Quiz 03 — Exception Handling

C# Programming

This is a timed test. You have thirty minutes to complete the test. When you finish the test, email me your `Program.cs` file as a text document, and let me know that you have finished. I will ask you to run your program so that I can see that it compiles and runs.

The *reciprocal* of a number is 1 divided by that number. For example, the reciprocal of 1 is $\frac{1}{1}$, or 1, the reciprocal of 2 is $\frac{1}{2}$, or 0.5, the reciprocal of 3 is $\frac{1}{3}$, or 0.3333333, and the reciprocal of 1 is $\frac{1}{4}$, or 0.25.

Your assignment is to calculate the reciprocal of a positive integer entered by the user. You will throw three exceptions, like this:

- if the user enters anything other than a digit, throw a format exception;
- if the user enters a zero, throw a divide by zero exception, noting that float division does not throw a divide by zero exception, this is something you wil have to figure out; and
- if the user enters a negative number, throw a negative number exception,, noting that you will have to make your own custom exception as there is no negative number exception.

Your challenge is to not terminate the program after the exception, but to notify the user of the error and allow the user to enter something else. Typically, a program will terminate after an exception is thrown, but you will have to figure out a way for the program to continue after the exception. Here is the expected output. Note that the user entered "a," "0", "-2", and "3."

```
TEST 3
To calculate the reciprocal of an integer, enter a positive integer: a
Input string was not in a correct format.
To calculate the reciprocal of an integer, enter a positive integer: 0
Attempted to divide by zero.
To calculate the reciprocal of an integer, enter a positive integer: -2
Your number must be a positive number
To calculate the reciprocal of an integer, enter a positive integer: 3
The reciprocal is 0.333333333333333
Press any key to continue . . .
```