Welcome to COGS 18:
Introduction to Python

Shannon E. Ellis, PhD
UC San Diego
Department of Cognitive Science
✉sellis@ucsd.edu

COGS 18

Reminder: This (and all lectures) in COGS 18 are being recorded.

Slides available: https://cogs18.github.io/assets/intro/01_welcome.pdf


hello
my name is
Professor Ellis

TAs

Shivani
David

"IAs"

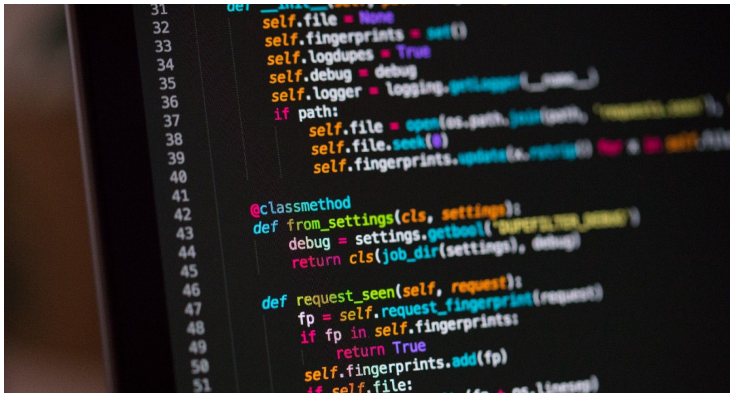
Qixuan
"Harrison"
Anuujin
Frank
Bora
Emma
Mani
Boning
Bob (Chongbin)

Note: Office Hours & CodingLabs begin Week 1

Zoom links/passwords are on Canvas homepage.

Let's chat: Teaching & Learning Programming

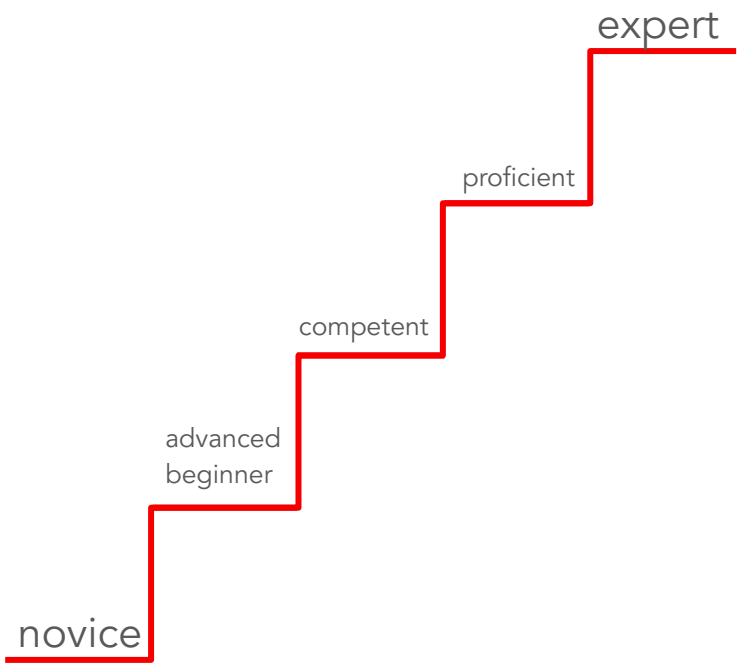
Intro Programming courses are often thought of as difficult and are courses with the highest dropout rates



….yet, the only thing that is slightly predictive of success in an intro programming course is…*how successful the student thinks they will be*

Things that do NOT predict success:

