.NET I/C#

Writing a Class

# Objective:

Demonstrate how to write a class.

# Turn in requirements:

1. Please name your Exercise LastnameQ1, such as GarnerQ1.
2. Check your code into source control.

# Program Requirements:

1. **3 pts** Write your name, email address and file name at the top of your source code in a comment.
2. **5 pts** Use appropriate comments to explain what you are doing (see instructions below).
3. **10 pts** does the program compile and run as expected

This quiz is open book, open note, open old programs, and feel free to use Google. The instructor will not answer questions, nor may you get help from fellow students.

The force between to objects in space is calculated using the following equation:

Where:

force = force due to gravity in newtonw

G = gravitational constant (6.67408 x 10-11 m3 kg-1 s-2)

M1 = mass of object 1 Kilograms

M2 = mass of object 2 in Kilograms

R2 = distance between objects in meters

Write a class to represent the gravitational force between two objects.

The class should have a constant for G, a properties for the names of object 1 and 2, properties for the masses of objects one and two, a property for the radius, a read only property for the gravitational force, a calculate method and an public override ToString() method that returns a nicely formatted string reporting something like “The force between earth and moon is 1.99e20”.

Note: use auto properties for fields that don’t need to call calculate. Use fully qualified properties for fields that affect others when they change. Call your calculate method from the appropriate set methods.

In main start a do another loop. Instantiate your class. Ask the user for the names and masses of the objects and their distance apart. Display the ToString() to the user and then ask the user if they want to do another.

Good Luck!