

UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA



SOFTWARE ENGINEERING

LAB 4 SOLUTION

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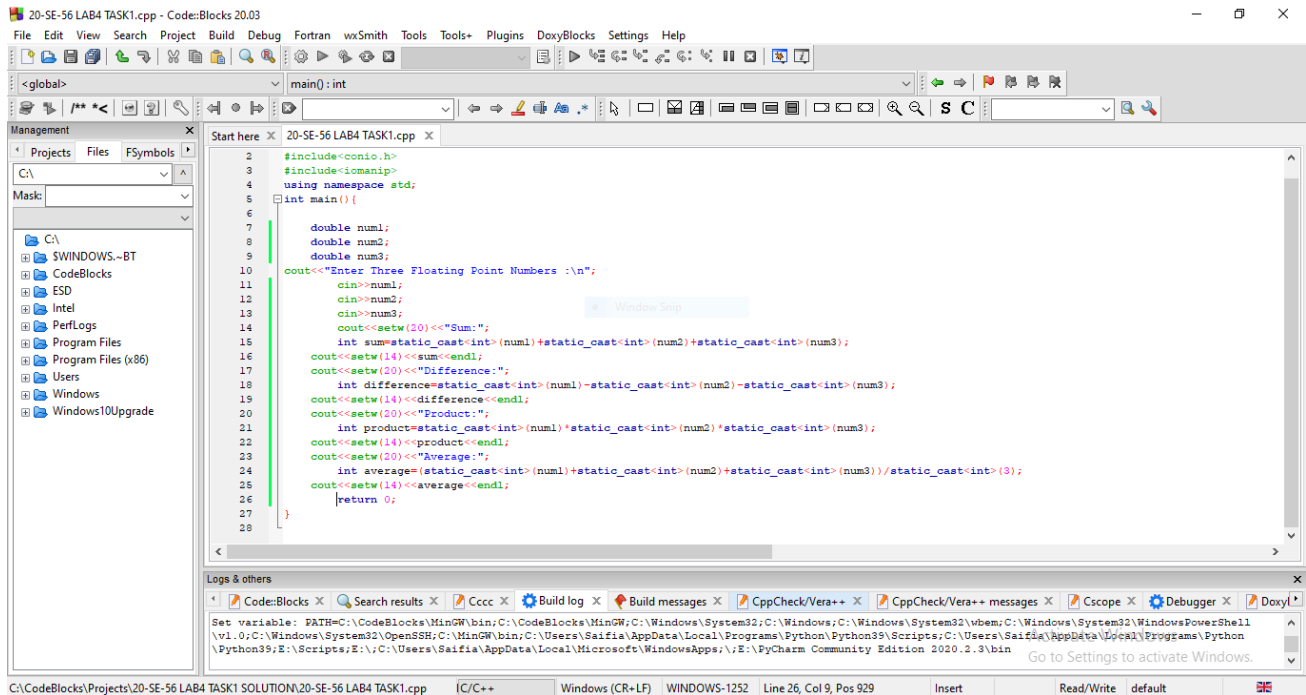
REG NO : 20-SE-56

