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Course : DSA (Lab)

LAB TASK 2

Qno #1

```cpp
#include <iostream>
using namespace std;
int main() {
int age[10];
cout << "Enter the age of 10 students: " << endl;
int largest_Age = 0;
for (int i = 0; i < 10; i++) {
cin >> age[i];
if (age[i] > largest_Age) {
largest_Age = age[i];
}
}
cout << "The largest age is: " << largest_Age << endl;
return 0;
}
```

```
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Enter the age of 10 students:
22
16
17
21
25
20
19
15
14
24
The largest age is: 25

---------------------------------
Process exited after 49.73 seconds with return value 0
Press any key to continue . . .
```

Qno #2

Write down a program in C++ that take an input data from user in three different arrays and then add the arrays and store them in another array. (Through Dynamic array concept).

#include <iostream>

using namespace std;

int main() {

   int n;

   cout << "Enter the size of the arrays: ";

   cin >> n;

   int *arr1 = new int[n];

   int *arr2 = new int[n];

   int *arr3 = new int[n];

   int *sumArr = new int[n];

   cout << "Enter the elements of the first array: ";

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

        cin >> arr1[i];

    }


    cout << "Enter the elements of the second array: ";

    for (int i = 0; i < n; i++) {

        cin >> arr2[i];

    }


    cout << "Enter the elements of the third array: ";

for (int i = 0; i < n; i++) {

cin >> arr3[i];

}

for (int i = 0; i < n; i++) {

sumArr[i] = arr1[i] + arr2[i] + arr3[i];

}

cout << "The sum array is: ";

for (int i = 0; i < n; i++) {

cout << sumArr[i] << " ";

}

cout << endl;

return 0;

}
```

Qno #3

Write a program for linear search using the concept of dynamic array (Note: Program should handle the situation if item is not in the list).

#include <iostream>

using namespace std;

int main() {

　int num;

　int key;

　cout << "Enter the number of elements: ";

　cin >> num;

　int *arr = new int[num];

　cout << "Enter the elements: ";

　for (int i = 0; i < num; i++) {

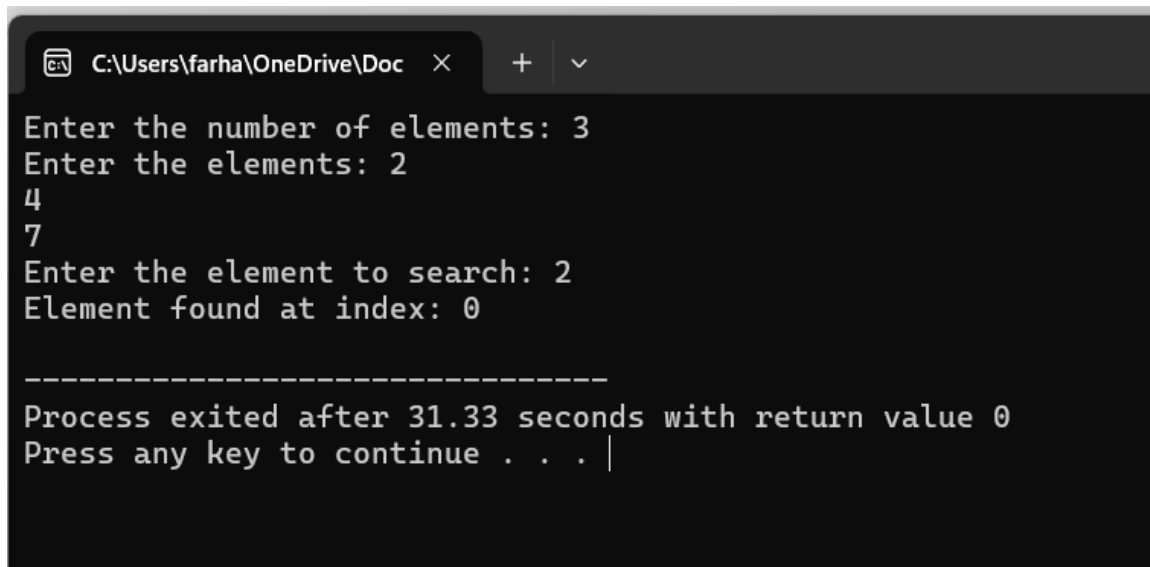　　cin >> arr[i];

　}

　cout << "Enter the element to search: ";

　cin >> key;

　bool found = false;

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

      if (arr[i] == key) {

        cout << "Element found at index: " << i << endl;

        found = true;

        break;

      }

    }

    if (!found) {

      cout << "Element not found in the list." << endl;

  }

  return 0;

}
```

```
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Enter the number of elements: 3
Enter the elements: 2
4
7
Enter the element to search: 2
Element found at index: 0

--------------------------------
Process exited after 31.33 seconds with return value 0
Press any key to continue . . . |
```