README.md

1 Learning to Program

> "All programmers are playwrights and all computers are terrible actors." ~ Anonymous

This class is going to feel like a mixture between a language class and a math class. I'll do my best to minimize the latter, but the former is unavoidable. You are going to be learning how to talk to computers. They have a different grammar and a very limited vocabulary.

1.1 The Programming Mindset

The most difficult thing to learn is not how to read and write code, in any particular language, it's how to use a **programming mindset**. This is comprised of two major skills.

The first skill is the ability to predict or limit every situation your program can get into. This is very difficult and something you will get better at with practice. When you get to higher levels of coding, you can actually write programs that automatically test your programs for you because, yo dawg, I heard you like programs...

For an example of how out-of-control programming can get if you don't start off with a good, limited idea is The Door Problem.

> Computers are fast, not smart.

Another important skill is to think of things **algorithmically**. An algorithm being a fancy word for a series of steps. Being able to take any problem or idea and breaking it down into a discrete series of steps. When you follow a recipe, you are essentially executing an algorithm. Your goal as a programmer is to write the recipe.

> At this point, Professor Hallberg made a mess of a sandwich.