Programming Workshop

Introductory Meeting
5 September 2016

Outline

- Purpose of workshops
- Topics for Beginner's Programming Workshops
- Topics for Programming Workshops
- Linux installation options
- Questions / Discussion

Purpose of Workshops

1. Expose students to basics of programming
2. Familiarize students with using programming to solve problems

Topics for Beginner's Workshops

- Getting started with Linux
- Using Linux
- Intro to programming languages
- Basic Python use
  - Conventions
  - Scripting
  - Interpreter
  - Printing
  - Basic math
  - Documenting basics

Topics for Beginner's Workshops (cont'd)

- Python
  - Importing modules
  - Functions
  - Classes (when to use, when to not)
  - I/O
  - Dictionaries
  - Basic plotting
  - Documenting
- Basic algorithm analysis

Topics for Workshops

- Review
  - Using Linux
  - Programming languages
  - Basic Python use
  - Python conventions
- Algorithm analysis
- Efficiently storing/retrieving data
- Python
  - Classes vs Functions and benefits of either
  - Documentation
  - Matplotlib:
    - (see next slide)

Topics for Workshops (cont'd)

- Matplotlib subtopics:
  - Basic line plots
  - Scatter plots
  - Box plots
  - Histograms
  - Subfigures
  - Minute tweaking
  - Interactive plots?

Linux Installation Options

- Dual booting
  - Permanent
  - Most stable option
- Virtual machine
  - Impermanent and quick
  - Can be difficult to set up
- Linux flash drive
  - Portable
  - Sometimes finicky to set up wireless card drivers

Questions?