age of the student is: 48
-----
Process exited after 24.39 seconds with return value 0
Press any key to continue . . .
```

Question no 2:

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

int main() {
    int size;
    cout << "Enter the size of the arrays: ";
    cin >> size;

    int* arr1 = new int[size];
    int* arr2 = new int[size];
    int* arr3 = new int[size];
    int* sum_arr = new int[size];

    cout << "Enter elements for the first array: ";
    for (int i = 0; i < size; i++) {
        cin >> arr1[i];
    }

    cout << "Enter elements for the second array: ";
    for (int i = 0; i < size; i++) {
        cin >> arr2[i];
    }

    cout << "Enter elements for the third array: ";
    for (int i = 0; i < size; i++) {
        cin >> arr3[i];
    }

    for (int i = 0; i < size; i++) {
        sum_arr[i] = arr1[i] + arr2[i] + arr3[i];
    }

    cout << "Sum array: ";
    for (int i = 0; i < size; i++) {
        cout << sum_arr[i] << " ";
    }
    cout << endl;

    return 0;
}
```

Output

```
Enter the size of the arrays: 2
Enter elements for the first array: 2
2
Enter elements for the second array: 2
2
Enter elements for the third array: 2
2
Sum array: 6 6

-----
Process exited after 35.41 seconds with return value 0
Press any key to continue . . .
```

Question no 3:

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

int main() {
    int size;
    cout << "Enter the size of the array: ";
    cin >> size;

    int* arr = new int[size];

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

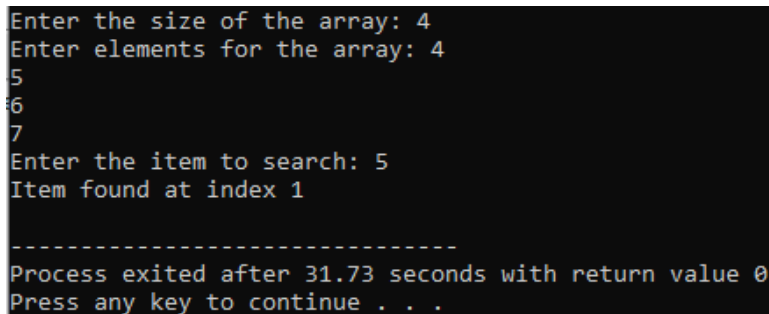
    int item;
    cout << "Enter the item to search: ";
    cin >> item;

    int found = 0;
    for (int i = 0; i < size; i++) {
        if (arr[i] == item) {
            cout << "Item found at index " << i << endl;
            found = 1;
            break;
        }
    }

    if (!found) {
        cout << "Item not found in the array" << endl;
    }

    return 0;
}
```

Output

A screenshot of a terminal window showing the execution of the C++ program. The user enters 4 for the array size, then 5, 6, and 7 for the array elements. Then, the user enters 5 for the item to search. The program outputs "Item found at index 1". At the bottom, it shows "Process exited after 31.73 seconds with return value 0" and "Press any key to continue . . .".

```
Enter the size of the array: 4
Enter elements for the array: 4
5
6
7
Enter the item to search: 5
Item found at index 1

-----
Process exited after 31.73 seconds with return value 0
Press any key to continue . . .
```