

**Name: Uqba Gulzar**

**Reg No: 2023-BSE-067**

**Class: BSE-1B**



# Lab Task # 4

## Task#1: Output of the sample code

```
#include<iostream>

using namespace std;

void main() {
    int a, b;

    cout << "enter 1st number ?" << endl;

    cin >> a;

    cout << "enter second number?" << endl;

    cin >> b;

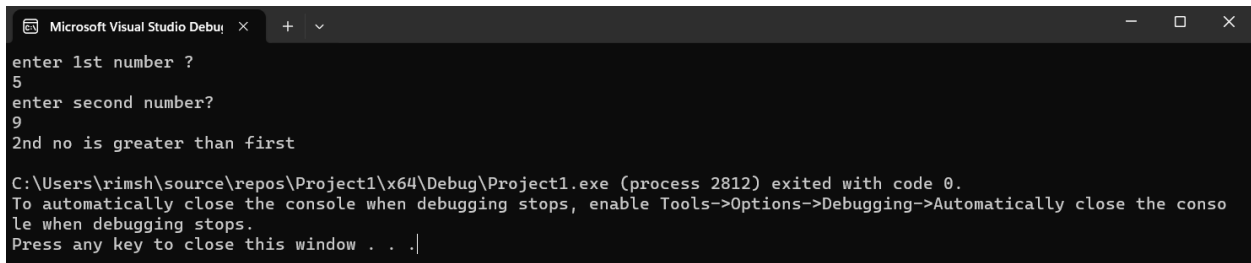
    if (a > b)
    {
        cout << " 1st no is greater than 2nd" << endl;
    }

    else

        cout << "2nd no is greater than first" << endl;

}
```

## **Output:**

A screenshot of a Microsoft Visual Studio Debug console window. The window has a title bar with "Microsoft Visual Studio Debug" and standard window controls. The console output shows a program that prompts for two numbers. The first prompt is "enter 1st number ?" followed by the input "5". The second prompt is "enter second number?" followed by the input "9". The program then outputs "2nd no is greater than first". Below this, a message states: "C:\Users\rishm\source\repos\Project1\x64\Debug\Project1.exe (process 2812) exited with code 0. To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops. Press any key to close this window . . .".

```
Microsoft Visual Studio Debug
enter 1st number ?
5
enter second number?
9
2nd no is greater than first

C:\Users\rishm\source\repos\Project1\x64\Debug\Project1.exe (process 2812) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

**Task#2: Write a program which takes a number from the user and display whether the number is even or odd**

**Sample Output:**

**Enter a number? 5**

**you have entered an odd integer**

```
#include<iostream>
```

```
using namespace std;
```

```
void main() {
```

```
    int a;
```

```
    cout << "Enter a number ? ";
```

```
    cin >> a;
```

```
    if (a % 2 == 0) {
```

```
        cout << "You have entered an even integer" << endl;
```

```
    }
```

```
    else {
```

```
        cout << "You have entered an odd integer" << endl;
```

```
    }
```

```
}
```

**Output:**

```
Microsoft Visual Studio Debug Console
Enter a number ? 5
You have entered an odd integer

C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 32824) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

**Task#3: Write a C++ code which take three inputs from user, your program should display the smallest value (use nested if )**

