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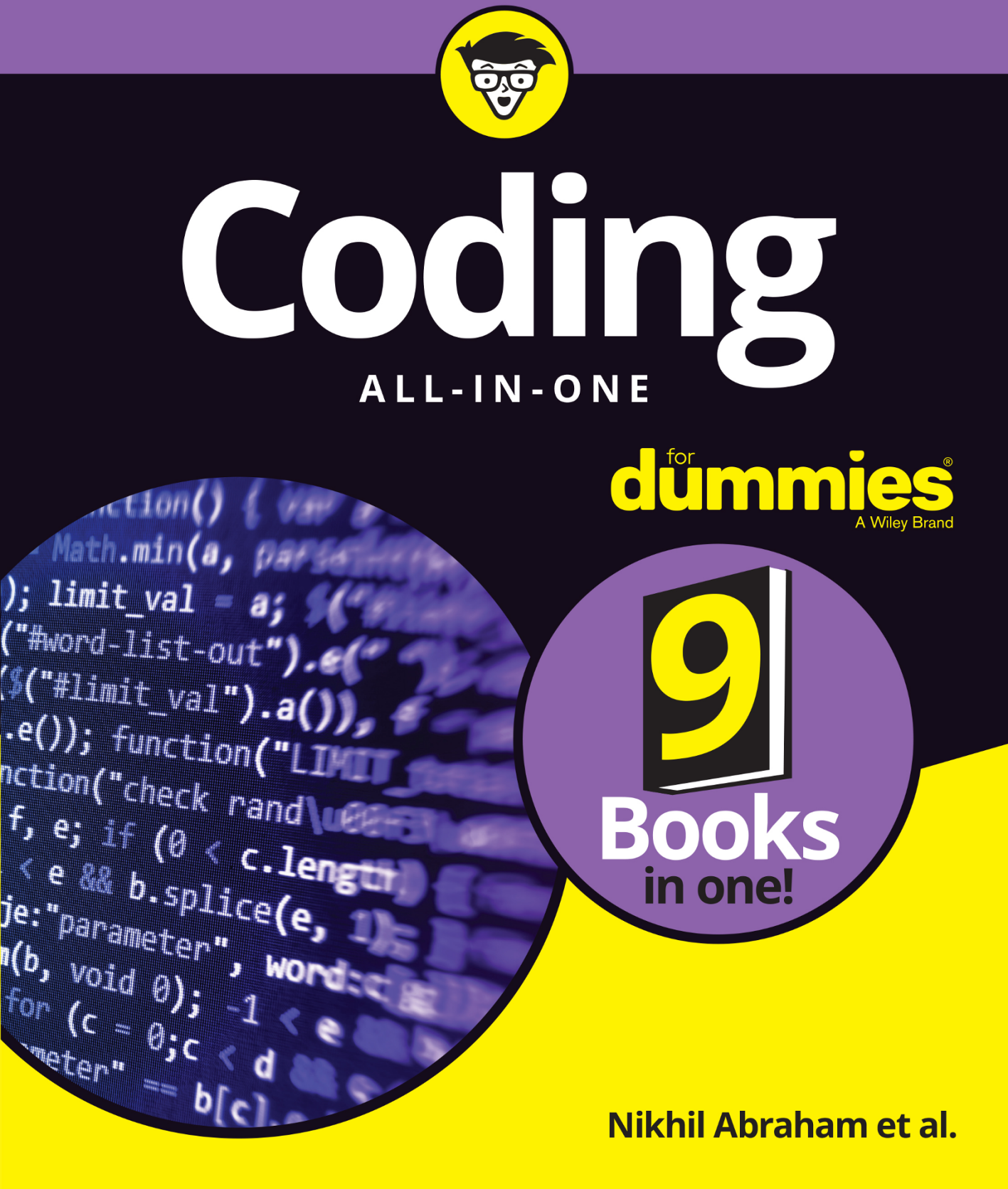

Coding

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by Nikhil Abraham, Andy Harris, Eva Holland, Joris Meys, Luca Massaron, Chris Minnick, John Paul Mueller, and Andrie de Vries

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Contents at a Glance

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Introduction

The ability to read, write, and understand code has never been more important, useful, or lucrative than it is today. Computer code has forever changed our lives. Many people can't even make it through the day without interacting with something built with code. Even so, for many people, the world of coding seems complex and inaccessible. Maybe you participated in a tech-related business meeting and did not fully understand the conversation. Perhaps you tried to build a web page for your family and friends, but ran into problems displaying pictures or aligning text. Maybe you're even intimidated by the unrecognizable words on the covers of books about coding, words such as HTML, CSS, JavaScript, Python, or Ruby.