- gender
- age
- personality
- math ability

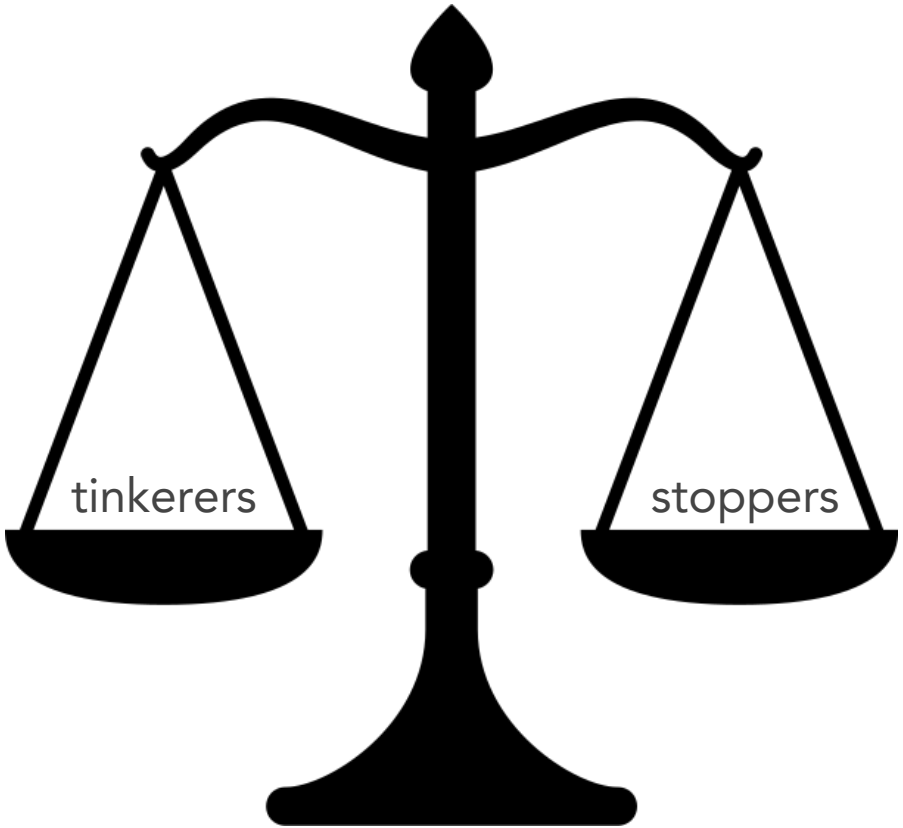


My goal is to have you all be able to program at an introductory level

It's generally accepted that it takes people 10 years to move from novice to expert programmer. But, there are lots of steps in between! We're working to move you further away from novice (& in the direction of expert) than you are right now.

Mixed Messages: We tell people learning to program will be tough and frustrating but that if you're not having fun, you're doing it wrong.

Building Blocks: Too often, we also tell people to "just try things out" without explaining basic concepts. Other courses aren't taught this way...



Be a mover: Make forward progress. Strike a balance between just stopping and tinkering forever.

If you're not moving forward, consider the 2-hour rule.

If you're trying to figure something out and struggling to move forward at all, consider the 2-hour rule. If you're stuck, work on the problem for an hour. If you're still stuck, walk away & take a 30 min break. Then, try again for another 30 minutes or so. If you're still completely stuck, stop and contact us (come to office hours, post on Piazza). If you're not even sure what your question is, include what information that you do have have - what you're stuck on, what you've tried, error messages you've received, etc.

Why Python?

simple(r) syntax

widely-used

Jupyter Notebooks

"It's not the best language for anything, but it's the second best for everything"
-Brad Voytek

COGS 18: How this course is going to work

To avoid the common pitfalls of intro programming courses, we're going to take the following approach:

1. First half of course: basic concepts
2. In-class practice
   a. Zoom polls for comprehension
   b. time to apply what was just explained
3. Coding Labs
   a. Notebooks provided
   b. Staff/classmates there to help
   c. Checked for completion, not correctness
4. Assignments
   a. Completed individually (*can* work together)
   b. Programmatically graded

COGS 18: How You'll Be Evaluated

	% of Grade	Requirement
Coding Labs	14%	Participate In 5 Coding Labs
Assignments	40%	Complete 5 assignments
Midterms	25%	2 midterms (1-2 h)
Final Project	21%	Complete final project

CodingLabs: apply concepts discussed in lecture using **coding labs (14%)**. Practice makes progress.

Attempt for full credit (2% each)

- Have to make a concerted effort to complete labs
- Coding Labs will be submitted on datahub
- Answers will be sent out the following week
- Can work with others

You should attend the section to which you're assigned. You *can* attend a different section. However, if one section becomes too crowded each week, we'll revisit this policy.

There will be a single zoom link for all coding labs, regardless of day of week or time.
Coding Labs start Wednesday.

(5) Assignments (40%) : Jupyter notebooks that are completed individually & graded programmatically.

