

CSSE 120 DAY 1

Intro to Software Development

Outline



- Roll call
- Introductions
- Introduction to course
- Hands-on Introduction to Python

Roll Call & Introductions



- ☐ Name (nickname)
- ☐ Hometown
- ☐ Where you live on (or off) campus
- ☐ Something about you that most people in the room don't know

Note: this means you should be Answering Question #1 on the quiz → **Q1**

Administrivia



- Background
- Syllabus
- Schedule
- Homework 1 due at start of next class
 - ▣ Reading and Angel quiz on it
 - ▣ Programming part
 - Note: please put your **name** in a comment at the top of your Python file
 - Otherwise, you will earn 0 points
 - Style requirements will be added as course progresses.

Exams



- Mark your Calendar!
- Exam 1: Tuesday, September 22, 7:00-9:00 PM
No regular class that day
- Exam2: Thursday, October 22, 7:00-9:00 PM
No regular class that day
- Final Exam: To be scheduled

How to succeed in CSSE1 20

- Read the textbook before each class
 - ▣ Try out the code
 - ▣ Take the ANGEL quiz over the reading
 - If you don't do well, read again and retake quiz
 - ▣ Ask questions on what you don't understand
- Start early on the programming assignments
 - ▣ Don't be satisfied with getting your code to work
 - ▣ Be sure you understand it. If you don't, ask!
- Work and learn with other students
 - ▣ But don't let them do your work for you
- Take advantage of instructor office hours and student assistant lab hours

Basic Definitions



□ Computer

- ▣ Device for manipulating data
- ▣ Under control of a changeable program

□ Program

- ▣ Detailed set of instructions
- ▣ Step by step
- ▣ Meant to be executed by a computer

The two ends of programming



1. See the Big Picture
2. Get the Details Right

Many important programming techniques are methods of getting from #1 to #2.

Some Computer Science Questions



- What can be computed?
- How to compute it efficiently?
- What is the best way to turn a mass of raw data into usable information?

What is an Algorithm?



- Step-by-step procedure for accomplishing something
- Presented at the right level of detail (and in the right language) for the one who will execute it

Algorithm Analogy -- Recipe



- Bake a cake
 - ▣ Instructions for an experienced cook
 - ▣ Instructions for a 7-year-old
 - ▣ Instructions in French

Algorithm for a very simple task



- For a student to execute.
- For a robot to execute.

Four important CS skills



- Design algorithms
- Analyze algorithms
- Evaluate algorithms
- Adapt algorithms

Human Languages vs. Programming Languages



- Ambiguous vs. very precise
- Syntax (form) must exactly match ...
 - ▣ CaSe MAtterS
- Semantics (meaning)
- Translation
 - ▣ High-level language (Maple, Java, Python, C) to
 - ▣ Low-level language (machine language)
 - ▣ Compiler, interpreter

PYTHON: A PROGRAMMING LANGUAGE!

Q9-10 at end