If you've previously been in these situations, then *Coding All-in-One For Dummies* is for you. This book explains basic concepts so you can participate in technical conversations and ask the right questions, and it goes even further than *Coding For Dummies* by covering additional topics in data science, machine learning, and coding careers. Don't worry — this book assumes you're starting with little to no previous coding knowledge, and I haven't tried to cram every possible coding concept into these pages. Additionally, I encourage you here to learn by doing and by actually creating your own programs. Instead of a website, imagine that you want to build a house. You could spend eight years studying to be an architect, or you could start today by learning a little bit about foundations and framing. This book kick-starts your coding journey today.

The importance of coding is ever-increasing. As author and technologist Douglas Rushkoff famously said, "program or be programmed." When humans invented languages and then the alphabet, people learned to listen and speak, and then read and write. In our increasingly digital world, it's important to learn not just how to use programs but also how to make them. For example, observe this transition in music. For over a century, music labels decided what songs the public could listen to and purchase. In 2005, three coders created YouTube, which allowed anyone to release songs. Today more songs have been uploaded to YouTube than have been released by all the record labels combined in the past century.

Accompanying this book are examples at `www.codecademy.com`, whose exercises are one of the easiest ways to learn how to code without installing or downloading anything. The Codecademy website includes examples and exercises from this book, along with projects and examples for additional practice.

About This Book

This book is designed for readers with little to no coding experience, and gives an overview of programming to non-programmers. In plain English, you learn how code is used to create web programs, who makes those programs, and the processes they use. The topics covered include

- Explaining what coding is and answering the common questions related to code
- Building basic websites using the three most common languages: HTML, CSS, and JavaScript
- Surveying other programming languages such as Python
- Creating an application using HTML, CSS, and JavaScript
- Analyzing data using machine learning algorithms and techniques
- Exploring coding careers paths and different ways to learn how to code

As you read this book, keep the following in mind:

- The book can be read from beginning to end, but feel free to skip around if you like. If a topic interests you, start there. You can always return to the previous chapters, if necessary.
- At some point, you will get stuck, and the code you write will not work as intended. Do not fear! There are many resources to help you, including support forums, others on the Internet, and me! Using Twitter, you can send me a public message at `@nikhilgabraham` with the hashtag `#codingFD`. Additionally, you can sign up for book updates and explanations for changes to programming language commands by visiting `http://tinyletter.com/codingfordummies`.
- Code in the book will appear in a monospaced font like this: `<h1>Hi there!</h1>`.

Foolish Assumptions

I do not make many assumptions about you, the reader, but I do make a few.

I assume you don't have previous programming experience. To follow along, then, you only need to be able to read, type, and follow directions. I try to explain as many concepts as possible using examples and analogies you already know.

I assume you have a computer running the latest version of Google Chrome. The examples in the book have been tested and optimized for the Chrome browser, which is available for free from Google. Even so, the examples may also work in the latest version of Firefox. Using Internet Explorer for the examples in this book, however, is discouraged.

I assume you have access to an Internet connection. Some of the examples in the book can be done without an Internet connection, but most require one so that you can access and complete the exercises on `www.codecademy.com`.

For the books on data analysis and machine learning, I assume you are able to download and install the Python programming language and associated programming libraries, both of which are available for free. I also assume you have some math background and understand how algorithms work.

Icons Used in This Book

Here are the icons used in the book to flag text that should be given extra attention or that can be skipped.

This icon flags useful information or explains a shortcut to help you understand a concept.

This icon explains technical details about the concept being explained. The details might be informative or interesting, but are not essential to your understanding of the concept at this stage.

Try not to forget the material marked with this icon. It signals an important concept or process that you should keep in mind.

Watch out! This icon flags common mistakes and problems that can be avoided if you heed the warning.

Beyond the Book

A lot of extra content that you won't find in this book is available at www.dummies.com. Go online to find the following:

- **The source code for the examples in this book:** You can find it at

  www.dummies.com/go/codingaiodownloads.

  The source code is organized by chapter. The best way to work with a chapter is to download all the source code for it at one time.
- **The links to the Codecademy and other exercises:** You can find these at

  www.dummies.com/go/codingaiolinks.
- **Cheat Sheet:** You can find a list of common HTML, CSS, and JavaScript commands, among other useful information.

  To view this book's Cheat Sheet, simply go to www.dummies.com and search for "Coding For Dummies All-in-One Cheat Sheet" in the Search box.
- **Updates:** Code and specifications are constantly changing, so the commands and syntax that work today may not work tomorrow. You can find any updates or corrections by visiting

  http://tinyletter.com/codingfordummies.

Where to Go from Here

All right, now that all the administrative stuff is out of the way, it's time to get started. You can totally do this. Congratulations on taking your first step into the world of coding!

1 Getting Started with Coding

Contents at a Glance