A Public Repository of python resources
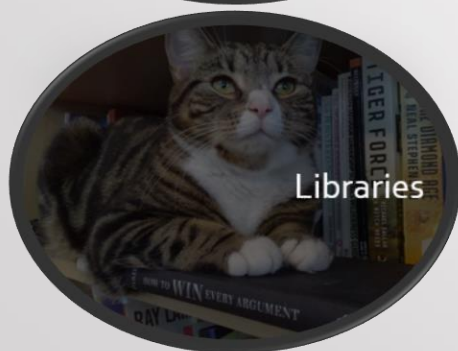
Subtitle

Abstract

This presentation will be of a slightly different format than our usual student seminars. Instead of being a presentation on my specific research, it will be a presentation regarding the resources available for learning python. Before coming to BU, I had never used python. As I learned more about programming, I came to appreciate the utility of python and began seriously studying the language.

Python is a robust and highly popular open source programming language. As result, there is a wealth of resources available. However, the vastness of information can make it difficult to know where to start, or how to know which resources are the most worthwhile. The motivation behind this presentation is to help others learn python, or become aware of resources they may otherwise have not known about. This presentation will cover some general coding and python basics, the most important best practices to be aware of, important python libraries for astronomy, and, most importantly, a repository of some of the best resources I have found for python and coding in general.
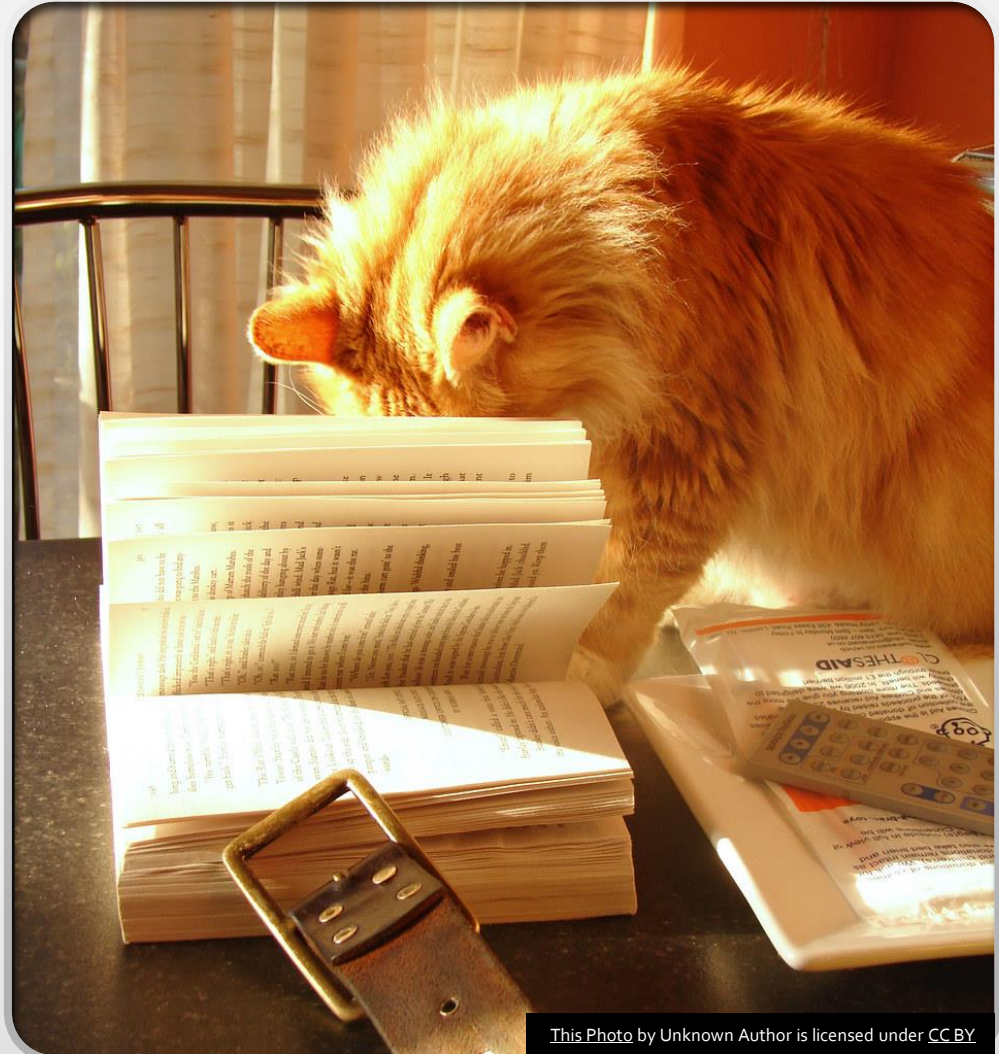
Outline