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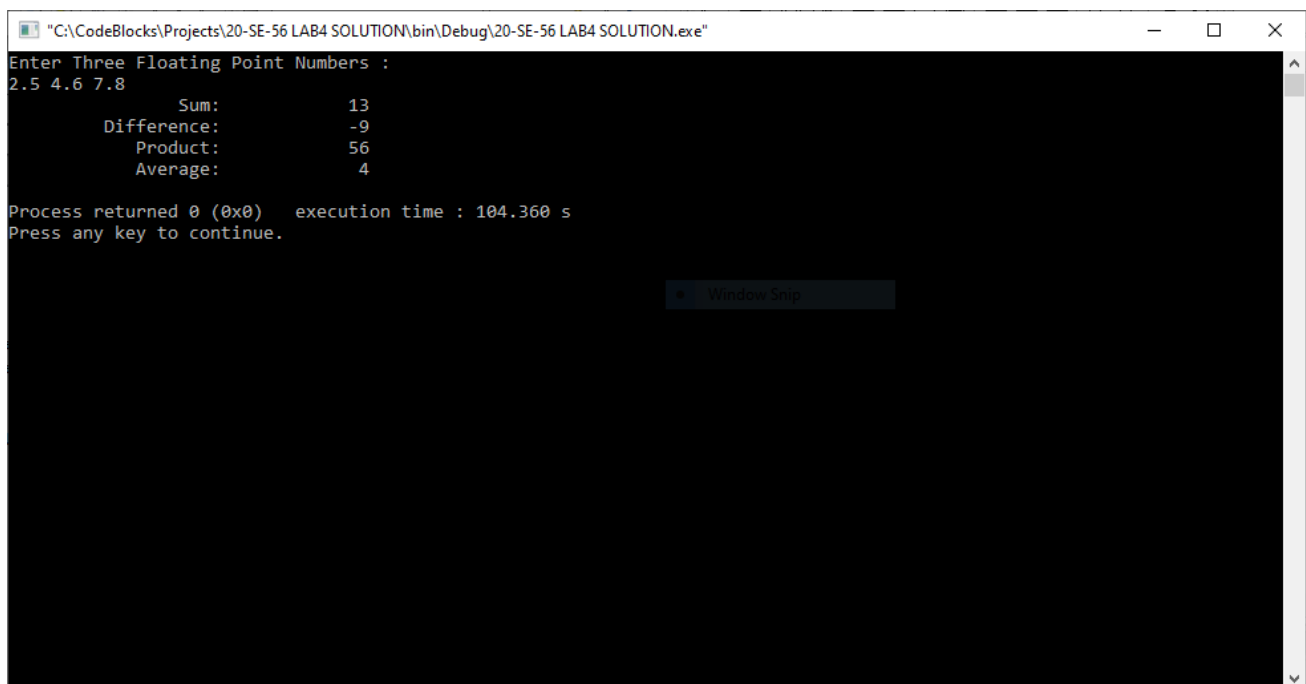
TASK-1

- Write a program that asks the user to enter **3 double type numbers** and then prints the **sum, difference, product and average** of these integers after **type casting** of these numbers into **integers** at the time of operation. Use **setw()** manipulator to display the output properly.

SOLUTION



```
2  #include<conio.h>
3  #include<iomanip>
4  using namespace std;
5  int main() {
6
7      double num1;
8      double num2;
9      double num3;
10     cout<<"Enter Three Floating Point Numbers :\n";
11     cin>>num1;
12     cin>>num2;
13     cin>>num3;
14     cout<<setw(20)<<"Sum:";
15     int sum=static_cast<int>(num1)+static_cast<int>(num2)+static_cast<int>(num3);
16     cout<<setw(14)<<sum<<endl;
17     cout<<setw(20)<<"Difference:";
18     int difference=static_cast<int>(num1)-static_cast<int>(num2)-static_cast<int>(num3);
19     cout<<setw(14)<<difference<<endl;
20     cout<<setw(20)<<"Product:";
21     int product=static_cast<int>(num1)*static_cast<int>(num2)*static_cast<int>(num3);
22     cout<<setw(14)<<product<<endl;
23     cout<<setw(20)<<"Average:";
24     int average=(static_cast<int>(num1)+static_cast<int>(num2)+static_cast<int>(num3))/static_cast<int>(3);
25     cout<<setw(14)<<average<<endl;
26     return 0;
27 }
28
```



```
"C:\CodeBlocks\Projects\20-SE-56 LAB4 SOLUTION\bin\Debug\20-SE-56 LAB4 SOLUTION.exe"
Enter Three Floating Point Numbers :
2.5 4.6 7.8
      Sum:          13
Difference:        -9
    Product:        56
    Average:         4

Process returned 0 (0x0)   execution time : 104.360 s
Press any key to continue.
```

