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Working with spreadsheet-style data in Python with pandas and seaborn (Version 1.0)

By Madeleine Bonsma-Fisher



Module Description:

This 4-hour participatory live-coding workshop takes learners through the basics of programming in Python via the Jupyter Lab interface and culminates with

exploration and visualization of real-world bicycle count data from the City of Toronto. The file 'lecture-notes-python-workshop.ipynb' can be opened and run with Jupyter notebook or Jupyter Lab, and the material is designed to be presented as a participatory live-coding workshop in which learners follow along as the instructor projects their code. The file 'lecture-notes-python-workshop.html' is a rendered version of the .ipynb notebook file that can be viewed in a browser.

This material focuses on using the package pandas for working with spreadsheet-type data and the packages matplotlib and seaborn for data visualization.

This material is based on workshops (<https://uoftcoders.github.io/2018-07-utoronto/>) hosted by UofT Coders (<https://uoftcoders.github.io>), inspired by Data Carpentry Ecology Python lesson (<https://datacarpentry.org/python-ecology-lesson/>).

Teaching Setting:

This versatile workshop is appropriate for undergraduates, graduate students, faculty, or staff in any discipline. This resource assumes no background knowledge of programming.

QUBES Citation:

Bonsma-Fisher, M. (2018). [Working with spreadsheet-style data in Python using pandas and seaborn](#). QUBES Educational Resources. [doi:10.25334/Q4PF](https://doi.org/10.25334/Q4PF)

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Related Materials and Opportunities:

This resource uses Jupyter Notebooks or Jupyter Lab, both of which are software hosted by QUBES. Both programs can be accessed from the [Jupyter Notebooks](#) and [Jupyter Lab](#) pages on QUBES and launched directly in a browser, eliminating the need to download them. [Browse all software on QUBES.](#)

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If you adopt and adapt this module, you are highly encouraged to share your adaptation back with the QUBES community using the QUBES Resources System for sharing Open Education Resources.



QUBES is a community of math and biology educators who share resources and methods for pre-college students to use quantitative approaches to tackle real, complex, biological problems.

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