



Welcome to PIC16A!

Professor Michael Perlmutter
UCLA Department of Mathematics



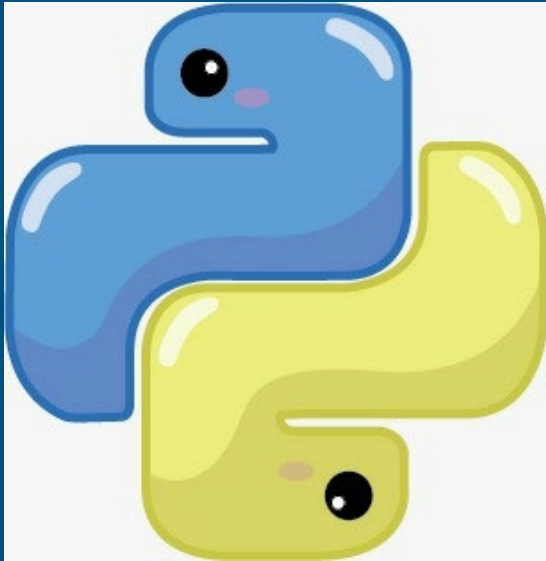
Guiding Principles

1. We want you to succeed.
2. None of us signed up for this.
3. Your wellbeing comes first.
4. We've got your back.

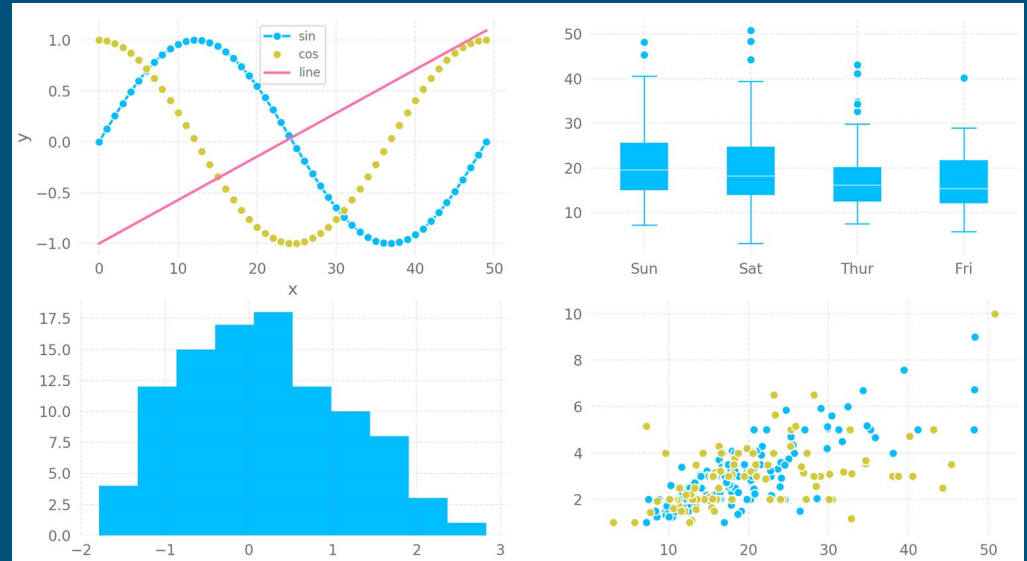


In PIC16A

Python basics

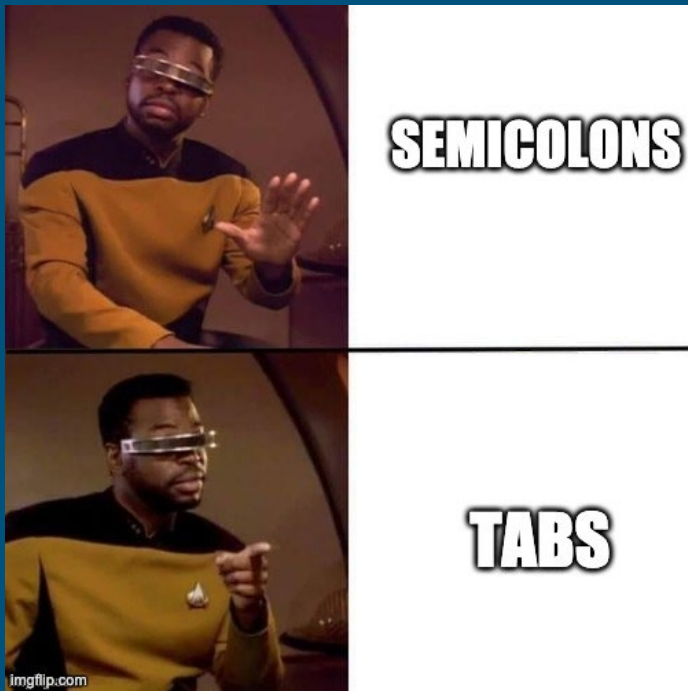


Python for (data) science



Also in PIC16A

Memes



Penguins



Flipped Classroom



- All required content is pre-recorded and posted on CCLE.
 - Attendance at MW lectures is encouraged.
 - Review
 - Questions from forum / quizzes
 - Supplementary content
 - Activities
 - Attendance at TuTh discussions is **required** (except for timezone exemptions).
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Course Format - Promote Active Learning

- Prerecorded videos
 - Approximately one lecture worth of material posted three times a week – Quiz due at 11:59
- Live Lecture
 - Twice a week, Monday and Wednesday, clarify material from Prerecorded Videos
 - Post questions in advance (campuswire, on CCLE, email)
- Discussion Section – Twice a week Tuesday and Thursday
 - Structured group work, rotate between here different roles
 - Part of your participation grade

Participation (aka Working in Groups)

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Participation in PIC16A

Attend Discussion (required) and work with your group on programming activities.

Groups are created based on interest and time zones Please fill out the questionnaire if you haven't already

Timezone exemptions: you will agree with your group on an alternate time to complete the activity.

Activities are submitted for a participation grade.

Coding in Groups



Review “Working in Groups” on CCLE.

Based on the **pair programming paradigm**.

- A **Driver**, who types the code and turns in the assignment.
 - A **Proposer**, who suggests solutions and high-level approaches to problems.
 - A **Reviewer**, who offers constructive criticism on the Proposer’s suggestions and the Driver’s code implementation.
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Norms for Group Work

1. Do the lecture and readings ahead of time.
 2. Arrive on time.
 3. Cameras on in breakout rooms, please.
 - a. Attending in pajamas, from bed, with tea, with food etc. is fine as long as you are ready to participate.
 - b. Pet cameos are highly encouraged.
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Course Rubric

Homework	20%
Participation	20%
Quizzes	10%
Mini-Project	10%
Midterm	15%
Final	25%

