Programming Assignment #1

Due Oct 1 by 3pm **Points** 100 **Submitting** a file upload
Available Sep 24 at 8pm - Dec 5 at 12pm 2 months

This assignment was locked Dec 5 at 12pm.

Assignment #1: Gathering, Validating and Processing User Input

For this assignment, create a robust C# console application that implements the following functionality:

1. Prompt the user to enter three integers, then use a method to calculate their sum. Display that result for the user.
2. Prompt the user to enter an integer, then use a method to calculate the value of the polynomial $4x^3 + 6x - 2$ (where x is the number entered by the user). Display the result for the user.
3. Prompt the user to enter an integer representing some number of seconds and then pass that number to a method that converts it into the equivalent number of hours, minutes and seconds. Display the results for the user. For example, if the user entered 52400, the program would display "14 hours, 33 minutes, 20 seconds".
4. Prompt the user to enter a sequence of integers one-at-a-time and then display the maximum and minimum values from that sequence. Before reading the sequence, ask the user how many numbers are in the sequence.
5. Use a while-loop to display all even integers between 150 and 200 (inclusive) in ascending order.
6. Use a do-loop to display all even integers between 100 and 0 (inclusive) in descending order.
7. Create a method that uses a switch statement to convert a test score into a letter grade based on the following table:

91 to 100	A
81 to 90	B
71 to 80	C
61 to 70	D
60 and below	F

Prompt the user for a test score, convert that score into a letter grade (using the method you created above) and then display the grade. Continue to ask the user for test scores to convert until they enter "quit" (case-insensitive).

Important Notes:

- Before starting, be sure to review the information in **PREPARING FOR PROGRAMMING ASSIGNMENT #1**
- No, seriously, go back and review the information in **PREPARING FOR PROGRAMMING ASSIGNMENT #1**
- Be sure to read, understand and follow **[0070] Our C# Coding Standards**
- Do not use any advanced C# language features that have not be covered in the reading or discussed in class.
- All code for this assignment should be contained inside one C# class (and thus inside of one .CS file).
- Always choose descriptive variable, parameter, and method names. Always strive to make your code self-documenting.
- Make sure all user prompts and error messages are clear and easily understood.
- ***Validate all input. Make sure a user cannot crash the program by entering bad data.***
- When you are finished, please ZIP up the ***Visual Studio Solution directory*** for your program and upload it using the link on this page.

IMPORTANT: You must ZIP up you entire "Solution" directory - the directory with the ".sln" file inside of it. If you have ANY questions about how to do this, let me know or ask a classmate. ***If I cannot unzip and run your program directly from the unzipped folder, I will have to consider the entire submission ungradable and I will ask you to send it to me again.***

My Grading Guideline:

40% Does the program compile and run?
40% Does the program generate correct results for normal user inputs?
5% Does the program generate correct results for unusual (but valid) user inputs?
5% Does the program handle invalid user input without crashing or displaying incorrect results?

5% Does the program have descriptive variable, parameter and method names?

5% Does the program follow the C# style guide rules **[0070] Our C# Coding Standards**