[0052] Passing This Class by Failing Continuously

Up until now, in your programming career, you've been working on programs that have (generally) been small, easy to understand and easy to write. You've been able to "fit" the entire program in your brain. You've been able to write the entire program in a short amount of time. And you've only had to test the program with a small number of inputs.

That's not the real-world. That's not the real-world at all.

In the real world, your programs never work the first time you run them!

Every real-world program ever written was a complete and utter failure the first time it was run.

It is very important to understand that programs are not "***written***" but "***developed***." Another common name for a "Programmers" is a "Software Developer" and I think that term is much more accurate. When something is developed, it is improved. It is evaluated with a critical eye and then it is improved. That how real-world programs are actually created - a programmer starts with a simpler version of the program they want and then they find and fix problems with it until it is working correctly.

This concept is called INCREMENTAL IMPROVEMENT and it is central to how most real-world programmers work.

Inherent in the concept of Incremental Improvement is the act of failing and learning from those failures. Maybe the number one skill that successful real-world programmers have is the ability to learn from their failures - to expect failures but be able to analyze and learn from them in ways that prevent them from happening again.

THAT ABILITY IS ONE OF THE KEY THINGS YOU WILL BE LEARNING IN THIS CLASS.

You need to give up on the idea of your program working perfectly the very first time and replace that with the concept of trying-testing-failing-learning-improving-trying-etc.

In other words, the best way to learn how to program is to program - i.e., to try and fail and try again. The assignments in this class are designed to help you become a better programmer in this exact way. They are bigger and longer and require more thought than the programs you have seen in your previous classes.

The good news is that the grades for these programming assignments will not be based solely on whether your program works or not. While a correctly working program is important, what is also important are the lessons you learn by trying, failing, and trying again. I know that sounds strange - but again the best way (and really, the *only* way) to get better at programming is to program. ***In my experience, your grade in this class is directly correlated with the number of times you click Visual Studio's "Run" button!***