Book Reviews

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Test-Driven Development with Python
Harry J. W. Percival
O'Reilly Media, Inc., 2014, 449 pages
ISBN 978-1-449-36482-3
Harry Percival is a convert to test-driven development (TDD) and he wants you to be one, too. Usually I have a real problem with this kind of enthusiast, but Percival's easy tone and a touch of quirky humor kept me reading.

Percival's chosen tools for writing about TDD are Python 3, Django, Git, and Selenium. He does assume experience coding and recommends several other texts for the reader who might not be ready. It would be good to brace yourself because it's quite a ride. At the end of the first chapter, he has the reader viewing a browser page popped up by Selenium from the first test page.

You might be forgiven if, after leafing through the body of the text, you thought that the book was really about Web development with Django. Percival touches on object relational mapping and persisting objects into a database in one chapter and on REST service behavior in the next. He treats Web forms and input validation and backend automation methods. When he comes to the content and behavior of the pages themselves, he includes some JavaScript (along with suggestions for testing). A closer look shows that he's applying TDD throughout the process. The application always drives the development (and hence the testing) activity.

In the final sections he covers advanced topics like mocking and continuous integration with Jenkins. Here the focus is back on the testing proper, and he closes by revisiting the Testing Goat. (Go ahead, Google it.)

With the breadth of tools and techniques here, Percival could fill a book much larger than this. Instead, he gives judicious references to other books and documents, inviting the reader to take a side trip and come back. He manages to instill the narrative with an invitation to try a new way of working while avoiding much of the preachiness that methodology books often have. If you're planning to learn or, better, to try TDD, this is a great place to start.

The Theoretical Minimum: What You Need to Know to Start Learning Physics
Leonard Susskind and George Hrabovsky
Basic Books, 2013, 238 pages
ISBN 978-0-465-0758-3
This isn't a programming or sysadmin book. It's a guide for the serious autodidact who is unsatisfied with typical whitewashed popularized books on physics. I'm presenting it here because its underlying premise, "the theoretical minimum," appeals to me.

The book is actually the result of a series of adult education courses that Susskind has run at Stanford University. It's the first of a series of serious physics courses for people who are curious nonprofessionals. The lectures are online and free at http://theoreticalminimum.com/courses. Susskind noted that his typical undergraduate students were often less than enthusiastic about actually learning physics. By contrast, the students who came to the adult ed courses were all motivated by their personal curiosity. Teaching them was more fun.

Susskind's idea is to pare down the ideas and the mathematics of classical physics so that an intelligent nonacademic can understand them in the terms a professional would recognize. This means glossing over many of the side routes and much of the theoretical depth that would be included in a two- or three-semester undergraduate course in classical physics. At the same time, he doesn't skimp on the depth and rigor in his discussion of the ideas he presents.

In the course of eleven chapters (corresponding to the eleven lectures of the classroom course), Susskind presents the theory and mathematics of classical physics. The first chapter would be familiar to anyone who has taken a high-school course: vectors. In the second chapter, the reader has to tackle the concepts of integral calculus and the symbolic language needed to express them. Susskind progresses rapidly through dynamics, energy, and one of the best discussions of the relationship between symmetry and conservation that I've read.

One of the things I like most about this book is that the mathematics is explained in terms of the physics and vice versa. I've always had difficulty understanding why college math and physics departments insist on treating the two topics separately. The mathematicians seem not to want to sully themselves with physics, and the physicists insist they can't begin work unless the students come in already fluent in calculus. When the two are combined, they produce a unified comprehensible whole that is impossible to capture separately.

I'm reviewing this book here for two reasons. The first is that many of us are inveterate geeks who love learning for its own sake, and if you're one of those, The Theoretical Minimum is an excellent read. The other is a proposition to the community of coders and system administrators: Is this something we can do? Is it possible to strip away the trivia and minutiae that each of us holds dear and leave something useful? What would The Theoretical Minimum mean for us?

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