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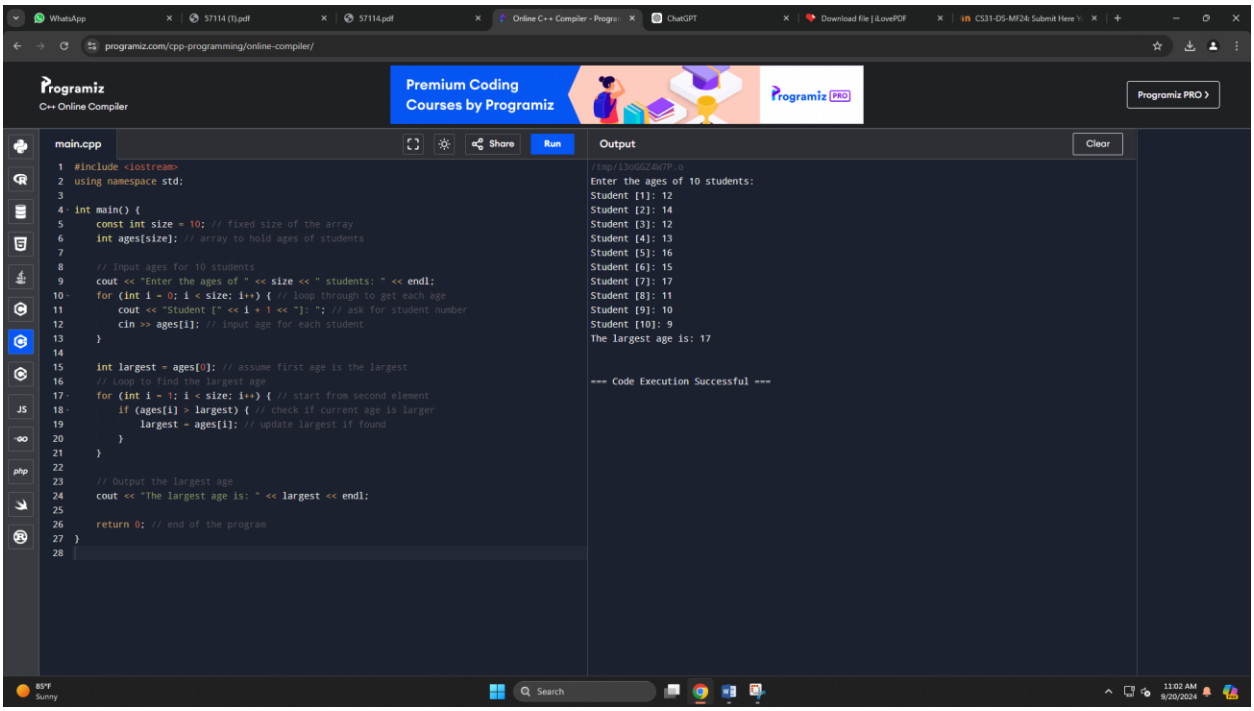
Assignment#1