**Sample Output:**

**Enter 1st value = 10**

**Enter 2nd value = 2**

**Enter 3rd value = 5**

**Smallest number = 2**

```
#include<iostream>
```

```
using namespace std;
```

```
void main() {
```

```
    int n1, n2, n3;
```

```
    cout << "Enter 1st value = ";
```

```
    cin >> n1;
```

```
    cout << "Enter 2nd value = ";
```

```
    cin >> n2;
```

```
    cout << "Enter 3rd value = ";
```

```
    cin >> n3;
```

```
    if (n1<n2) {
```

```
        if (n1 < n3)
```

```
            cout << "Smallest Number = " << n1 << endl;
```

```

    }

    else if (n2 < n3) {

        if (n2 < n1)

            cout << "Smallest Number = " << n2 << endl;

    }

    else {

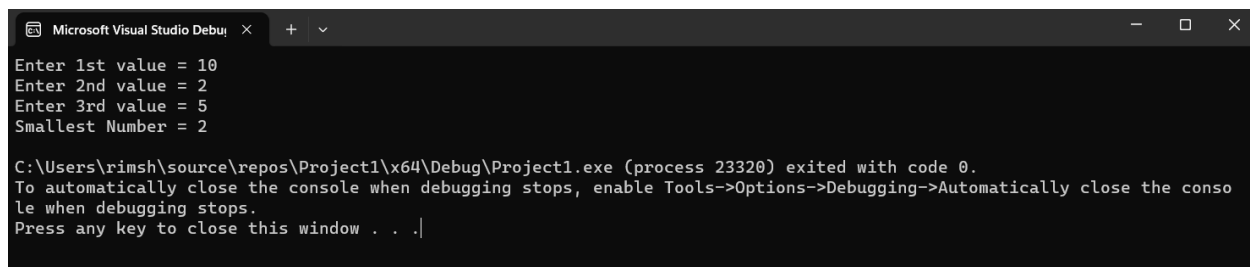
        cout << "Smallest Number = " << n3 << endl;

    }

}

```

### **Output:**



```

Microsoft Visual Studio Debug Console
Enter 1st value = 10
Enter 2nd value = 2
Enter 3rd value = 5
Smallest Number = 2

C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 23320) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .

```

**Task#4: Write a program which take 4 unique inputs from the user and find the largest number from them.**

**(use logical operators for multiple conditions)**

**Sample Output:**

**Enter 1st value? 5**


**Enter 2nd value? 9**

**Enter 3rd value? 10**

**Enter 4th value? 3**

**Largest number = 10**

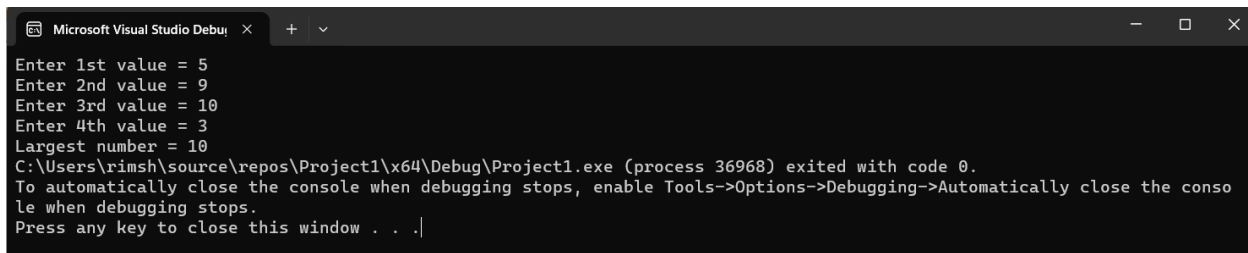
**#include<iostream>**

```
using namespace std;
```

```
void main() {  
    int n1, n2, n3, n4;  
    cout << "Enter 1st value = ";  
    cin >> n1;  
    cout << "Enter 2nd value = ";  
    cin >> n2;  
    cout << "Enter 3rd value = ";  
    cin >> n3;  
    cout << "Enter 4th value = ";  
    cin >> n4;  
    if (n1 >= n2 && n1 >= n3 && n1 >= n4) {  
        cout << "Largest number = " << n1;  
    }  
    else if (n2 >= n1 && n2 >= n3 && n2 >= n4) {  
        cout << "Largest number = " << n2;  
    }  
    else if (n3 >= n1 && n3 >= n2 && n3 >= n4) {  
        cout << "Largest number = " << n3;  
    }  
    else {  
        cout << "Largest number = " << n4;  
    }  
}
```

## Output:

A screenshot of the Microsoft Visual Studio Debug console window. The window title is "Microsoft Visual Studio Debug" with a close button. The console output shows: "Enter 1st value = 5", "Enter 2nd value = 9", "Enter 3rd value = 10", "Enter 4th value = 3", "Largest number = 10", and then a message: "C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 36968) exited with code 0. To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops. Press any key to close this window . . .".

```
Microsoft Visual Studio Debug
Enter 1st value = 5
Enter 2nd value = 9
Enter 3rd value = 10
Enter 4th value = 3
Largest number = 10
C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 36968) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

**Task#5: Create a calculator in C++ which can perform addition, subtraction, multiplication, division. Ask the user to enter the operator first then ask the user to enter first and then second value**

### **Sample Output:**

**Please enter the operator which you want to perform? +**

**please enter first value? 5**

**Please enter second value? 6**

**5+6 =11**