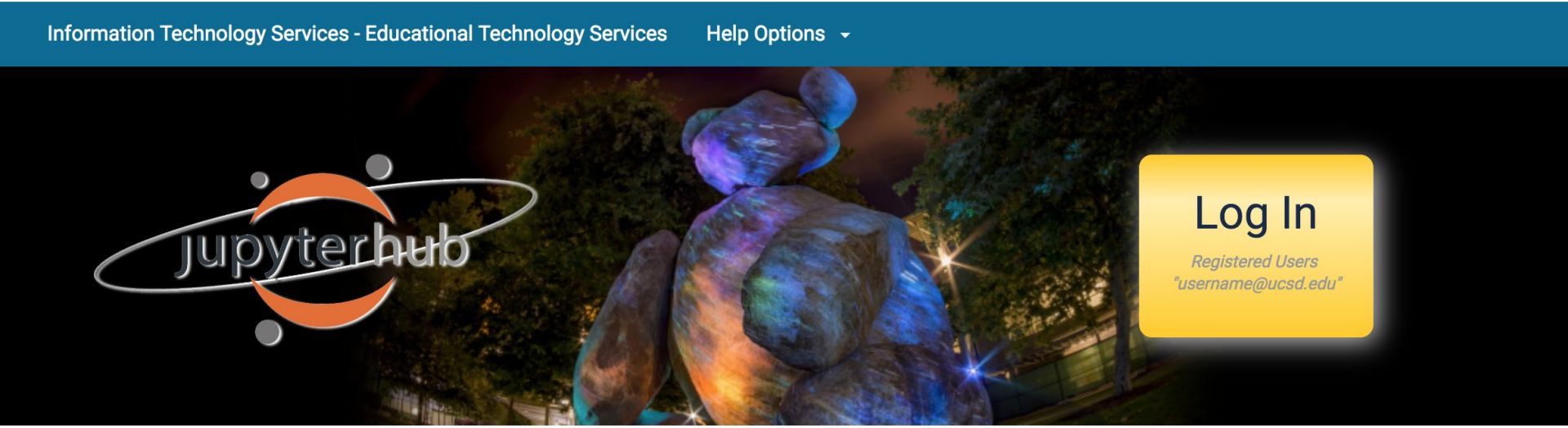
Assignments always be due Mon @ 11:59 PM.

Assignment	Due Date (11:59 PM)	Week	Median Time Spent (hours
A1	10/12	wk2	2
A2	10/19	wk3	4
A3	11/2	wk5	4
A4	11/16	wk7	5
A5	12/7	wk10	5

Assignment Submission @ Datahub: https://datahub.ucsd.edu

DATA SCIENCE / MACHINE LEARNING PLATFORM

UC San Diego



UC San Diego Jupyterhub (Data Science) Platform

In technical classes, Piazza is a particularly helpful resource

There are rules:

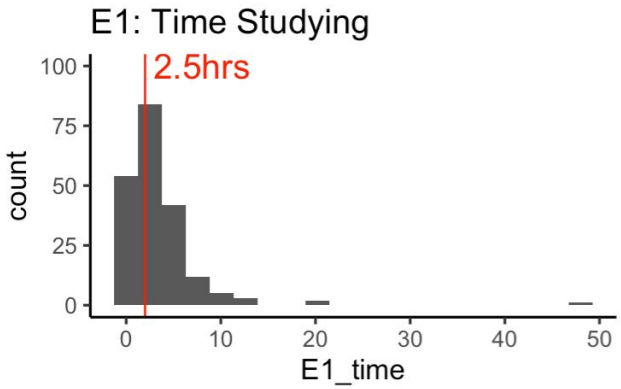
1. No duplicates.
2. Include Assignment & Question in Summary line.
3. Public posts are best.
4. Helping one another is encouraged.
5. No assignment code in public posts.
6. We're not robots.

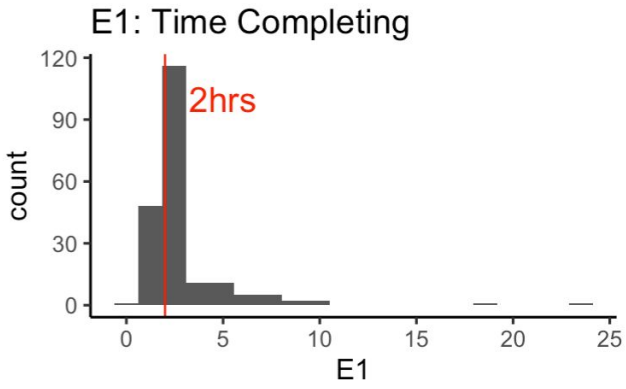
Sign up: https://piazza.com/ucsd/fall2020/cogs18

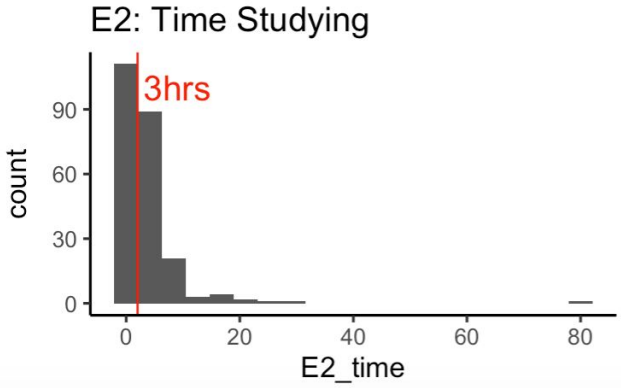
(2) Midterms (25%): will be open-book and completed on 10/23 and 11/20.

