Software Engineering for Beginners

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github.com/kojoidrissa/pycaribbean_2018

Premise

- Programming vs Software Engineering

- "Pro" software development vs personal projects

- Coding with a team vs working solo

Version Control (Git)

- Why?

- Protect yourself from mistakes

- Enable yourself to try new things

- Learn to work w/ a team

Version Control (Git)

- When?

- 10 or more lines of working code that you're scared to change because it might break

Version Control (Git)

- What/How?

- Solo usage

- Basic feature branch/ merge workflow

Version Control (Git)

- Reference

- Pro Git Chapters 1-3

- https://git-scm.com/book/en/v2

Documentation

- In Code vs About Code?

  - Start w/ In Code

Documentation

- Why?

  - Help your future self

  - Help your teammates help you

  - Avoid that form of technical debt

Documentation

- When?

  - Writing code using a new technique

  - Writing functions, especially if they call other functions

Documentation

- How?

  - Docstrings for functions (minimums)

    - What the function does

    - What it takes as input (include data type)

    - What it produces as output (include data type)

Documentation

- Next Step?

  - Learn a markup language

    - ReStructured Text or Markdown

  - Learn about Python documentation standards

    - https://devguide.python.org/docquality/

Testing & TDD

- Testing vs "PURE" TDD

- Why?

  - Tests protect you from future changes breaking things

  - TDD: "write tests first" forces you to think before you type

Testing & TDD

- When?

- As soon as possible

- Art + Science: experience helps

Testing & TDD

- How?

- New coders: Python unittest and doctests

- Experienced coders: pytest

Testing & TDD

- Next Step?

- New coders: pytest

- Experienced coders: Continuous Integration (CI)

Other

- Dependency Management & Deployment

  - Virtual Env

  - Containers

    - DjangoCon 2016 Day 2 Lightning Talks Joe Cronyn

  - Virtual Machines (VMs)

Other

- Development Environment

- CLI vs. GUI: can you navigate?

- Terminal multiplexer

  - screen, tmux, byobu

- A shell language

Next Steps for Me

- A tutorial version of this talk?

- Feedback on interest?

18

Questions/Comments?

- @Transtion on Twitter

- github.com/kojoidrissa/
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