UL Solutions - Coding Task

Introduction:

Rather than asking lots of coding questions in an interview, we've produced this short exercise that is designed to allow you to demonstrate your development and problem-solving skills in a non-stressful environment.

When working on the exercise, feel free to research using the resources you would have available in the workplace (Internet, books, etc.), as we're trying to ascertain how you'd tackle a problem in a day-today work environment. However, please submit your own code, as code copied verbatim off the Internet will be rejected. You will be asked to demonstrate a thorough understanding of your code at the interview stage.

The exercise itself is not one we'd expect any potential candidate to have a problem solving, so consider it a chance to show off your range of skills. We're just as interested in how something is done as we are in seeing a functional solution. This isn't an exercise to provide the shortest possible solution, providing a purely functional solution in one or two of lines of code won't give us what we need to properly assess your skillset.

We're looking for people who can demonstrate they write well thought out, maintainable, production quality code. There are no time constraints, but we are looking forward to seeing your solution as soon as possible.

The Exercise:

Write a C# web-based API application that evaluates a string expression consisting of non-negative integers and the + - / * operators only, considering the normal mathematical rules of operator precedence. Support for brackets is not required.
The calculation should be performed in the API not the UI and by your own code, not a third-party library.

For example:

an input string of "4+5*2" should output 14
an input string of "4+5/2" should output 6.5
an input string of "4+5/2-1" should output 5.5

Submission:

Please upload the code to your GitHub account and write a short summary of your problem-solving approach and the choices you made in your solution.

This will help us understand your thinking and coding skills better. We will review it and contact you shortly.