Proposal for Adopting and Adapting an Open-Source Curriculum and Textbook for Python

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May 2, 2019

1 Premise and Motication

CIS 1051 is one of two introductory programming courses offered by the Computer and Information Sciences Department. Students must take this course or CIS 1057 (An introductory programming course in C) before moving onto CIS 1068 (a more advanced programming course in Java). CIS 1051 is geared towards students who have no background in computer science or programming, with only the most rudimentary math prerequisites. This is the only programming course many students take.

I currently teach most of the sections for 1051, which amounts to about 150 students. The typical textbook costs between $60 to $150, depending on the source (the overall cost is left as an exercise to the reader). This is typical for a computer science textbook from a major publisher. This cost leads many students to just pirate the textbook (a behavior which many faculty turn a blind eye to), rely on the slides, or do without.

Previous semesters have utilized *Think Python*, by Allen Downey, who is quite passionate about free books and has written a number of them for computer science and programming topics. *Think Python* is a well known free textbook, licenced under the CC BY-NC 3.0 creative commons license. The hard copy MSRP is $45, but typically sells for $30. *Think Python* is well written but the textbook is short, sparse on examples and exercises, and perhaps just a bit *too* concise. I have found our instructors typically just used as a reference rather than a companion for learning and diverge from the material at some point.

This most recent semester used *Automate the Boring Stuff with Python*, by Al Sweigart, also under a creative commons license (CC BY-NC-SA 3.0). *Automate the Boring Stuff with Python* is an excellent book, with numerous examples, jokes, and perhaps a slightly unhealthy obsession with RoboCop. It is intended for an audience of learners who do not intend to go into a programming related career, but might find their daily work task improved by programming.

It is an excellent text for self learning, but as a textbook for students it is lacking in some areas.

missing turtles

2 Plan

open source and free software is highly valuable virtues in computing and should be exposed to students early.

integrate some chapters and examples from automate Utilize Runestone academy and python-snek

3 Benefits

3.1 Progress Tracking

3.2 Parson Puzzles

4 Possible Negative Outcomes or Complications

4.1 Instructor Time Sink

4.1.1 Coordination With Canvas

4.2 Additional Login