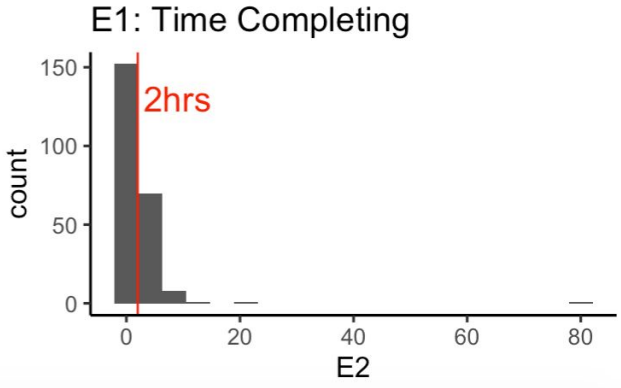
Exams are open-book/open Google but completed on your own. These will be taken on datahub. Each will include a combination of types of questions. There will be a flexible time window when these exams can be taken/submitted. You can expect this exam to take you 1-2 hours to complete.

Exams are designed to be completed in 1hr...but many students took 2hr to complete their exams









(1) Final Project (15%): will be completed individually and submitted electronically on the day of the final (12/11) by 11:59 PM.

Your final project can build on an assignment from the course to provide it with additional functionality or it can be on a completely new topic of your choosing. However, it must include original code that you've written for this project. You do not have to show up anywhere on the day of the actual final.

All exam and due dates are all listed on the course syllabus

COURSE SCHEDULE

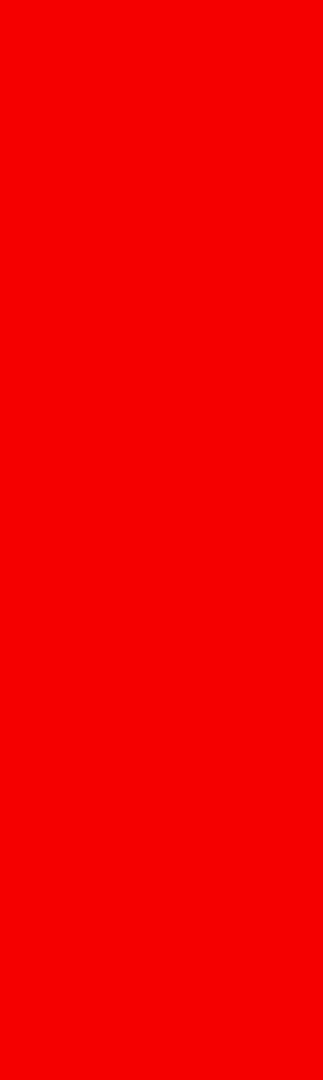
Date	Week	Lecture	Day	Topic	Assignment (due 11:59 PM)	CodingLab (due 11:59 PM)
10/2	0	1	F	Why Program?		
10/5	1	2	M	Tooling		
10/7	1	3	W	Variables		CL1: Tooling
10/9	1	4	F	Operators		
10/12	2	5	M	Conditionals	A1: Getting Started	
10/14	2	6	W	Collections		CL2: Programming I
10/16	2	7	F	Loops		
10/19	3	8	M	Dictionaries [*]	A2: Ciphers	
10/21	3	–	W	Review		CL3: Programming II
10/23	3	–	F	Exam I		

Your point of contact for COGS 18 will be the course website: https://cogs18.github.io

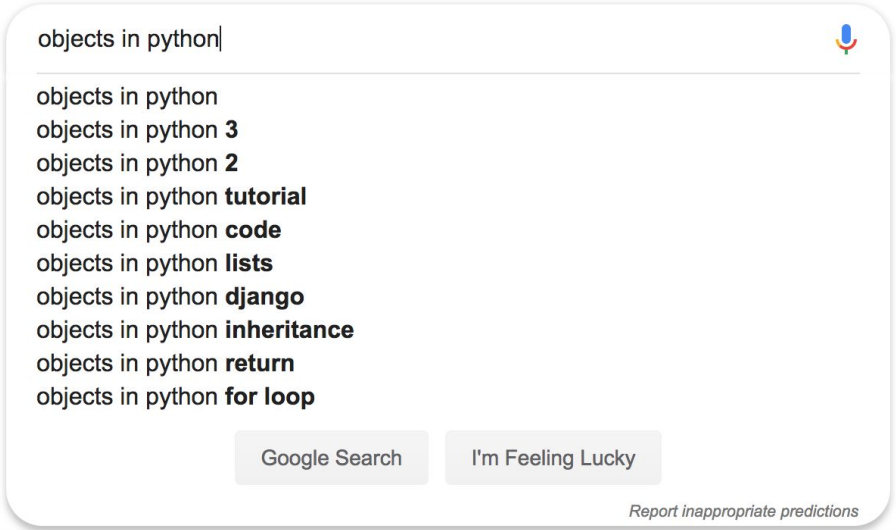
Course Website	https://cogs18.github.io	syllabus, Coding Lab Answers (& lecture notes)
Piazza	https://piazza.com/ucsd/summer2020/cogs18	questions, discussion, regrades
Canvas	https://canvas.ucsd.edu/courses/18771	grades, lecture videos, zoom links
Datahub	https://datahub.ucsd.edu/	coding labs, assignments, exams, (& lecture notes)
Anonymous Feedback	Submit via Google Form	if I ever offend you, use an example you hate, or to provide general feedback

Any questions about course logistics?