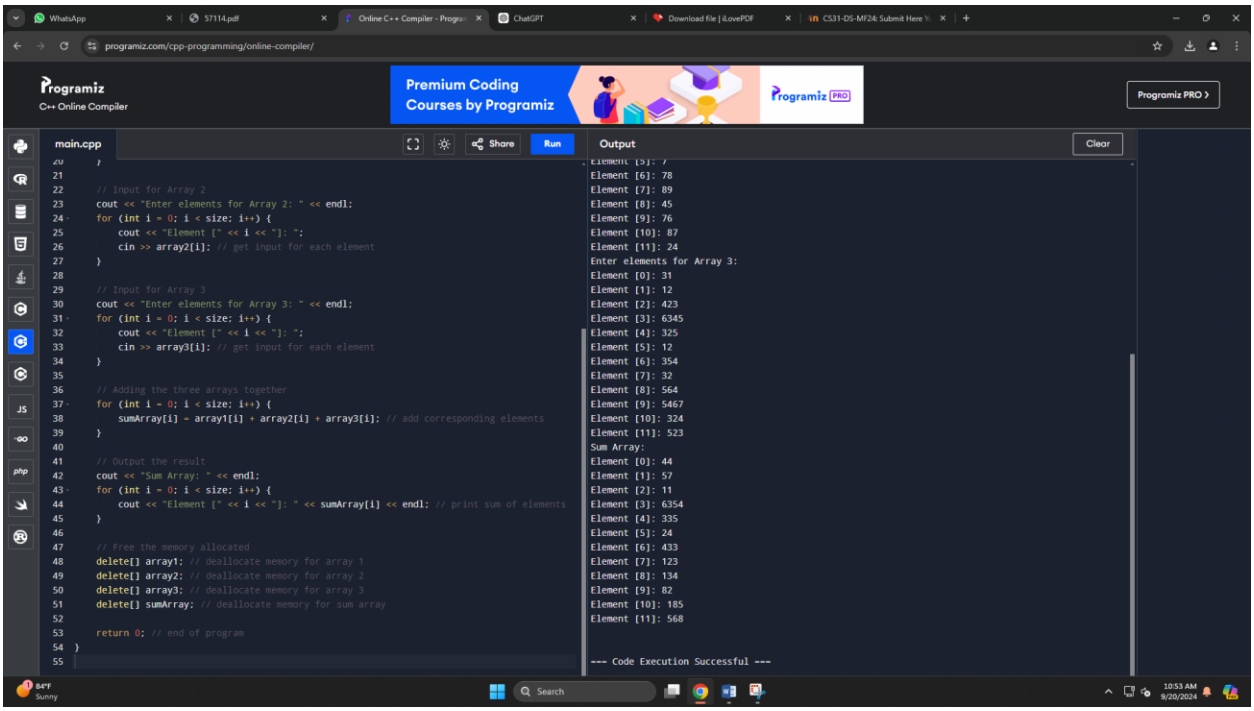
```
//*****Question#1*****

#include <iostream>
using namespace std;

int main() {
   const int size = 10;
   int ages[size];
   cout << "Enter the ages of " << size << " students: " << endl;
   for (int i = 0; i < size; i++) {
      cout << "Student [" << i + 1 << "]: ";
      cin >> ages[i];
   }

   int largest = ages[0];
   for (int i = 1; i < size; i++) {
      if (ages[i] > largest) {
         largest = ages[i];
      }
   }
   cout << "The largest age is: " << largest << endl;

   return 0;
}
```



//*****Question#2*****

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

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

    // Create arrays
    int* array1 = new int[size];
    int* array2 = new int[size];
    int* array3 = new int[size];
    int* sumArray = new int[size];
    cout << "Enter elements for Array 1: " << endl;
    for (int i = 0; i < size; i++) { // loop for size of array
```

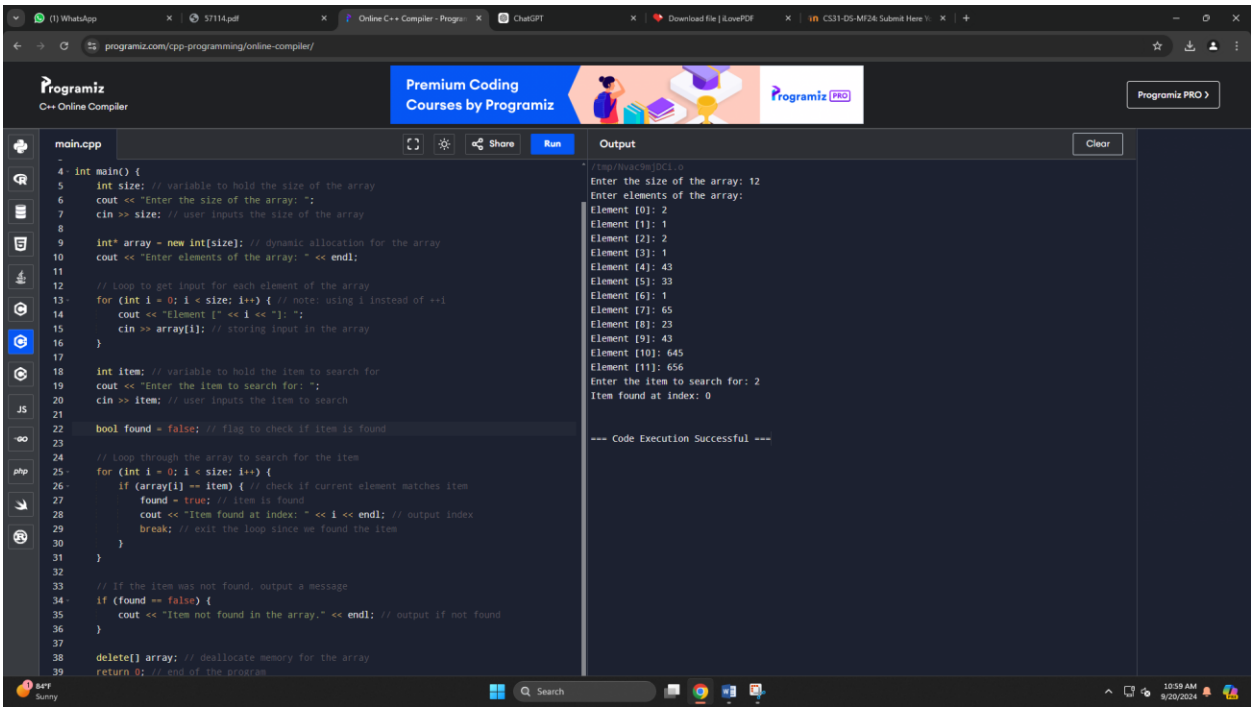
```
    cout << "Element [" << i << "]: ";
    cin >> array1[i];
  }