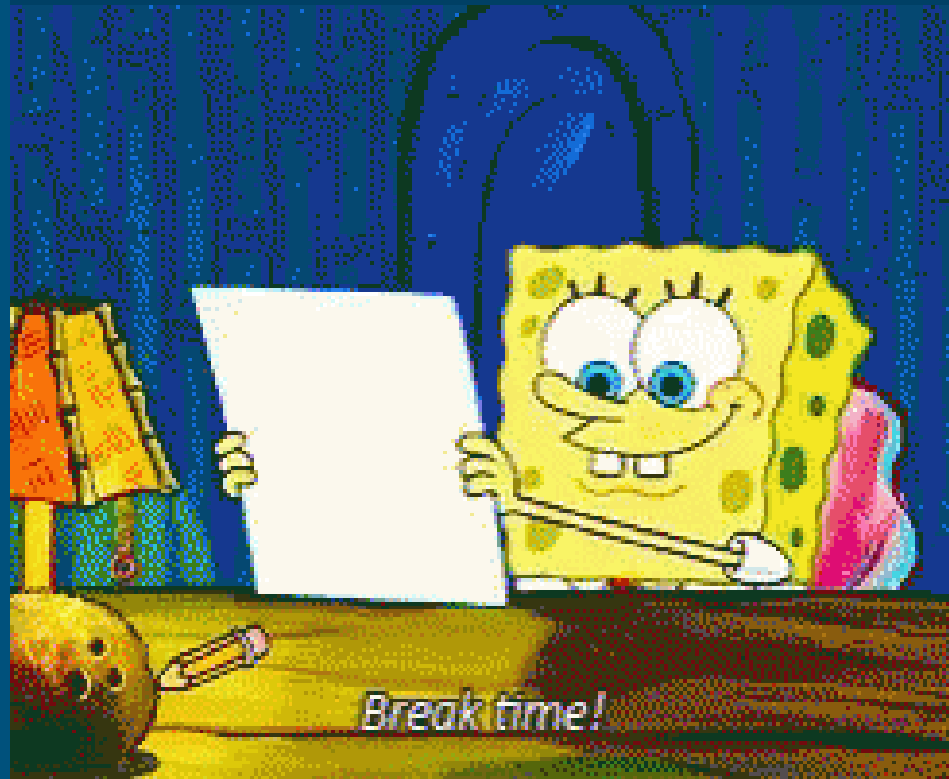


Course Team

- **Instructor:** Michael Perlmutter
TA: Kirill Gura
 - **LAs:**
 - Zach Mustafa
 - Carolyn Ta
 - Adriel Friedlender
 - **Leadership:** Jacob Kaufman
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BREAK TIME

(2 minutes)



Getting Help



Campuswire

Link on CCLE (under Site Info)

Email me if you have problems joining.

Suggested usage:

- Ask/answer questions.
 - Communicate with your group in chatrooms.
 - DM me or Kirill.
 - Warning: we may ask you to post your question.
 - I may be faster to reply over email.
-

Office Hours

*0.25% extra credit the first time
you ask a question in OH.*

*You are also welcome to come
listen, work on your HW, chat...*

Prof. Perlmutter:

- TBA.

Kirill:

- TBA
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Other Policies and Resources



Course Environment

Discrimination on the basis of ethnicity, race, gender, sexual orientation, ability, age, religion, etc. is **not tolerated in my classroom.**

Title IX: you deserve a learning environment free from discrimination, sexual harassment, sexual assault, and stalking. If you experience these behaviors, the UCLA Title IX Office can help.

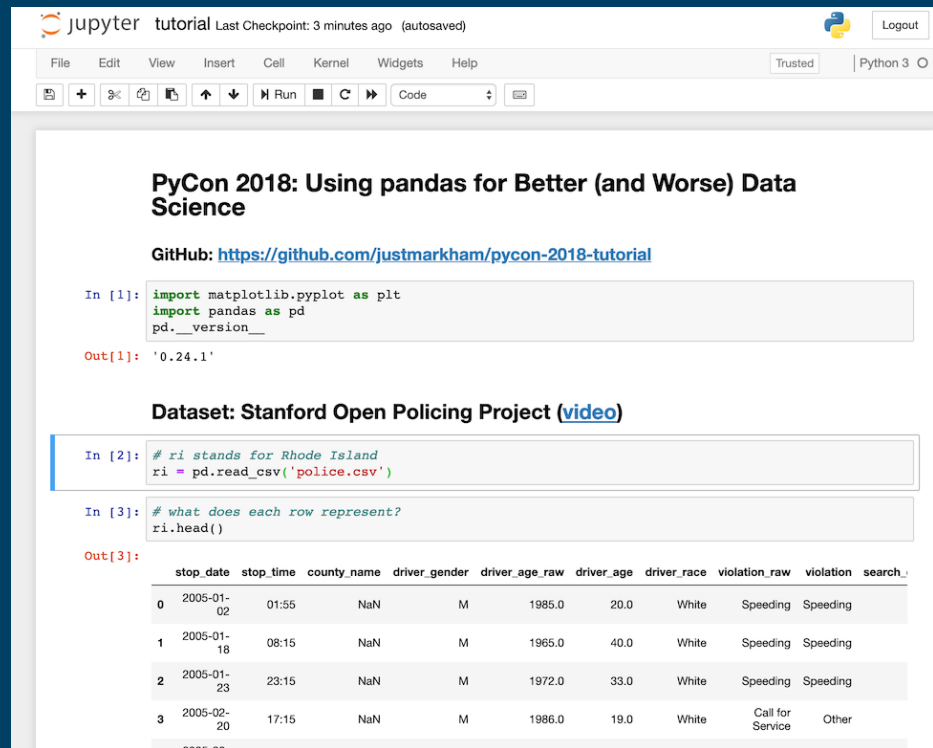
I am a mandatory reporter.

Confidential resources are also available

Assignments

1. Complete in Jupyter
2. Convert to PDF
3. Submit PDF

Review “Expectations for Assignments” on CCLE.