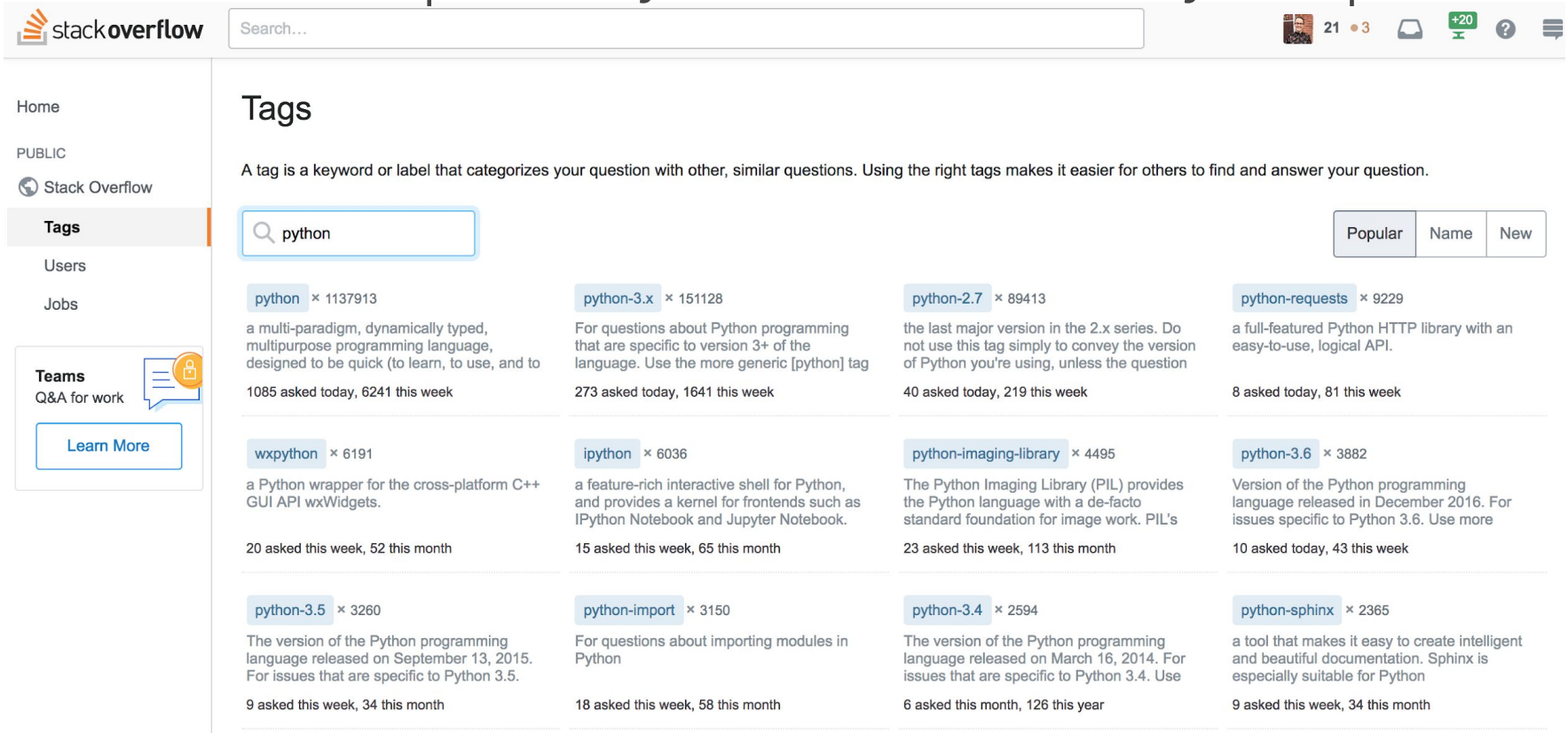
Where to turn for help and practice when learning to program?



