16-Further-Resources

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1 Resources for Further Learning

This concludes our whirlwind tour of the Python language. My hope is that if you read this far, you have an idea of the essential syntax, semantics, operations, and functionality offered by the Python language, as well as some idea of the range of tools and code constructs that you can explore further.

I have tried to cover the pieces and patterns in the Python language that will be most useful to a data scientist using Python, but this has by no means been a complete introduction. If you'd like to go deeper in understanding the Python language itself and how to use it effectively, here are a handful of resources I'd recommend:

- *Fluent Python* by Luciano Ramalho. This is an excellent OReilly book that explores best practices and idioms for Python, including getting the most out of the standard library.
- *Dive Into Python* by Mark Pilgrim. This is a free online book that provides a ground-up introduction to the Python language.
- *Learn Python the Hard Way* by Zed Shaw. This book follows a "learn by trying" approach, and deliberately emphasizes developing what may be the most useful skill a programmer can learn: Googling things you don't understand.
- *Python Essential Reference* by David Beazley. This 700-page monster is well-written, and covers virtually everything there is to know about the Python language and its built-in libraries. For a more application-focused Python walk-through, see Beazley's *Python Cookbook*.

To dig more into Python tools for data science and scientific computing, I recommend the following books:

- *The Python Data Science Handbook* by yours truly. This book starts precisely where this report leaves off, and provides a comprehensive guide to the essential tools in Python's data science stack, from data munging and manipulation to machine learning.
- *Effective Computation in Physics* by Katie Huff and Anthony Scopatz, is applicable to people far beyond the world of Physics research. It is a step-by-step, ground-up introduction to scientific computing, including an excellent introduction to many of the tools mentioned in this report.
- *Python for Data Analysis* by Wes McKinney, creator of the Pandas package. This book covers the Pandas library in detail, as well as giving useful information on some of the other tools that enable it.

Finally, for an even broader look at what's out there, I recommend the following:

- *OReilly Python Resources* O'Reilly features a number of excellent books on Python itself and specialized topics in the Python world.
- *PyCon*, *SciPy*, and *PyData*. The PyCon, SciPy, and PyData conferences draw thousands of attendees each year, and archive the bulk of their programs each year as free online videos. These have turned into an incredible set of resources for learning about Python itself, Python packages, and related topics. Search online for videos of both talks and tutorials: the former tend to be shorter, covering new packages or fresh looks at old ones. The tutorials tend to be several hours, covering the use of the tools mentioned here as well as others.