Compiler Construction

CSC-323

Lab Journal 1

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Lab # 1: Refresh C/C++ Programming

Objectives:

To learn how to implement the Simulation of Compiler modules.

Tools Used:

- DevC++

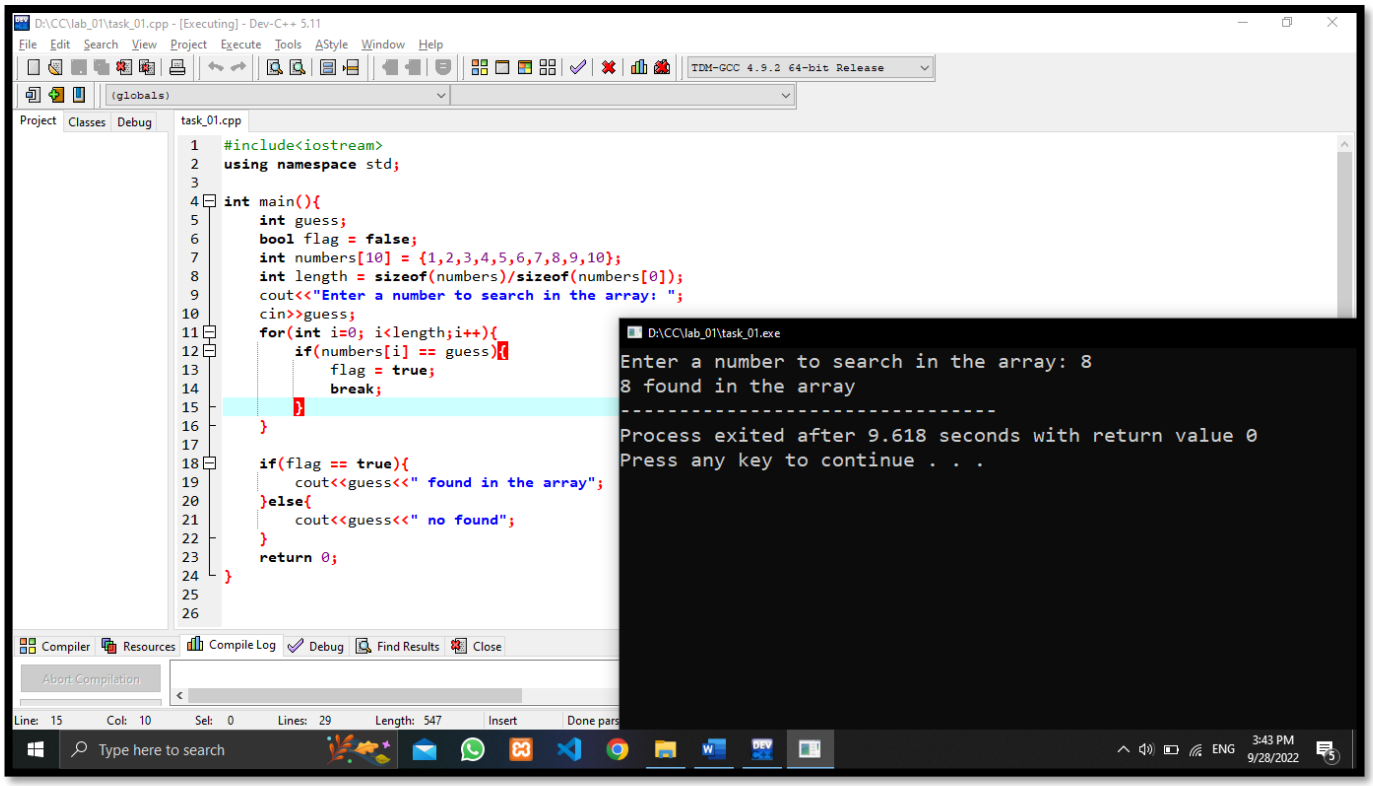
Submission Date: Wednesday, September 28, 2022

Evaluation: **Signatures of Lab Engineer:**

Task # 1:

Write a program that initializes an array. It inputs a value from the user and searches the number in the array.