Including “in python” in your Google search can be magic



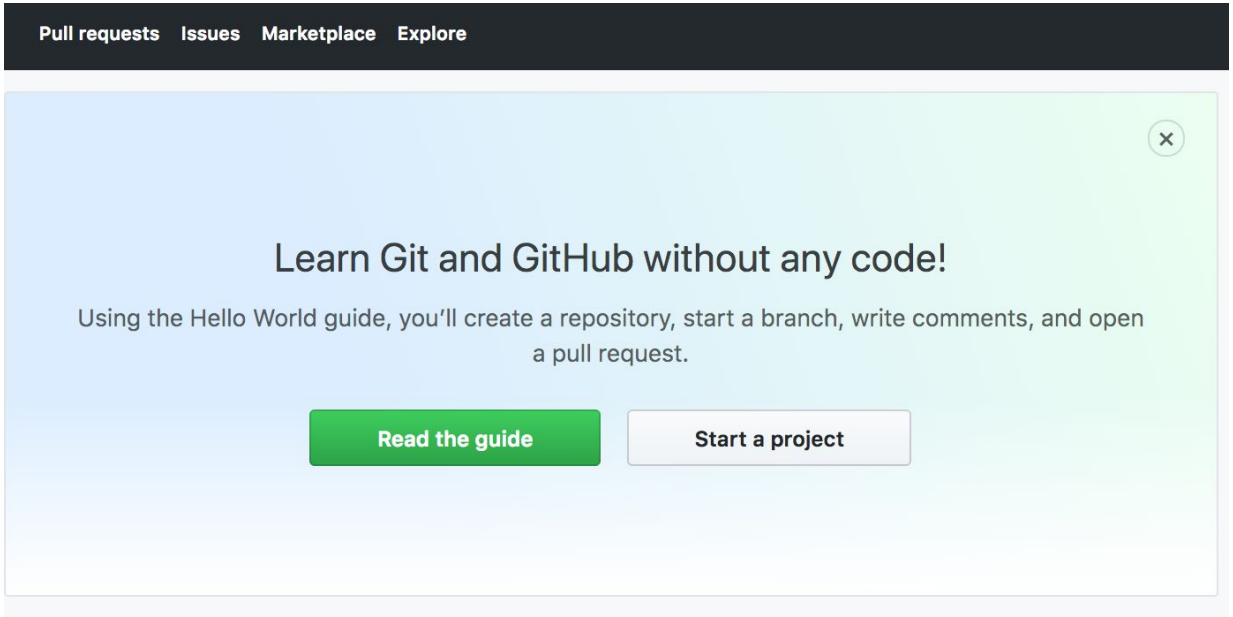
StackOverflow probably has the answer to your question



https://stackoverflow.com

GitHub: programmers' social media platform

Code is shared on GitHub. In the beginning, it may be intimidating, but I encourage you to familiarize yourself with the platform and share code you write on GitHub.



