



The
Pragmatic
Programmers

Kotlin Brain Teasers

Exercise Your Mind

Sam Cooper
edited by Dawn Schanafelt

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Introduction

A good piece of code, says the software design *principle of least astonishment*, is one that does pretty much what you were expecting it to do.

Well, by that definition, the programs I've prepared for you in this book are absolutely terrible. Just awful. They'll baffle, delight, entertain, and surprise you at every turn.

I'm not talking about spaghetti code, gnarly naming, or complicated class structures. Each puzzle is just a few lines of simple Kotlin—and that's why I suspect you'll find their offbeat outcomes just as intriguing and compelling as I do.

Most of the time, Kotlin is clear, concise, expressive, and safe. That's the reason I love it! But over the years, the programs where things don't work out that way are the ones that have taught me the most—about Kotlin's design and evolution, about its use of key computer science concepts, and about how to use its syntax and standard library even more effectively.

When a language crafted with as much skill and care as Kotlin lets a simple program do something truly bewildering, you can be sure there's an interesting story behind it. Those are the stories in this book.

About the Puzzles

I'll begin each story by showing you the code for a short Kotlin program—no more than a few lines, and no additional dependencies. Your job is to read the program and figure out what it's going to do. Does the program compile and run? If so, what does it output?

I'm not out to trip you up with misused syntax or misnamed functions. Instead, if a puzzle fails to compile, the issue will be something subtle or surprising that invites you to think more deeply about the code. More often, the program will run just fine, but it won't do what you were expecting.

After you've studied the code, turn the page to discover the correct output and learn more about the program's behavior. Visit the book's dedicated page¹ on the Pragmatic Bookshelf website to download the code, discuss the puzzles, and share your feedback.

About You

If you enjoy programming in Kotlin, this book is for you.

A basic knowledge of the Kotlin language and its standard library is all that's required to understand the puzzles and appreciate what makes them interesting. But even if you're a Kotlin expert, you'll still find plenty of surprises—and you'll be all the more intrigued when things don't go the way you were expecting.

It's up to you how you want to approach this journey. Quiz your friends, level up your Kotlin skills, or just enjoy the ride. Follow the book through from start to finish, or jump right to a puzzle that catches your eye. Test out the code in the free online Kotlin Playground,² load it up in IntelliJ IDEA, or puzzle it out in your head.

Are you ready? Let's get puzzling!

1. <http://pragprog.com/titles/kotlinbt>
2. <https://play.kotlinlang.org>