

UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA



---

*SOFTWARE ENGINEERING*

---

**LAB 5 SOLUTION**

SUBMITTED TO : MS.SABA AWAN

SUBMITTED BY : MUHAMMAD ARSALAN

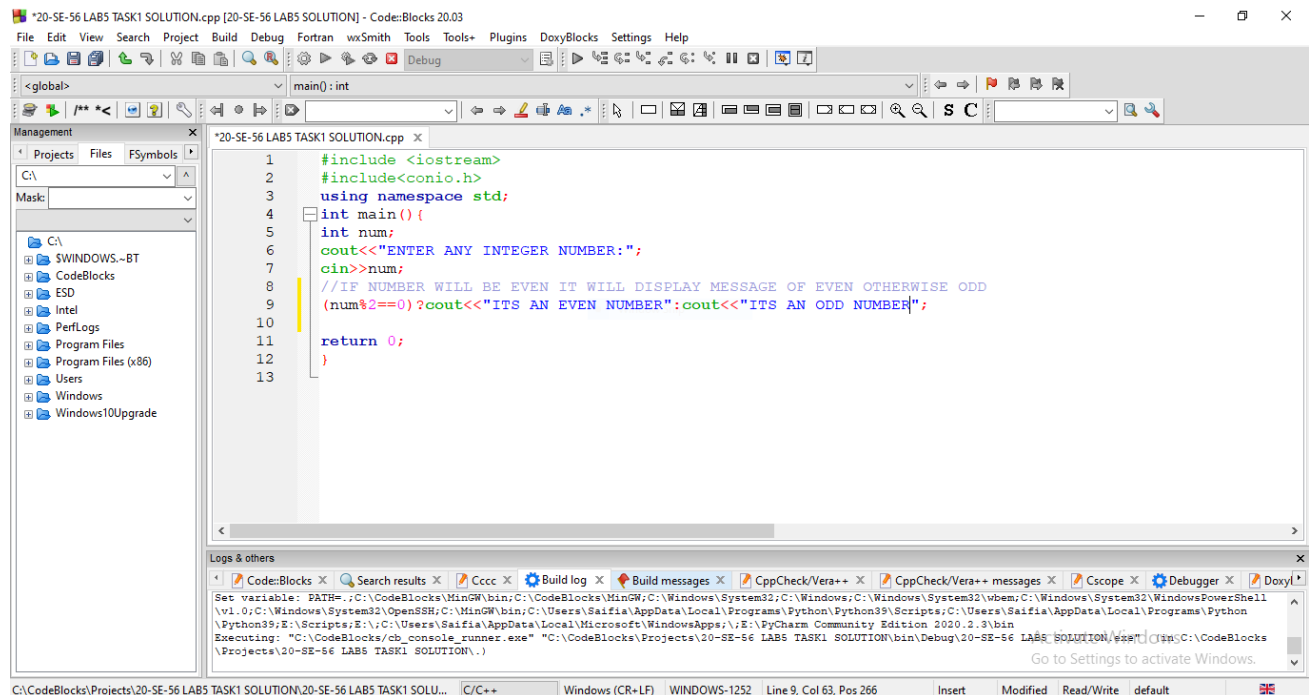
REG NO : 20-SE-56

+++++

# TASK-1

Write a C++ program that Implement **Ternary Operator** by inputting and integer number form user and checks if entered integer is an even number then display the message as “it’s an even number” to user otherwise it will display “it’s an odd number” message on screen.

## SOLUTION



The screenshot shows the Code::Blocks IDE with the following C++ code in the editor:

```
1 #include <iostream>
2 #include <conio.h>
3 using namespace std;
4 int main(){
5     int num;
6     cout<<"ENTER ANY INTEGER NUMBER:";
7     cin>>num;
8     //IF NUMBER WILL BE EVEN IT WILL DISPLAY MESSAGE OF EVEN OTHERWISE ODD
9     (num%2==0)?cout<<"ITS AN EVEN NUMBER":cout<<"ITS AN ODD NUMBER";
10
11     return 0;
12 }
13
```

The IDE interface includes a menu bar, a toolbar, a project manager on the left, and a console window at the bottom.



