Kids Code With Go

Version 0.01

A Note For Adults

This book is meant for kids at the middle school level and above. Unlike other “beginning to program” approaches, this book teaches programming using professional-grade tools. That means no fancy/whimsical graphical interfaces, no drag-and-drop widgets, no video game aspects at all.

In fact, this book would be a perfectly fine place for anyone with no knowledge of coding to start. Kids will particularly benefit from this book because it isn’t going to take much for granted. The examples and exercises aren’t going to assume any math skills beyond basic addition, subtraction, multiplication, and division. Along the way readers will learn about boolean logic and how it’s critical to understanding how to code. Because readers will be using the same tools that pros use, it will cover the dreaded command prompt and show why it’s so much more powerful for working quickly than windowing interfaces.

This book is going to go “old school” to make the examples fun. Readers will learn how to make a “Magic 8-Ball” program. [Fill in / edit later with other examples.]

Finally, while the book will have readers use professional grade tools, the tools are free. The Go Programming Language is a state-of-the-art development tool being developed under the direction of Google. The Atom IDE (Integrated Development Environment) is a collaborative and free for download from GitHub. Atom can run one Windows, Mac, and many Chromebooks. (And if you’re running one of the various Unix derivatives, you’re golden there too and probably not bothering with reading this section.)

For Those About to Code, We Salute You

Hi. This book is going to teach you how to write code using the Go Programming Language. Lots of other programming languages are out there, but Go is new, it's fast, it's powerful, and it's free. Hard to believe, but there it is.

Go is also pretty strict about how you set up your programming environment, but that's a good thing. It means that you can (pretty much must) follow the steps presented in this book to get ready to code. Assuming you have a decent connection to the internet, setup shouldn't take more than 10-15 minutes. After that you'll be good to go.

Lots of other programming languages exist, and Go is far from the most common. What makes it great as a first language is that it is well supported, it's terse (which basically means less typing), it's easy to read, and it's tightly typed (meaning the language catches you when you try to do something really stupid). Maybe best of all is how easy it is to document your code. What's that? It's writing down ***in the code, in everyday language***, what you expect the code to do and how it's supposed to do it. You can spend hours and hours trying to figure out how to solve a problem, implement it, and months later come back to tweak it and not have a clue how you solved it in the first place. This is common among programmers, every one of us swears we'll do better in the future, and few of us do. But at least Go doesn't give us easy excuses.

Finally, Go will almost certainly not be the only programming language you use in your life. In fact, you'll use a couple of different languages in the course of this book. You'll use HTML, you'll use Javascript, and you'll use CSS (Cascading Style Sheets) to make good-looking web pages. You'll won't learn to code in any those languages, but you will learn how to "hook" them into your work. What this book will teach you is the basics of programming, and from there, if you're destined to be a coder, you'll find the language you love and that loves you back and that will be your language of choice.

If it's not too offputting, think of this as your first steady. From there it's a big world of code.

Chapter Zero: Setting Up Your Environment