Program/Procedure:



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

int main(){
    int guess;
    bool flag = false;
    int numbers[10] = {1,2,3,4,5,6,7,8,9,10};
    int length = sizeof(numbers)/sizeof(numbers[0]);
    cout<<"Enter a number to search in the array: ";
    cin>>guess;
    for(int i=0; i<length;i++){
        if(numbers[i] == guess){
            flag = true;
            break;
        }
    }

    if(flag == true){
        cout<<guess<<" found in the array";
    }else{
        cout<<guess<<" no found";
    }
    return 0;
}
```

```
Enter a number to search in the array: 8
8 found in the array
--------------------------------
Process exited after 9.618 seconds with return value 0
Press any key to continue . . .
```

Analysis:

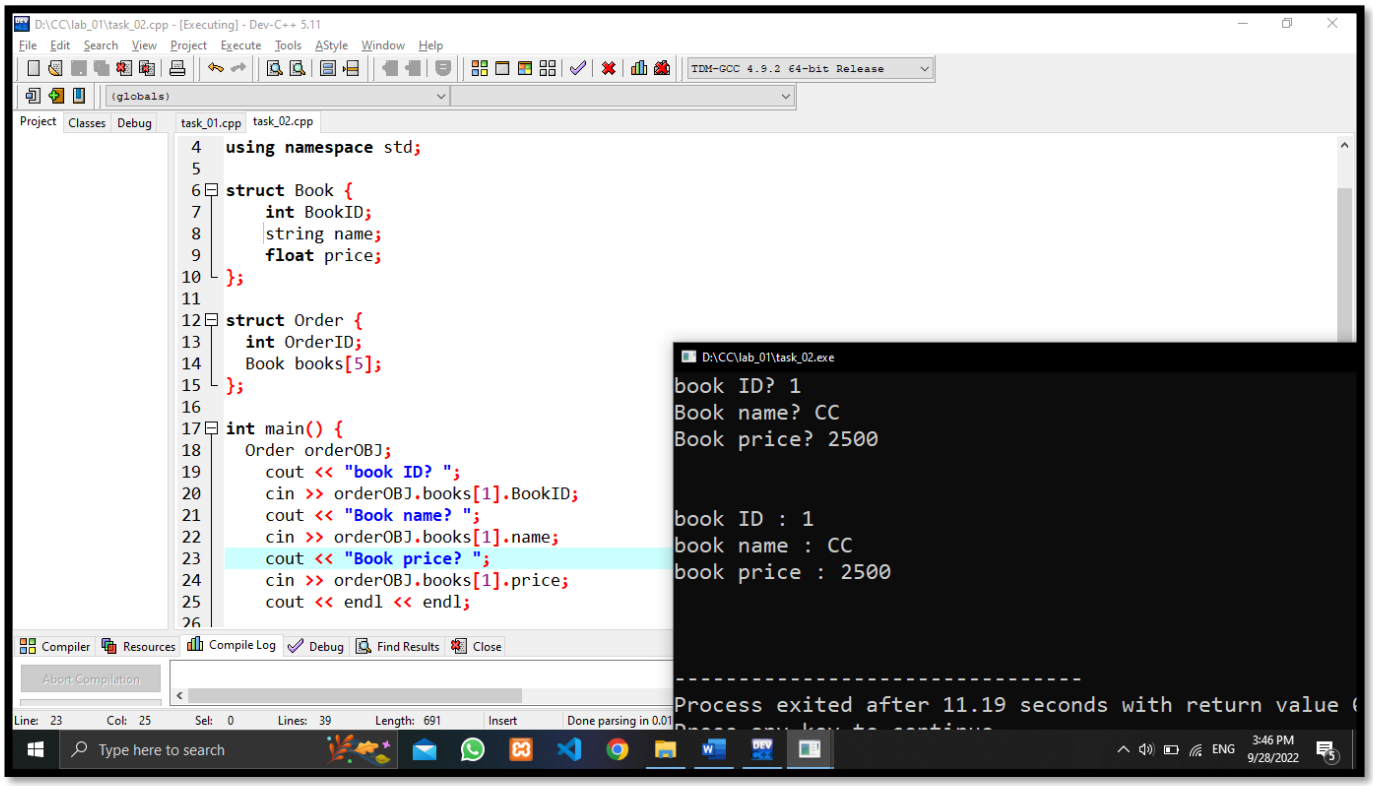
