Announcements

1. No handout for today
2. No iClicker points on CMS?
   Come up after lecture, iClicker in hand
3. Consulting might move to a bigger room. Watch Piazza!
Breakout as metaphor
Some days, you’re the bricks
But some days, you’re the paddle
Assignment 1: Currency

Due to CMS by Monday, February 24th at 11:59 pm.

All updates marked in orange. Major updates also documented here. Update Web Feb 12 8:42am: removed request to fill out a survey; change import style instructions in section "The Module a1test".

Thinking about that trip overseas? It is best to go when the exchange rate is in your favor, if you can swing it. When your dollars buy more in the foreign currency, you can do more on your vacation. Hence, it would be nice to have a function that, given your current amount of cash in US dollars, tells you how much your money is worth in another currency.

However, there is no set mathematical formula to compute this conversion. Rather, the value of one currency with respect to another is constantly changing. In fact, in the time that it takes you to read this paragraph, the exchange rate between the dollar and the Euro has probably changed several times. How on Earth do we write a program to handle something like that?

One solution is to make use of a web service. A web service is a program that, when you send it web requests, automatically generates a web page with the information that you asked for. In our case, the web service will tell us the current exchange rate for most of the major international currencies. Your job will be to use string-manipulation methods to read the web page and
Q: Which of A, B, or C has the same length as the line on the card to the left?

[Image: Two cards with lines, A, B, C labels]

College student subject, wearing glasses, leaning forward to look more closely at the cards as many of the other (planted-confederate) students gave incorrect answers.

How do you win?
Habits of Programming

- Change one thing at a time
  - Test before proceeding
    - ... which often means writing your test cases first

- Document what you’re doing
  - Docstrings, specs, invariants, good variable names

- Aim for elegance and simplicity
  - The fewer lines, the fewer places for bugs
Habits of programming - Mind

• Figure out the problem beforehand

• Make a battle plan

• Stay organized

• Aim for elegance and simplicity

• Say “thank you” (credit your sources)
Like philosophy, computing qua computing is worth teaching less for the subject matter itself and more for the habits of mind that studying it encourages. ...
... within the confines of the box you are more or less God, your powers limited only by your imagination.

But the price of that power is strict discipline: you have to really know what you want, and you have to be able to express it clearly in a formal, structured way that leaves no room for the fuzzy thinking and ambiguity found everywhere else in life…
Animation
The box expands
TRON (Lisburger | Disney)
Iron Man 3 (Black | Scanline VFX | Marvel)
An extension of the mind…
creations of pure thought
Be the Ball!