National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	**Programming Fundamentals**	**Course Code:**	**CS1002**
	Program:	**Electrical Engineering**	**Semester:**	**Fall 2023**
	Duration:	**15 minutes**	**Total Marks:**	**10**
	Exam Date:	**7 September 2023**	**Weight:**	**3.33**
	Section:	**EE-1C -1**	**Page(s):**	**2**
	Exam Type:	**Quiz-1 Solution**	**CLO #**	**1**

Student Name:_____ Roll No._____ Section:_____

Instruction/Notes:
1. Do not forget to write your Name and Roll Numbers.
2. Solve on the paper and Return.

Question No. 1 **Marks: 10**

Drivers are concerned with the mileage obtained by their automobiles. One driver has kept track of two tanks of gasoline by recording miles driven and gallons used for each tank. Write a C++ program that will input the miles driven (integer number) and gallons used (decimal number) for each tank. The program should calculate and display the miles per gallon obtained for each tank. After processing all input information, the program should calculate and print the combined miles per gallon obtained for both tanks. The output must display decimal numbers up to 2 decimal places.

Sample Run:

Enter the miles driven for tank 1 and 2: 287 200
Enter the gallons used for tank 1 and 2: 12.8 10.3

The miles per gallon for tank 1: 22.42
The miles per gallon for tank 2: 19.41

The overall average miles per gallon for both tanks: 21.08

Solution:

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

int main( )
{
        int milesT1, milesT2;
        float gallonsT1, gallonsT2, mpgT1, mpgT2, averagempg;

        cout<<fixed<<showpoint<<setprecision(2);

        cout<<"Enter the miles driven for tank 1 and 2:";
        cin>>milesT1>>milesT2;
        cout<<"Enter the gallons used for tank 1 and 2:";
        cin>>gallonsT1>>gallonsT2;
        cout<<endl;
```

```
        mpgT1 = milesT1/gallonsT1;
        mpgT2 = milesT2/gallonsT2;

        cout<<"The miles per gallon for tank 1:"<<mpgT1<<endl;
        cout<<"The miles per gallon for tank 2:"<<mpgT2<<endl;
        cout<<endl;

        averagempg = (milesT1+milesT2)/(gallonsT1+gallonsT2);

        cout<<" The overall average miles per gallon for both tanks:"<<averagempg;

        return 0;
}
```