The Repository

Installing Python and Libraries

Editors

Basics and Best Practices

Libraries

Git

Resources

The Repository

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The Repository

- [GitHub](#)

- [Open for collaboration](#)

- [https://github.com/ mhallum/important- python-resources.git](https://github.com/mhallum/important-python-resources.git)

Installing Python and Libraries

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Installing Python and Libraries

- Python 2 vs. Python 3
  - Python 3!
- Website: https://www.python.org/
- PyPi
- Pip

Editors

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Editors

- Visual Studio Code
- Atom
- Jypyter Notebook
- Pycharm
- Spyder
- Default

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Basics and Best Practices

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Basics

- Objects
- Print
- comments
- dir
- help
- Modules
- Packages
- https://github.com/astropy/astropy
- dunder

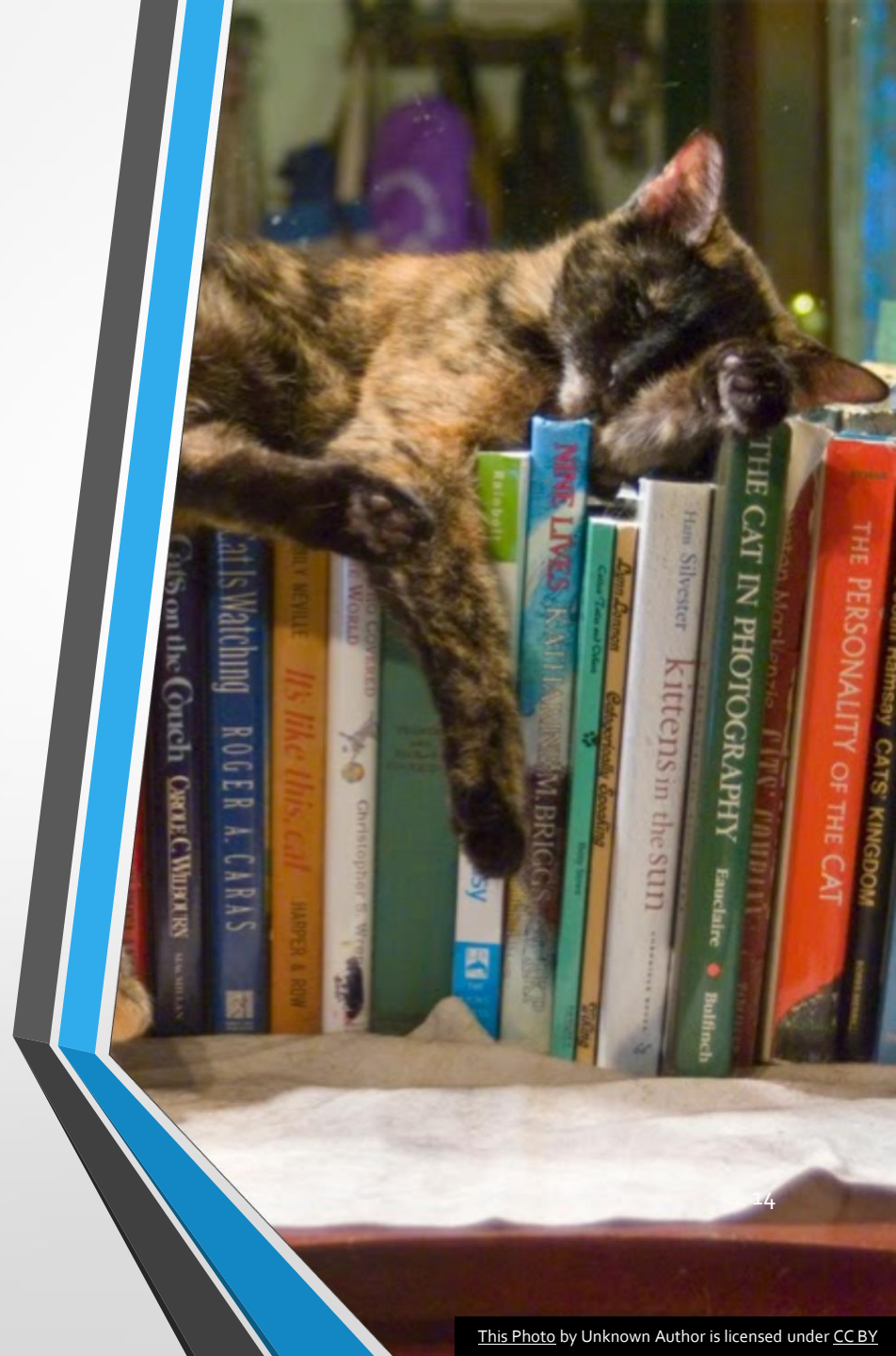# Best Practices

- Pep 8 https://www.python.org/dev/peps/pep-0008/

- 4 spaces

- Variables and functions are lower case with _ for joining multiple words.