```
#include<iostream>
```

```
using namespace std;
```

```
void main() {
```

```
    float n1, n2;
```

```
    char op;
```

```
    cout << "Please enter the operator which you want to perform? ";
```

```
    cin >> op;
```

```
    cout << "Please enter first value? " << endl;
```

```
    cin >> n1;
```

```
    cout << "Please enter second value? " << endl;
```

```
    cin >> n2;
```

```

    if (op=='+') {

        cout << "Addition = " << n1+n2;

    }

    else if (op=='-') {

        cout << "Subtraction = " << n1-n2;

    }

    else if (op=='/') {

        cout << "Division = " << n1/n2;

    }

    else if (op=='*') {

        cout << "Multiplication = " << n1*n2;

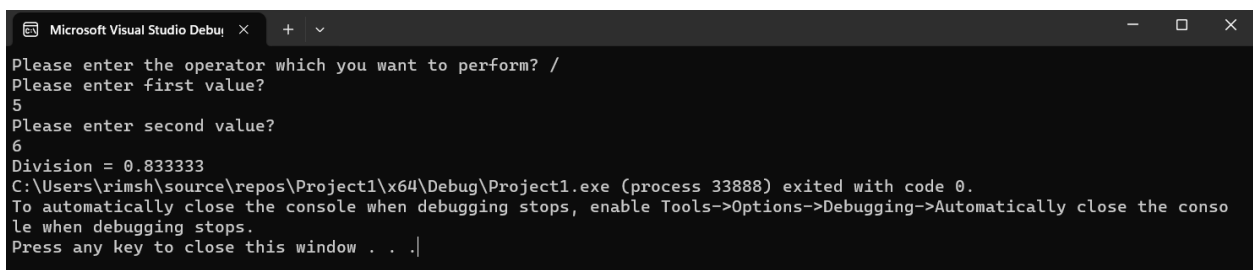
    }

}

```

### **Output:**

#### **Division:**



```

Microsoft Visual Studio Debug  X + -
Please enter the operator which you want to perform? /
Please enter first value?
5
Please enter second value?
6
Division = 0.833333
C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 33888) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|

```

#### **Multiplication:**



```
Microsoft Visual Studio Debug
Please enter the operator which you want to perform? *
Please enter first value?
5
Please enter second value?
6
Multiplication = 30
C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 40020) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|
```

### Subtraction:

```
Microsoft Visual Studio Debug
Please enter the operator which you want to perform? -
Please enter first value?
5
Please enter second value?
6
Subtraction = -1
C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 26956) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|
```

### Addition:

```
Microsoft Visual Studio Debug
Please enter the operator which you want to perform? +
Please enter first value?
5
Please enter second value?
6
Addition = 11
C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 33684) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|
```

**Task#6: Write a program to check whether a triangle is valid or not. The three angles of the triangle are entered through the keyboard. A triangle is valid if the sum of all the three angles is equal to 180 degrees.**

**Use Syntax # 02 of if-else statement for this task**

```
#include<iostream>
```

```
using namespace std;
```

```
void main() {
```

```
    int n1, n2, n3, sum;
```

```

cout << "Please enter 1st angle? ";

cin >> n1;

cout << "Please enter 2nd angle? ";

cin >> n2;

cout << "Please enter 3rd angle? ";

cin >> n3;

sum = n1 + n2 + n3;

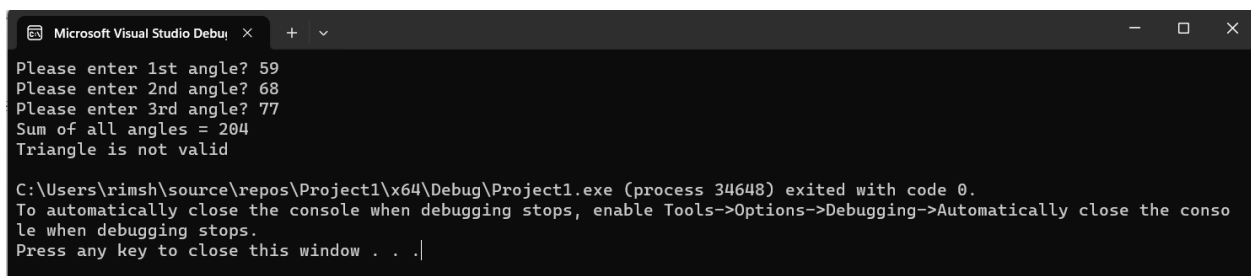
cout << "Sum of all angles = " << sum << endl;

sum == 180 ? cout << "It is a valid triangle" : cout << "Triangle is not valid" << endl;

