CIS 110

Introduction to Computer Programming
University of Pennsylvania
Spring2012

Benedict Brown

www.seas.upenn.edu/~cis110

Overview

What is CIS 110? Introduction to programming and computer science

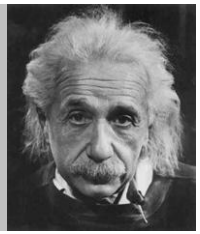
Goals.

- Demystify computer systems: what can computer do?
- Demystify computer science: what are the intellectual underpinnings?
- Demystify computer scientists: how do we think?

Topics.

- Programming in Java.
- Computer organization and assembly language
- Applications to science, engineering, and commercial computing.

> *" Computers are incredibly fast, accurate, and stupid; humans are incredibly slow, inaccurate, and brilliant; together they are powerful beyond imagination. "* – *Albert Einstein*



The Basics

Lectures [Benedict Brown]

- Monday, Wednesday, Friday, Towne 100, 12 and 1
- Office hours: MW 2-3, M 11-12 in GRW 258
- Email: `cis110@cis.upenn.edu`

and by appointment

Recitations

- Wednesday or Thursday
- Two TAs per recitation: twice the fun!
- Clarify lecture material, tips on assignments, group activities

TA Office Hours (MTW 2-9pm, Th 12-9pm)

- Questions about material
- Help with debugging
- Bring your laptop or use lab computers

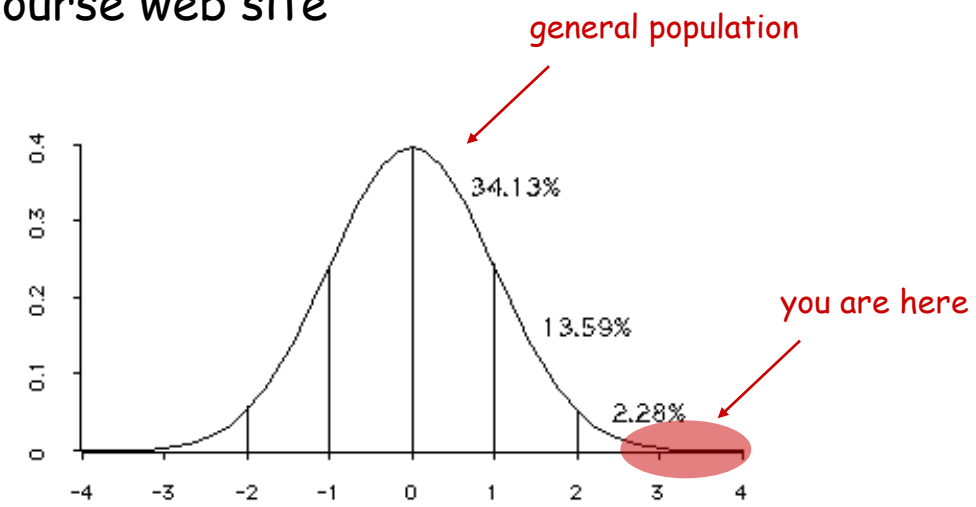
Full details and office hours. See `www.cis.upenn.edu/~cis110`

Grades

Course grades No preset curve or quota. Typically about half of students receive A- or higher. Many have no prior experience.

~9 programming assignments 40%
Recitation attendance and participation 10%
2 exams 50%
Extra credit and staff discretion Adjust borderline cases

Check grades Course web site



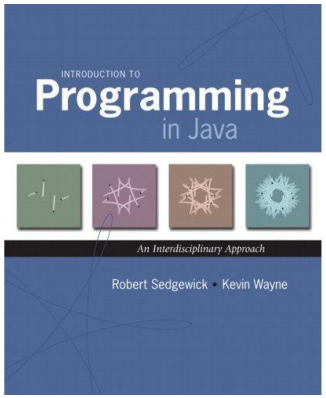
Course Materials

Course website [www.cis.upenn.edu/~cis110]

- Programming assignments and checklists
- Submit assignments
- Lecture slides ← usually posted after lecture
- Lecture videos ← don't always record properly, and don't record everything!
- Discussion board

skim before lecture; read thoroughly afterwards

Required text. Sedgewick and Wayne. *Intro to Programming in Java: An Interdisciplinary Approach.*



Programming Assignments

Desiderata

- Address an important scientific or commercial problem
- Illustrate the importance of a fundamental CS concept
- You solve problem from scratch!

Due

Thursdays 9pm on due date via Web submission

- 3 hour grace period (no extra credit, won't get questions answered)
- Four late days. Up to two per assignment.

Computing equipment.

- Your laptop [OS X, Windows, Linux, …]
- Moore computer labs

Advice.

- Start early; plan multiple sessions
- Seek help when needed

our job is to help you!

What's Ahead?

Lecture 2 Intro to Java

First recitation Meets next week on Wednesday/Thursday

Homework 0 Due Thursday, Thursday 16 January, 9pm

- Read Sections 1.1 and 1.2 in textbook
- Install Java programming environment + a few exercises
- Register for Piazza
- Lots of help available, don't be bashful

END OF ADMINISTRATIVE STUFF

Languages

Machine languages Tedious and error-prone

Natural languages Ambiguous and hard for computer to parse

Kids Make Nutritious Snacks
Red Tape Holds Up New Bridge
Police Squad Helps Dog Bite Victim
Local High School Dropouts Cut in Half
[real newspaper headlines, compiled by Rich Pattis]

'At Last' Singer Etta James Terminally Ill
[New York Time Online, 16 December 2011]

"Santorum is an Unpleasant By-Product of Sex"
[deredactie.be, 6 January 2012]

High-level programming languages Acceptable tradeoff

> *"Instead of imagining that our main task is to instruct a computer what to do, let us concentrate rather on explaining to human beings what we want a computer to do."* – *Donald Knuth*