Introduction

CS 211
Winter 2020
Road map

- What’s it all about?
- Topics
- Policies & grades
- Academic honesty
- Help & advice
What CS 211 is all about (1/2)

From the course abstract:
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- Topics include…
Topics

- Language mechanisms
  - New syntax for functional programming: expressions, values, conditionals, variables, functions
  - Imperative programming: statements, sequencing, iteration
  - Mutation: objects, assignment
  - Memory allocation on the stack and the heap
  - Representing information with structs, arrays, pointers
  - Static types, type erasure, generics

- Design techniques
  - Data abstraction: defining our own types
  - Memory management via ownership and borrowing
  - RAII: Resource Acquisition Is Initialization

- Engineering practices
  - Testing: for gaining confidence in our software
  - Debugging: to see what's happening in memory
  - The Unix shell: a compositional user interface
Topics

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  - New syntax for functional programming

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- No cheating…
In CS 211, we take cheating very seriously.

• Cheating is when you:
  ▶ Receive help of any kind on an exam (except from authorized course staff)
  ▶ Give help of any kind on an exam
  ▶ Share (give or receive) homework code with anyone who is not your official, registered partner
  ▶ Obtain code from an outside resource, such as Stack Overflow

• Please don’t do these things, because:
  ▶ If you don’t write code, you won’t learn; try to embrace the struggle!
  ▶ All cheating will be reported to the relevant dean for investigation

• If unsure about your particular situation, ask the instructor or other course staff
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  Grad T A: Mohammad Kavousi
  
  Peer T As: Ann Pigott, Brando Socarras, David Jin, Elise Lee, Margot Sobota, Max Chapin, Naythen Farr, Priya Kini
  
  The office hours schedule will be linked from the course web page: https://users.cs.northwestern.edu/~jesse/course/cs211/

- **Online.** Ask questions on Campuswire: https://campuswire.com/c/G123C6150
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- Be kind to each other.
I try not to make fun of people for admitting they don't know things. Because for each thing "everyone knows" by the time they're adults, every day there are, on average, 10,000 people in the US hearing about it for the first time.

\[
\text{Fraction who have heard of it at birth} = 0\%
\]
\[
\text{Fraction who have heard of it by 30} \approx 100\%
\]
\[
\text{US birth rate} \approx 4,000,000/\text{year}
\]
\[
\text{Number hearing about it for the first time} \approx 10,000/\text{day}
\]

If I make fun of people, I train them not to tell me when they have those moments. And I miss out on the fun.

"Diet coke and mentos thing"? What's that?

"Oh man! Come on, we're going to the grocery store. Why? You're one of today's lucky 10,000."
Relative homework difficulties

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<th>Difficulty</th>
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Relative homework difficulties

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<tr>
<td>FP</td>
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(On a scale from 1 to 10)
Suppose each function is called with an arbitrary integer value. Circle *all possible* outcomes:

- T The function returns `true`
- F The function returns `false`
- A The program terminates abnormally (a crash!)
Preexamination!

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}
```
Prexamination!

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T  F  A
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