Welcome to CS 240: Intro to Computer Systems

CS 240 in one sentence:
How does a computer run a program?

CS 240 first day

- Welcome
- CS 240 team, logistics, policies
- Assignment 0
- Course overview
- Lab!!

http://cs.wellesley.edu/~cs240/
Everything is here.
Please read it.

Assignment 0, “due” Friday by 5pm.
(required, but not graded)

Visit Ben’s office hours (or by appointment) by the end of this week to chat for a couple minutes about:
1. How to pronounce your name (if you think I’ll get it wrong).
2. What CS courses you have taken before.
3. What about CS 240 excites or concerns you.
4. Something about yourself that is not about CS 240.
The Hardware/Software Interface and Computer Organization

- What is hardware? Software?
- What is an interface?
- Why do we need a hardware/software interface?
- Why do we need to understand the hardware implementation of this interface?
Machine Code

(adds two registers and stores the result in a third)

00000101001010110100100000010000

Architecture specification

Assemblers and Assembly Languages

(adds two registers and stores the result in a third)

addl %eax, %ecx

Assembly language specification

Higher-Level Programming Languages

x = y + z

(adds two registers and stores the result in a third)

00000101001010110100100000010000

Language specification

More and more layers...

• Operating systems
• Virtual machines
• Hypervisors
• Web browsers
• ...