Book review: *LaTeX Graphics with TikZ* by Stefan Kottwitz

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Stefan Kottwitz, *LaTeX Graphics with TikZ*. Packt Publishing, 2023, 304 pp., softcover, US$39.99 (print+ebook; other options available), ISBN 1804618233. packtpub.com/product/latex-graphics-with-tikz/9781804618233

The book *LaTeX Graphics with TikZ* by Stefan Kottwitz [1] comprises 285 pages featuring numerous colourful illustrations and examples. The printed version includes guidelines on obtaining a PDF version at no additional charge.

The sources of all the examples presented in the book are available for download from the publisher's GitHub repository.[1] This conveniently saves the reader from either retyping the code from the printed book or having to copy from the PDF. In cases where the book only contains a short code fragment, the examples online still show a complete example, including all the necessary packages and libraries.

For beginners

The book sets out to be a "practical and fast-paced introduction" to producing graphics with TikZ — and it lives up to this promise.

The target audience is users who already have some experience with LaTeX, albeit not necessarily with TikZ. For readers completely new to the world of TikZ, the book starts with the very basics, e.g. how to install the package. It then introduces the basic commands and concepts of TikZ in a well-structured manner.

Compared to the also excellent tutorials in the TikZ user manual [2], this book is a bit more hand-holding, which might be appreciated by new TikZ users looking for more guidance in their endeavour to explore the wonders of TikZ.

Intermediate TikZ users

An intermediate TikZ user may wish to skip over some of the more basic chapters and selectively read only the chapters they are interested in. The individual chapters work well as stand-alone texts. They each start with a short summary and repeat some generic information at the start, like where to find the source code of the examples online. They are also each concluded by their own short summary and a collection of useful links for further reading.

[1] github.com/PacktPublishing/LaTeX-graphics-with-TikZ

For this group of users, *LaTeX Graphics with TikZ* is a good companion to the TikZ user manual. Due to the focus on only the most commonly used macros and concepts, the book by Stefan Kottwitz can explain certain things in more detail and with helpful visualisations. Concepts such as the `even odd rule` and `nonzero rule` for filling paths benefit from this more in-depth explanation and may be easier to understand than in the user manual.

Advanced TikZperts

The scope of *LaTeX Graphics with TikZ* goes beyond the core functionalities of TikZ. It also introduces the reader to useful third-party packages and libraries, like the `spline` library (which might not be broadly known as it is not available from CTAN) or the `tikz-ext` library which can drastically simplify certain tasks. So if an experienced TikZ user comes across a copy of the book in a library or on a colleague's bookshelf, they might still find some useful information while thumbing through the book.

Summary

The book is nice to read and well-structured. Even though it is a technical book, it is far from humourless. The author tries to come up with interesting examples, e.g. why teach a user how to draw circles and arcs when you can instead teach them how to draw a smiley (cf. Figure 1)?

Figure 1: One of the example images from *LaTeX Graphics with TikZ* (source code taken from `github.com/PacktPublishing/LaTeX-graphics-with-TikZ/blob/main/02-First-steps-creating-TikZ-images/09-filling-colors.tex`).

One tiny fly in the ointment: For future editions, I would wish for a different typewriter font to avoid short code pieces (like '`to`') from blending in too much with the surrounding text.

References

[1] S. Kottwitz. *LaTeX Graphics with TikZ: A practitioner's guide to drawing 2D and 3D images, diagrams, charts, and plots.* Packt Publishing, 2023.

[2] The PGF/TikZ Team, T. Tantau, et al. *The TikZ and PGF Packages.* `ctan.org/pkg/pgf`

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