Welcome to CS 42!
| Full name | T. 9/4 |
What?
CS 42: Principles & Practice of Computer Science
CS 42: Principles (and Practice) of Computer Science
The Principles in CS 42

Theory of computation & Machines (~4 weeks)
What is a computer?

Functional programming (~ 4 weeks)
There is no difference between functions and variables.

Problem-solving techniques (~ 3 weeks)
Algorithms & Data structures
What is Computer Science?

Object-oriented programming (~ 3 weeks)
How do we design a program so that it can grow and change?
Prior experience: programming languages

- Assembly: soon
- Racket: later
- Python: lots
- Java: none
How?
Three kinds of work

In-class
Why? introduce new skills and concepts, provide context, discuss implications
How? lectures, small-group discussions, exercises

Assignments
Why? practice skills and concepts
How? usually by making things

Exams
Why? build deeper understanding of concepts
How? apply familiar concepts in new contexts

Due Tuesdays at 11:59pm.
Pair-programming encouraged.
You can skip one assignment.
You can turn in two assignments up to one day late, each.

Take-home midterm 1: September 30–October 7
Take-home midterm 2: October 28–November 4
In-class final: Tuesday, December 18 at 9am
Learning style

I often participate in class.

I tend to dominate group discussions.

I often take notes.

I work better by myself.
I expect you to

Be academically vulnerable.

Encourage yourself to stay engaged.

Look out for everyone else.
A computational problem

How can the robot cover every non-wall space in this empty room?

A robot can sense whether there is a wall or not.

A robot can sense one space to its north, east, west, and south.
CS 42 at a glance

www.cs.hmc.edu/cs42
Read syllabus for course policies, grading, etc.

All communication happens in person or on Piazza.

There’s lots of support—we’re here for you!

[Image of a group of students]

your friendly CS 42 grutors
Important places

Olin (Ben)  Sprague (CIS)  Shan (class)  Platt (F&M)  LAC (grutoring hours)

Physical access: F&M

Electronic access: CIS

See also: www.hmc.edu/map/
My office
Olin B161C
Honor code interpretation
It’s all about building your own learning and looking out for others’ “In your head” rule.

See the syllabus for more detail.

If you’re not sure, ask.

We are *learning* ethical practices. We *will* make mistakes.
What is Computer Science?

What are the pieces we study?

What is not CS?

What do Computer Scientists do?

Is CS different from programming?
What is Computer Science?

Not a definitive definition!

Computer Science is the **study** of how we can **automate** our ability to generate, **transform**, **store**, and retrieve **information**.