CS111 Final Exam Prep

Topics

Lists
- creating, accessing, processing
- common, useful methods
- 2D lists

Dictionaries
- creating, accessing, processing
- common, useful methods

Functions
- use of None
- default values for parameters

Object-oriented programming
- Developing classes
    - instance variables
    - Representing new data types
    - __init__
    - __str__
    - other methods
- Terminology
- Using defined classes

Search techniques
- Linear search
- Binary search

Command-line arguments
- Syntax
- Use

Exceptions
- Syntax
- Use

Security vulnerabilities

What is Computer Science? What are fields in CS?

What I expect from you on exam:

- To know the Python/programming terminology
    - E.g., names for types of statements
- To know the appropriate Linux commands and how to use them, given a typical situation from lab
- To be able to read a program and describe what the program is doing at a high level in plain English (comments), trace through the program's execution given input (control flow), and say what the program outputs
- To be able to write a program (given an algorithm or creating your own algorithm, given a problem)
    - Syntax must be very close to correct (correct keywords, indentation, special characters, variable naming, operations)
    - Since the exam is on paper, there is some leniency—may mark it up somehow if, for example, something should be indented

Suggestions on how to prepare:

- Practice programming on paper and verify program in Python. (Use problems from class or labs.)
- Practice reading through programs, tracing through them, and saying what the output should be
- Read through slides for vocabulary and non-problem-solving exercises
- Review Linux commands