  cout << "Enter elements for Array 2: " << endl;
  for (int i = 0; i < size; i++) {
    cout << "Element [" << i << "]: ";
    cin >> array2[i];    }

  cout << "Enter elements for Array 3: " << endl;
  for (int i = 0; i < size; i++) {
    cout << "Element [" << i << "]: ";
    cin >> array3[i];
  }
  for (int i = 0; i < size; i++) {
    sumArray[i] = array1[i] + array2[i] + array3[i];
  }


  cout << "Sum Array: " << endl;
  for (int i = 0; i < size; i++) {
    cout << "Element [" << i << "]: " << sumArray[i] << endl;
  }
  delete[] array1;
  delete[] array2;    delete[] array3;
  delete[] sumArray;

  return 0;
}
```



//*****QUESTION#3*****

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

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

    int* array = new int[size];
    cout << "Enter elements of the array: " << endl;
    for (int i = 0; i < size; i++) {
        cout << "Element [" << i << "]: ";
        cin >> array[i];
    }
```

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

    bool found = false;
    for (int i = 0; i < size; i++) {
        if (array[i] == item) {
            found = true; // item is found
            cout << "Item found at index: " << i << endl;
            break;
        }
    }

        if (found == false) {
        cout << "Item not found in the array." << endl; // output if not found
    }

    delete[] array;
    return 0;
}
```




```cpp
int main() {
    int size; // variable to hold the size of the array
    cout << "Enter the size of the array: ";
    cin >> size; // user inputs the size of the array

    int* array = new int[size]; // dynamic allocation for the array
    cout << "Enter elements of the array: " << endl;

    // Loop to get input for each element of the array
    for (int i = 0; i < size; i++) { // note: using i instead of ++i
        cout << "Element [" << i << "]: ";
        cin >> array[i]; // storing input in the array
    }

    int item; // variable to hold the item to search for
    cout << "Enter the item to search for: ";
    cin >> item; // user inputs the item to search

    bool found = false; // flag to check if item is found

    // Loop through the array to search for the item
    for (int i = 0; i < size; i++) {
        if (array[i] == item) { // check if current element matches item
            found = true; // item is found
            cout << "Item found at index: " << i << endl; // output index
            break; // exit the loop since we found the item
        }
    }

    // If the item was not found, output a message
    if (found == false) {
        cout << "Item not found in the array." << endl; // output if not found
    }

    delete[] array; // deallocate memory for the array
    return 0; // end of the program
```