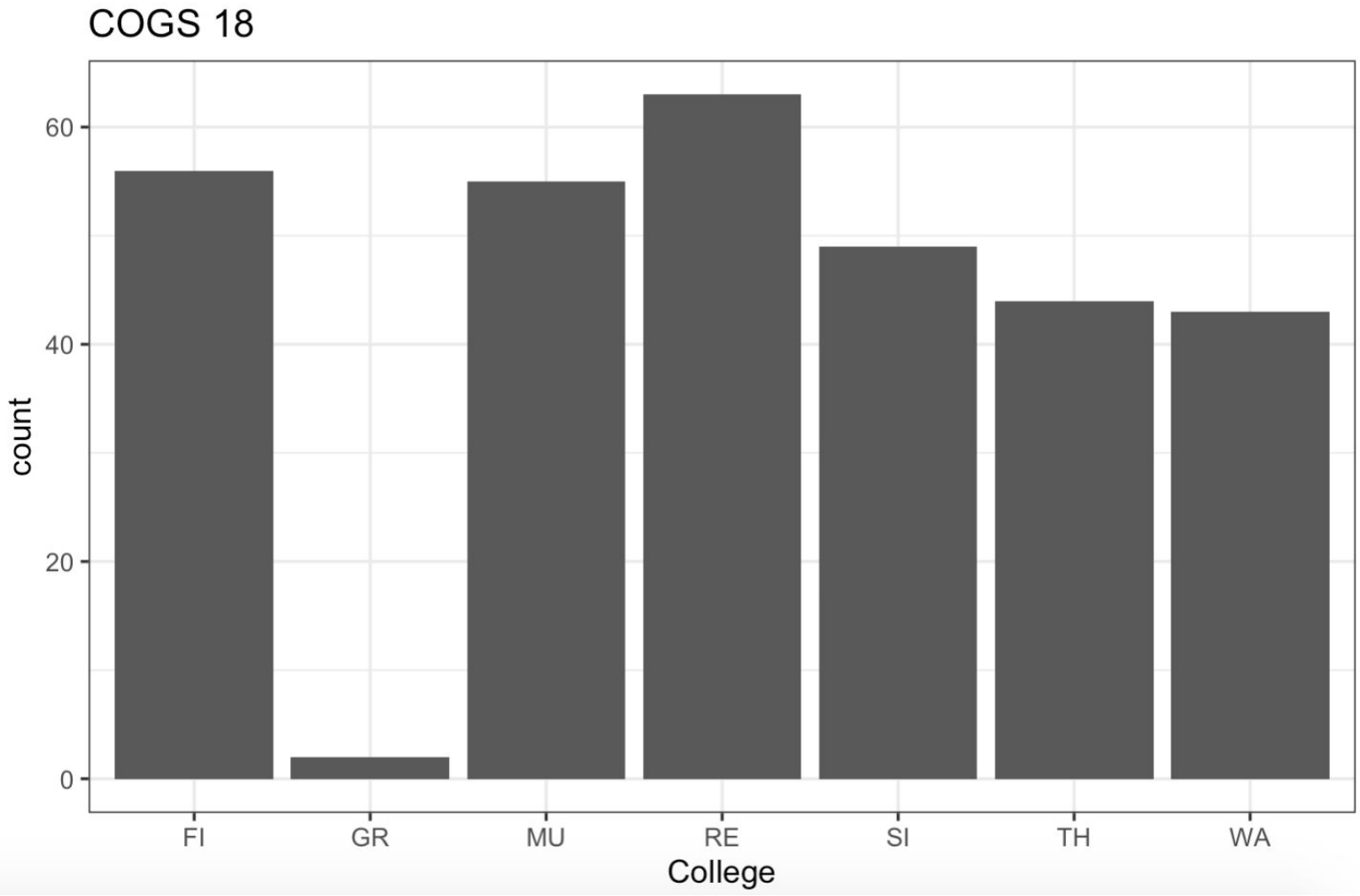
https://github.com/

There are also COGS18-specific avenues when looking for help

Questions in CodingLabs, coming to office hours, talking to your classmates, or reaching out for help on Piazza are all options for you. You're encouraged to help one another on Piazza!

Today I used a PDF slideshow, but every other day of class, lecture notes will be presented in a Jupyter notebook