TASK-2

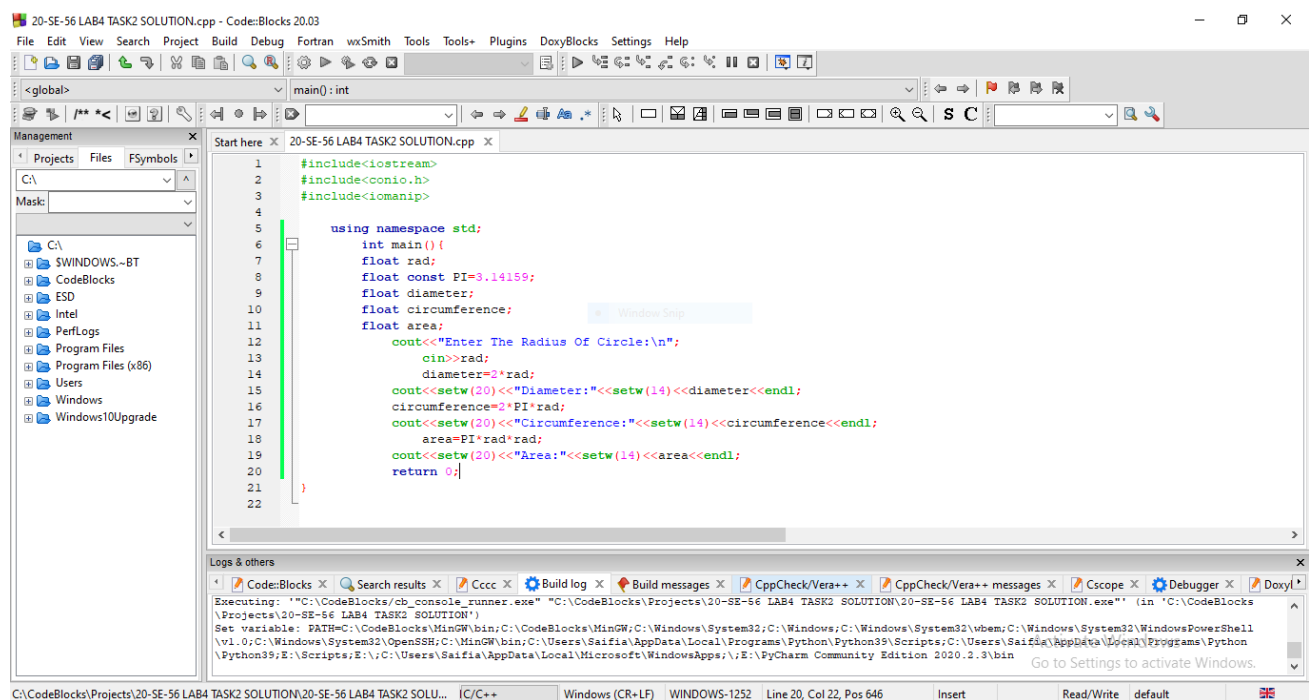
Write a program that reads in the radius of a circle and prints the circle's diameter, circumference and area. Use the constant value 3.14159 for PI. Do these calculations in output statements and format using `setw()`. Use following formulas:

$$\text{Diameter} = 2r$$

$$\text{Circumference} = 2\pi r$$

$$\text{Area} = \pi r^2$$

SOLUTION



```
20-SE-56 LAB4 TASK2 SOLUTION.cpp - 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<iomanip>
4
5 using namespace std;
6 int main() {
7     float rad;
8     float const PI=3.14159;
9     float diameter;
10    float circumference;
11    float area;
12    cout<<"Enter The Radius Of Circle:\n";
13    cin>>rad;
14    diameter=2*rad;
15    cout<<setw(20)<<"Diameter:"<<setw(14)<<diameter<<endl;
16    circumference=2*PI*rad;
17    cout<<setw(20)<<"Circumference:"<<setw(14)<<circumference<<endl;
18    area=PI*rad*rad;
19    cout<<setw(20)<<"Area:"<<setw(14)<<area<<endl;
20    return 0;
21 }
22
```

