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**

Instructor Intro

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: Thursday, January 7, 7:00-9:00 PM

  No regular class that day
- Exam2: Thursday, January 28, 7:00-9:00 PM

  No regular class that day
- Final Exam: To be scheduled during Finals week

How to succeed in CSSE120

- 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

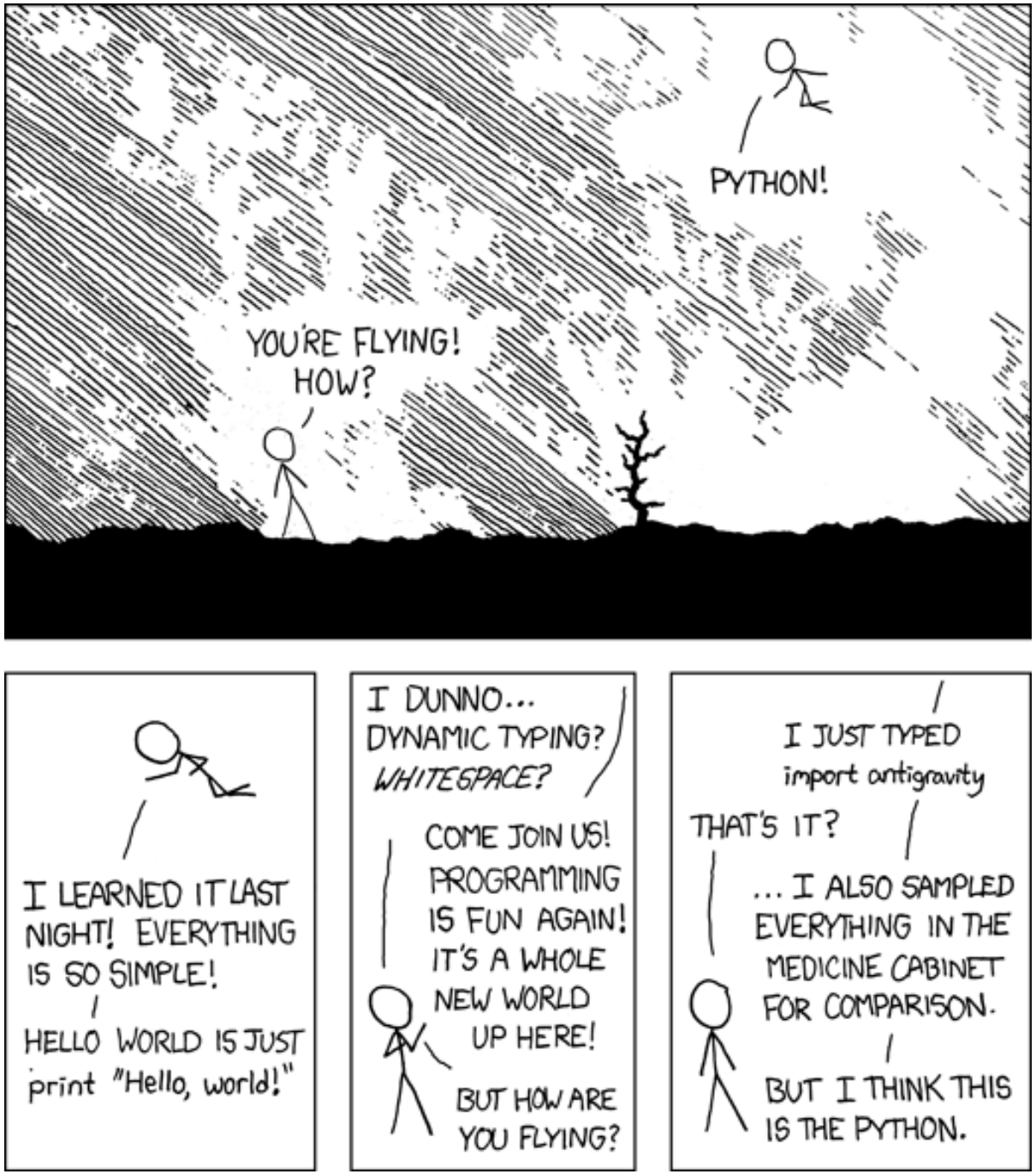
- For a student to execute.
- For a robot to execute.

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



http://xkcd.com/353/

PYTHON: A PROGRAMMING LANGUAGE!

Q9-10 at end