PyCon 2018: Using pandas for Better (and Worse) Data Science

GitHub: <https://github.com/justmarkham/pycon-2018-tutorial>

```
In [1]: import matplotlib.pyplot as plt
import pandas as pd
pd.__version__
```

```
Out[1]: '0.24.1'
```

Dataset: Stanford Open Policing Project ([video](#))

```
In [2]: # ri stands for Rhode Island
ri = pd.read_csv('police.csv')
```

```
In [3]: # what does each row represent?
ri.head()
```

```
Out[3]:
```

	stop_date	stop_time	county_name	driver_gender	driver_age_raw	driver_age	driver_race	violation_raw	violation	search_
0	2005-01-02	01:55	NaN	M	1985.0	20.0	White	Speeding	Speeding	
1	2005-01-18	08:15	NaN	M	1965.0	40.0	White	Speeding	Speeding	
2	2005-01-23	23:15	NaN	M	1972.0	33.0	White	Speeding	Speeding	
3	2005-02-20	17:15	NaN	M	1986.0	19.0	White	Call for Service	Other	

Lots of Drops, No Extensions

- **HW:** 2 out of ~8 dropped.
- **Discussion:** 4 out of ~20 dropped.
- **Quizzes:** 5 out of ~30 dropped.

I will generally expect you to use your drops, **and will not grant extensions** on individual assignments.

If you expect to miss multiple weeks worth of work, then contact me ASAP and we'll find a path.

Extra Credit Opportunities

Post on Campuswire (up to 1%)

- Awarded for both excellent **questions** and excellent **answers**.

Feedback Surveys (0.25% each)

- Two throughout the quarter.

Essay on societal impact of data science (up to 3%)

- 900-1200 words
- At least five sources.
- Coherent argument with thesis statement + evidence.
- See Syllabus for rubric.

Collaboration

Do it! List your collaborators on your assignments.

Do share: ideas, concepts, useful references, examples, hints.

Do not share: solution code.

- **Exception:** if you write the code together.

Quizzes & exams are solo (but open book + notes).



Everyone *can* get an A

You are NOT competing against
each other

We are all on the same team

Assignments + exams will be
graded **fairly strictly**. However:

- I will tell you what kind of **output** I am looking for.
- I will tell you my expectations for your **code structure/style**.

To score well:

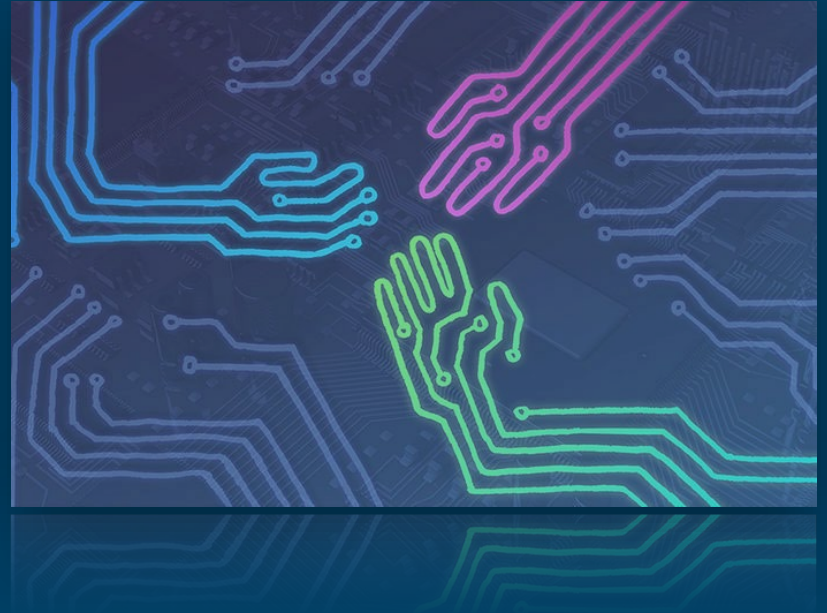
- Plan ahead.
- Work hard.
- Try multiple approaches.
- Get help.

Guiding Principles

1. We want you to succeed.
 2. None of us signed up for this.
 3. Your wellbeing comes first.
 4. We've got your back.
 5. Let's have fun and do cool stuff.
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Thanks!

Questions?



Acknowledgements

- Much of the format of this class is based on Phil Chodrow's class from last quarter
- Phil and I are coordinating resources this quarter
 - Covering same content on same days
 - Most of the same HWs and discussions