- Classes are CamelCase (but instances are lowercase).

- Private variables/functions/ect., begin with _.
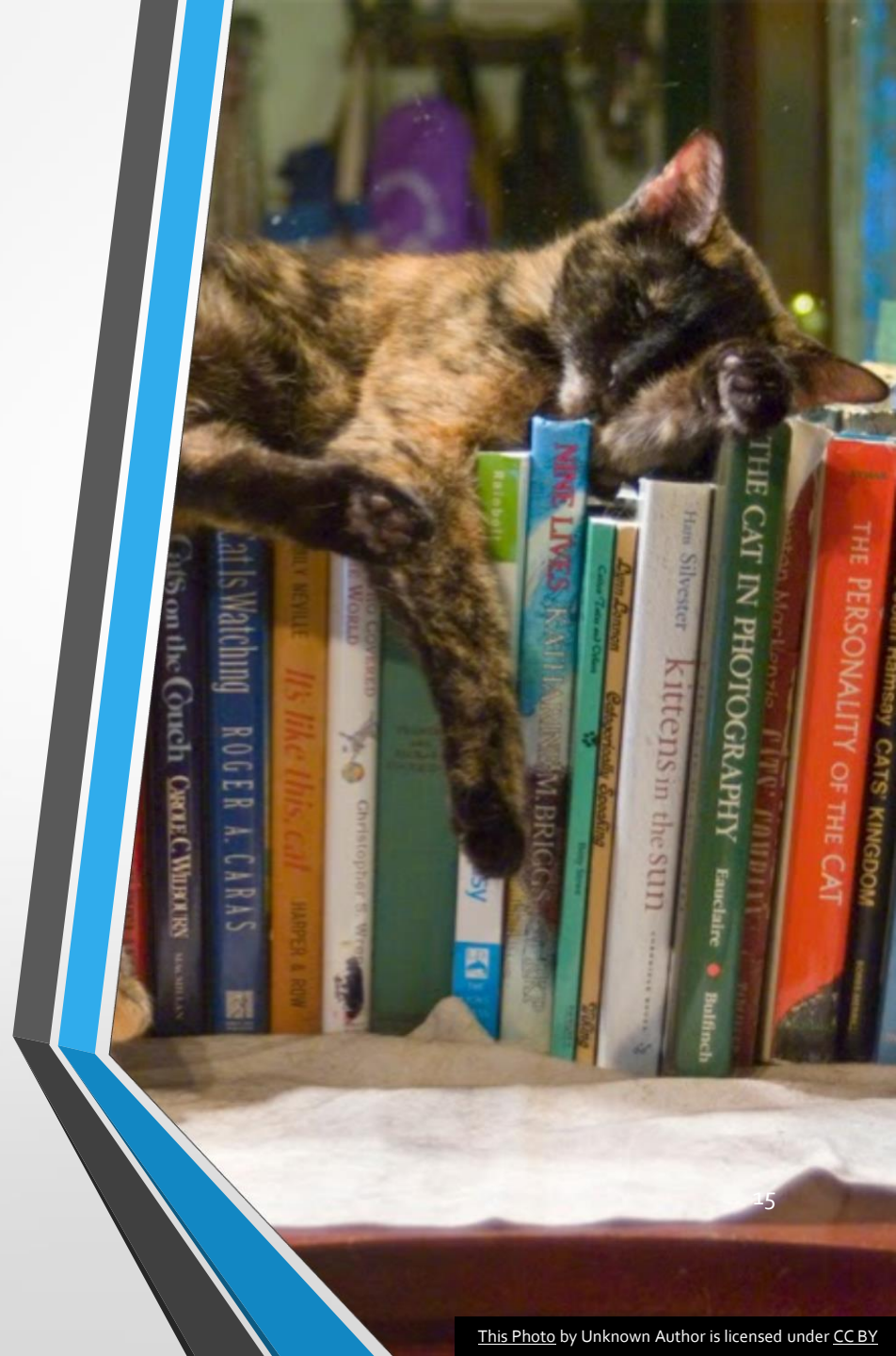
- Use virtual environments

Libraries

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Standard

- os
- pathlib
- glob
- pickle
- argparse
- datetime
- math
- statistics

Third Party

- matplotlib

- pandas

- numpy

- scipy

- astropy
  https://www.astropy.org/

- ccdproc

- specutils

Git

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Git

- Version control.
- https://git-scm.com/
- Stage
- Commit
- Push

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Resources

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Resources

- Previously referenced websites

- Real Python https://realpython.com/

- Medium https://medium.com/

- YouTube

- Udemy Courses
  https://www.udemy.com/

  - Wait for sales.

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Questions?