Quarter Exam Notes

November 12, 2020

Quarter Exam Structure

The exam will consist of the following types of questions:

- Short Answer Questions

- Programming Questions (i.e., given a problem, provide the Python code that solves this problem)

You will be given 90 minutes to complete the exam. The exam will be open-everything (books, notes, internet, etc.). However, you must uphold academic honestly where you cannot communicate with anyone (i.e., classmates, peers, friends, etc.) during the exam.

Exam Topics

- Assignment statements and its various forms

- Core data types

- Mutability vs. immutability

- Control-flow statements (if/elif/else, for/while)

- Functions

  - Scope and namespaces, name resolution (LEGB)
  - lambda functions
  - Parameters and arguments
  - Polymorphism
  - Closures & Function Attributes

- Dynamic typing (Shared References)

- Module Basics

- Iteration protocol

- Functional programming tools (map, filter, reduce)

- Comprehensions

- Generator functions and expressions Comprehensions

- Object-Oriented Programming

- Classes

- Inheritance including Abstract Base Classes

- Properties

- Nothing covered in Week 7 (i.e., the "The Python Data Model") videos will be on the exam. Only topics from Week 1 - 6.

Information about these topics are covered in the lecture slides and textbook, which you can find on the course calendar.

Practice Problems

The CSC-121 (Computer Science with Applications 1) provides a good set of practice problems to help you prepare for the exam. In particular, it points to problems listed on the Kattis website where you can submit solutions and determine whether your solutions are correct. Many of you should already by familiar with Kattis if you did the placement exam practice problems. If not, then there are instructions for setting up a Kattis account. You can check your solution to the "Be-a-Computer" exercises by running them in the interpreter. Some of the Kattis problems will be harder than the ones you will encounter on the exam. This is only to help you practice.

https://classes.cs.uchicago.edu/archive/2020/fall/12100-1/pp/index.html

Make sure to only try the problems that are based on the topics that will be covered on the midterm. Let me know if you have any questions.