}

```

### Output:

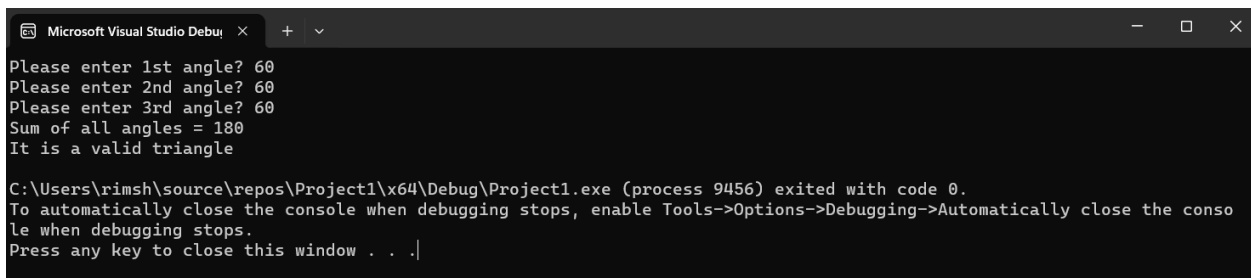


```

Microsoft Visual Studio Debug
Please enter 1st angle? 59
Please enter 2nd angle? 68
Please enter 3rd angle? 77
Sum of all angles = 204
Triangle is not valid

C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 34648) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|

```



```

Microsoft Visual Studio Debug
Please enter 1st angle? 60
Please enter 2nd angle? 60
Please enter 3rd angle? 60
Sum of all angles = 180
It is a valid triangle

C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 9456) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|

```

**Task#7: A library charges a fine for every book returned late. For first 7 days late the fine is 10 PKR, for 8-14 days fine is 20PKR and for 15-31 days fine is 50PKR. If you return the book after 31 days your membership will be cancelled. Write a program to accept the number of days from the user and display the appropriate message.**

```
#include<iostream>
```

```
using namespace std;

void main() {

    int fine, days;

    cout << "Enter days for the late return of the book" << endl;

    cin >> days;

    if (days >= 1 && days <= 7) {

        cout << "You have been fined PKR 10" << endl;

    }

    else if (days >= 8 && days <= 14) {

        cout << "You have been fined PKR 20" << endl;

    }

    else if (days >= 15 && days <= 31) {

        cout << "You have been fined PKR 50" << endl;

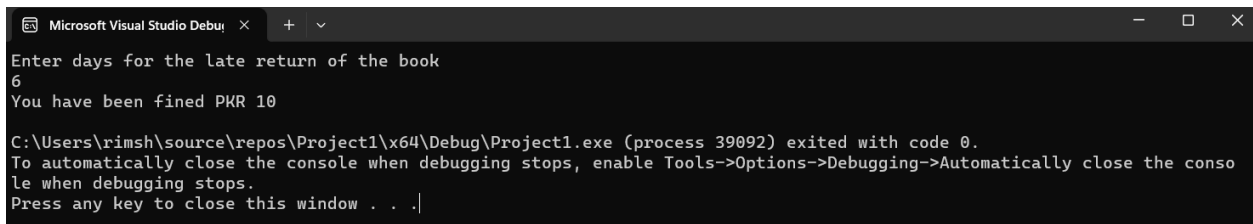
    }

    else

        cout << "Your membership has been cancelled" << endl;


}
```

### **Output:**

A screenshot of the Microsoft Visual Studio Debug Console window. The window title is "Microsoft Visual Studio Debug Console". The output text is as follows:

```
Enter days for the late return of the book
6
You have been fined PKR 10

C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 39092) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|
```



```
Microsoft Visual Studio Debug Console
Enter days for the late return of the book
45
Your membership has been cancelled

C:\Users\rimsh\source\repos\Project1\x64\Debug\Project1.exe (process 4400) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|
```