hello
my name is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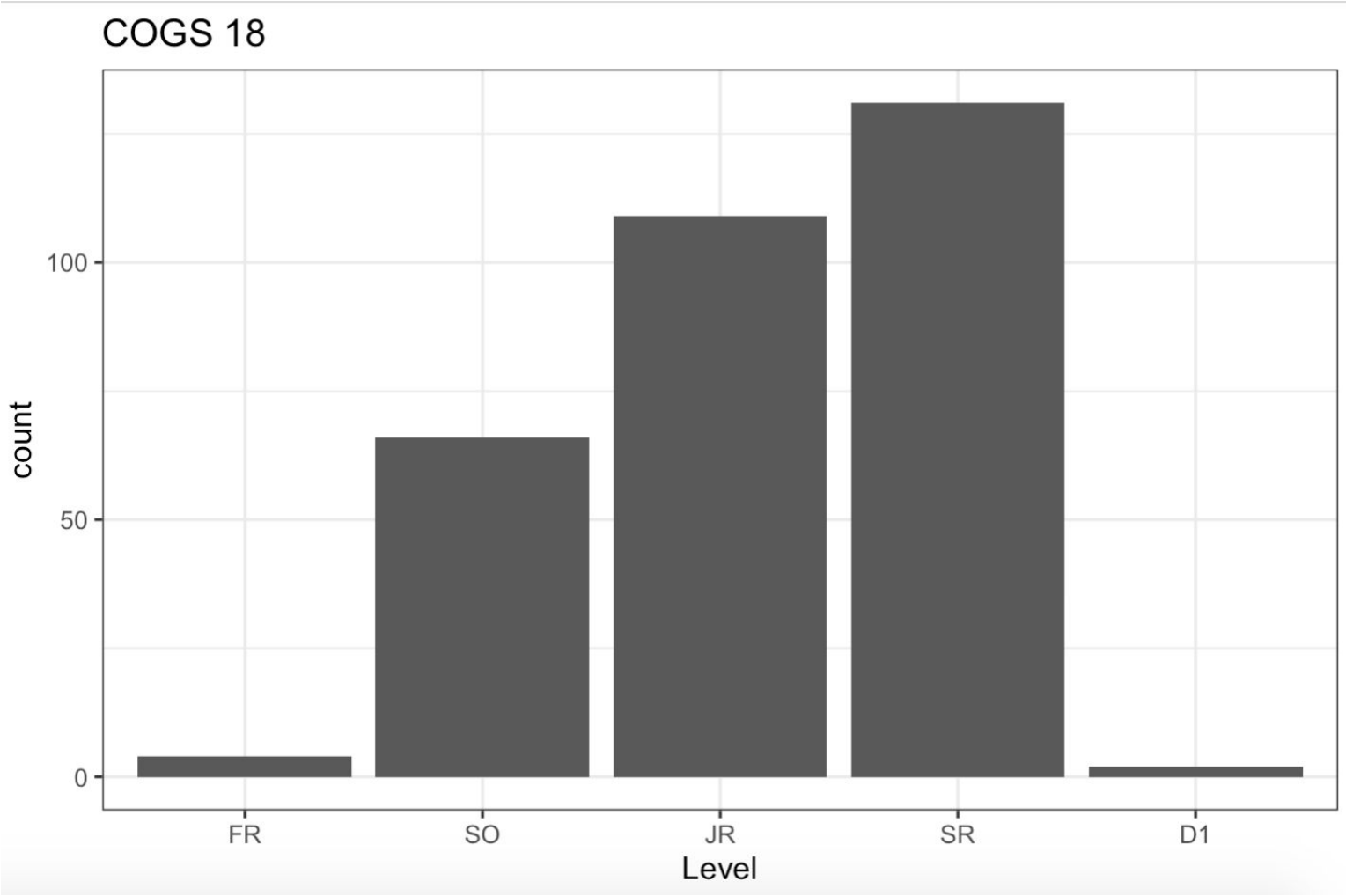
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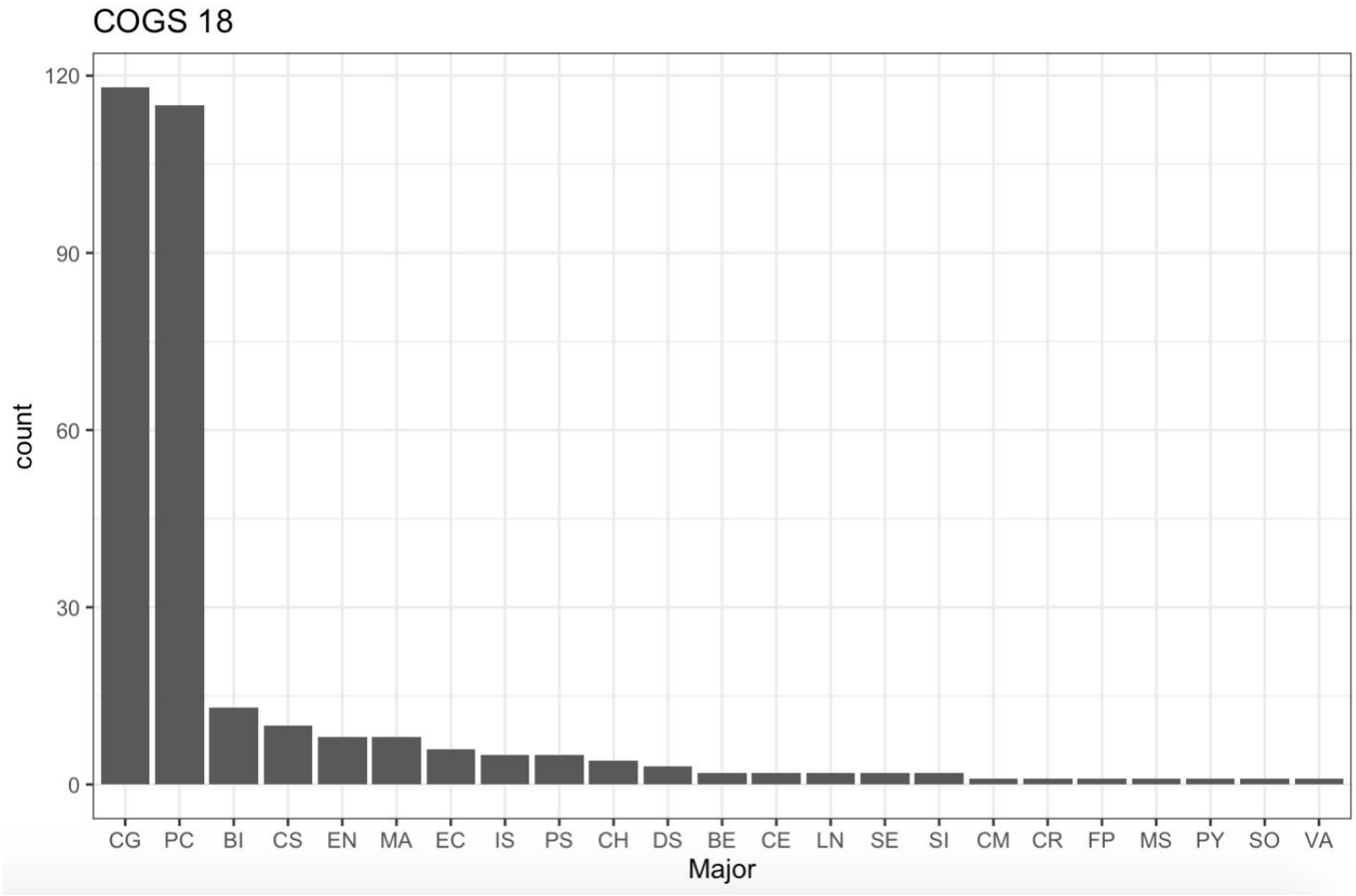
COGS 18
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Major

I’m excited to have you all in COGS 18 this quarter & I’d love to learn more about you:

http://bit.ly/cogs18_survey_fa20