This program takes an input ‘guess’ from the user and search for the guess weather exists in the array

- Array initialization
- User input
- Output based on guess

Task # 2:

Write a program that declares a structure Book to store BookID, book name and price. It declares another structure Order that contains OrderID and an array of Book of length 5. The program should define a variable of type Order and input the values from the user. The program finally displays the values.

Program/Procedure:



Analysis:

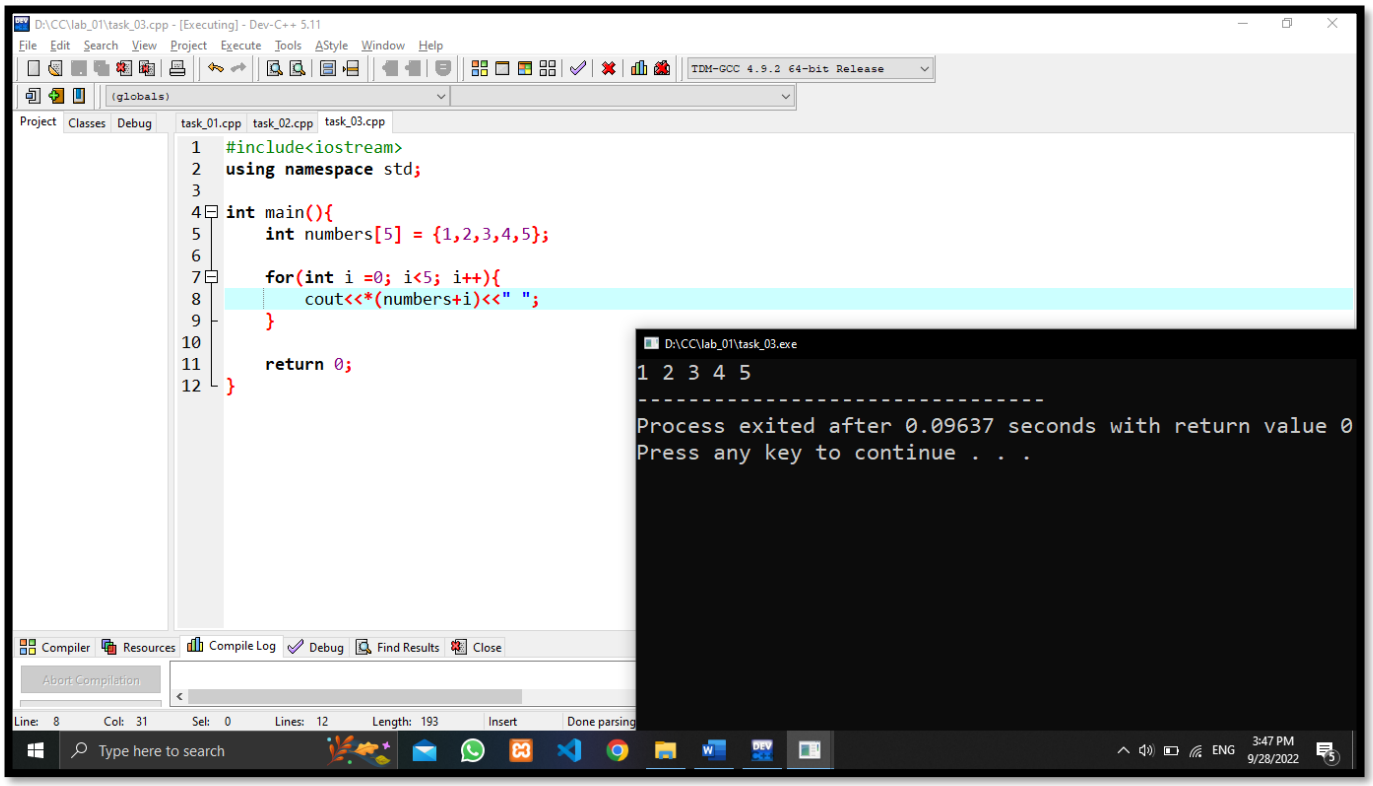
This program initializes BookID, names and OrderID using structs.

- Initialization
- User inputs the OrderID and name
- Output via struct object

Task # 3:

Write a program to input five integers in an array and display them using pointers.

Program/Procedure:



Analysis:

This program returns and array of 5 numbers using pointers.