Introduction to Programming Methods

Welcome to CS 2!

All About Me!

- My pronouns are **they/them**.
- Call me "Adam" or "Prof. Blank".
- I **care** about your experience in this course and at Caltech.
- CS 2 is my **favorite** course to teach!
- I love my dog **Hopper**.

Outline

- CS is for **EVERYONE**!!!!!!

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- Centered around **labs** and **projects**
- Active Learning
- Difficult, time-consuming, but well-supported
- Programming language is an implementation detail

Some of the labs/projects you will be implementing are:

- Mini Google Maps
- A scheme to hide text in images
- A guitar sound synthesizer
- ...

Lab

- Weekly "lab" like a chemistry or physics lab
- Practice that fits between lecture and projects
- Attendance is mandatory (lowest lab grade is dropped)
- You must attend the section you're signed up for due to space constraints

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Diagnostics

- At the end of lecture, we will ask you to complete a one question "diagnostic"
- You will get a second attempt during the remainder of the week
- To pass the course, you will need to "pass" **ten** diagnostics
- You must complete the first attempt in lecture to make the second attemptc

Office Hours

- Adam holds around six office hours a week.
- Feel free to set up a private appointment if you prefer.
- TAs hold **78** people office hours a week.
- All OH will be in ANB 106 (which we call $(CS)^2$).
- Queue will be randomized at the begining of all OH
- Course Staff might close the queue early if there are too many people to help.
- Please check-in when you have a question using the "check-in" screen in $(CS)^2$.

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- create a foundation for further study in CS
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This is the course where you stop thinking like a "programmer" and start thinking like a Computer Scientist!

Course Website

`https://debuggi.ng`

Grading

To pass the course, you must meet our criteria layed out in the syllabus. Note that all labs and projects will have infinite attempts until the deadline and will be autograded.:

Grace Count

- During the term, we will keep track of a "grace count" for you which indicates how flexible deadlines will be.
- tl;dr, turning in projects early increases grace; turning in projects late decreases grace.
- Read the syllabus for full details.

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- This is an in-person class. There will be no recordings of lecture provided.

The Big Picture

- "Duck" types vs. explicit types

```
variable = "hello"
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String variable = "hello";
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- White-space vs. braces

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1 if condition:
2     do_something()
3 else:
4     do_something_else()
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- Procedural programming vs. object-oriented programming
  - Python: code does not need to be in a function
  - Java: not only does code need to be in a function, but all functions must be in a class