The screenshot shows the console window output for the program execution:

```
"C:\CodeBlocks\Projects\20-SE-56 LAB5 TASK1 SOLUTION\bin\Debug\20-SE-56 LAB5 SOLUTION.exe"
ENTER ANY INTEGER NUMBER:33
ITS AN ODD NUMBER
Process returned 0 (0x0)   execution time : 2.008 s
Press any key to continue.
```

The console window title is "C:\CodeBlocks\Projects\20-SE-56 LAB5 TASK1 SOLUTION\bin\Debug\20-SE-56 LAB5 SOLUTION.exe".

## TASK-2

Write a C++ program that Implement **distance formula** on two double type points **p1** and **p2** after in **3D** pace getting input from user. Display the Distance Formula along with the Final answer.

Hint: **P1 = (x1,y1,z1)** and **P2 = (x2,y2,z2)**.

### SOLUTION

```
20-SE-56 LAB5 SOLUTION TASK2.cpp [20-SE-56 LAB5 SOLUTION TASK2] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global> main():int
1 #include <iostream>
2 #include <conio.h>
3 #include <cmath>
4 using namespace std;
5 int main() {
6     double x1,y1,z1;
7     double x2,y2,z2;
8     double distance;
9     cout<<"ENTER POINTS x1 y1 z1 OF P1:"<<endl;
10    cout<<"x1 is:";
11    cin>>x1;
12    cout<<endl;
13    cout<<"y1 is:";
14    cin>>y1;
15    cout<<endl;
16    cout<<"z1 is:";
17    cin>>z1;
18    cout<<endl;
19    cout<<"ENTER POINTS x2 y2 z2 OF P2:"<<endl;
20    cout<<"x2 is:";
21    cin>>x2;
22    cout<<endl;
23    cout<<"y2 is:";
24    cin>>y2;
25    cout<<endl;
26    cout<<"z2 is:";
27    cin>>z2;
28    cout<<endl;
29    cout<<"sqrt(pow((x1-x2),2)+pow((y1-y2),2)+pow((z1-z2),2))" <<endl<<endl;
30    distance=sqrt(pow((x1-x2),2)+pow((y1-y2),2)+pow((z1-z2),2));
31    cout<<endl<<"THE CALCULATED DISTANCE IS:"<<distance<<endl;
32    return 0;
33 }
34
```

Logs and others

Set variable: PATH=.;C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin;C:\Windows\System32;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\MinGW\bin;C:\Users\Saifia\AppData\Local\Programs\Python\Python39\Scripts;C:\Users\Saifia\AppData\Local\Programs\Python\Python39;E:\Scripts;E:\C:\Users\Saifia\AppData\Local\Microsoft\WindowsApps\;E:\PyCharm Community Edition 2020.2.3\bin

Executing: "C:\CodeBlocks\cb\_console\_runner.exe" "C:\CodeBlocks\Projects\20-SE-56 LAB5 TASK2 SOLUTION\bin\Debug\20-SE-56 LAB5 TASK2 SOLUTION.exe" (in C:\CodeBlocks\Projects\20-SE-56 LAB5 TASK2 SOLUTION\)

Go to Settings to activate Windows.

C:\CodeBlocks\Projects\20-SE-56 LAB5 TASK2 SOLUTION\20-SE-56 LAB5 SOLUTION TASK2... C/C++ Windows (CR+LF) WINDOWS-1252 Line 31, Col 66, Pos 882 Insert Read/Write default

"C:\CodeBlocks\Projects\20-SE-56 LAB5 TASK2 SOLUTION\bin\Debug\20-SE-56 LAB5 SOLUTION TASK2.exe"

ENTER POINTS x1 y1 z1 OF P1:

x1 is:3.3

y1 is:5.3

z1 is:6.1

ENTER POINTS x2 y2 z2 OF P2:

x2 is:3.3

y2 is:7.8

z2 is:9.8

$\text{sqrt}(\text{pow}((3.3-3.3),2)+\text{pow}((5.3-7.8),2)+\text{pow}((6.1-9.8),2))$

THE CALCULATED DISTANCE IS:4.46542

Process returned 0 (0x0) execution time : 21.443 s

Press any key to continue.