Course Summary and Review for Final

May 11, 2020

Administrative notes:

Project 3 is due tonight at midnight. If you need an extension, let me know - I can give you 48 hours (until Wednesday night)

The Final Exam is Friday evening, May 15, 6 - 8 pm, on Blackboard.

Final Exam

There is a sample final on Blackboard until noon on Friday. You get one chance to take it to see how you do in 2 hours.

- It’s also in PDF on the slack channel; you can study it and work on it at your leisure

I’ll have grades available as quickly as I can. This weekend is set aside for grading exams, so you should have the exam grade by next Monday.

Course Summary

What should you have gotten out of this course?

1. Computer Science is the study of how to make the computer do what you want it to do, the right way
    a. It’s far more than just “coding”
2. How to solve problems using the Python language
    a. Algorithms - how to figure out a solution to your problem
    b. Data structures - (lists, dictionaries, strings,...) - how to organize the data you have to deal with to make getting a solution easy, and to make your solution more understandable
    c. Development - the process and the tools
        i. Process: structure, organization and test as you go
        ii. Tools: editor, interpreter, debugger - Integrated Development Environment (IDE)

Course Summary (2)

3. How to use tools to solve your problem

- All too often, jobs/positions focus on “what tools do you know?”
  - “I know Python, C++, Kubernetes, TensorFlow, AWS, Azure, Slack,...”
  - Wrong approach. You can learn how to use any tool. But you can’t learn how to solve problems with the tool unless you know how to solve problems
- But knowing how to use the tool is still a good skill to have

A list of tools...

We didn’t really start this semester planning on having you use all of these, but that’s how it worked out:

- Linux/bash (gl.umbc.edu)
- Emacs (old-fashioned text editor)
- Python3 interpreter
- PyCharm (IDE)
- Slack
- Discord
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- WebEx
- Blackboard
- GitHub
- Jupyter Notebooks

The future of Comp Sci

CMSC 291 - A continuation of problem solving and programming in the Python language. Emphasis is placed on the solution to more complex programming problems, expanding on the topics of modularity, abstraction, program design, testing, and debugging. The use of Python libraries relevant to non-CS major fields are presented.

- Projects like writing your own web app and deploying it on the Internet

The Sample Final

Now, we'll go over the sample final and answer questions about the Project.