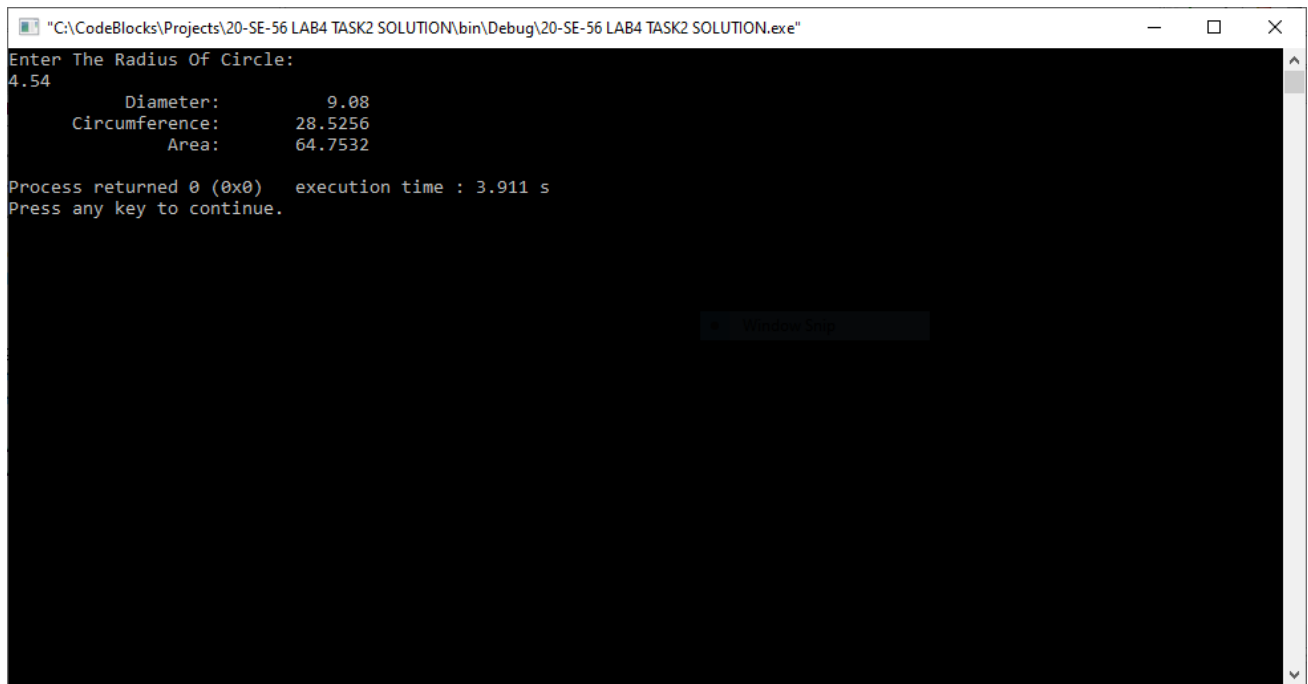
Logs & others

Executing: "C:\CodeBlocks\cb_console_runner.exe" "C:\CodeBlocks\Projects\20-SE-56 LAB4 TASK2 SOLUTION\20-SE-56 LAB4 TASK2 SOLUTION.exe" (in "C:\CodeBlocks\Projects\20-SE-56 LAB4 TASK2 SOLUTION")

Set variable: PATH=C:\CodeBlocks\MinGW\bin;C:\CodeBlocks\MinGW\bin\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

Go to Settings to activate Windows.

C:\CodeBlocks\Projects\20-SE-56 LAB4 TASK2 SOLUTION\20-SE-56 LAB4 TASK2 SOLU... C/C++ Windows (CR+LF) WINDOWS-1252 Line 20, Col 22, Pos 646 Insert Read/Write default



```
"C:\CodeBlocks\Projects\20-SE-56 LAB4 TASK2 SOLUTION\bin\Debug\20-SE-56 LAB4 TASK2 SOLUTION.exe"
Enter The Radius Of Circle:
4.54
      Diameter:      9.08
Circumference:      28.5256
      Area:          64.7532

Process returned 0 (0x0)   execution time : 3.911 s
Press any key to continue.
```