EE16A Lab

Find a seat wherever!

Waitlisted Students – wait by the round table

Today's Agenda

- ✘ Quick Poll
- ✘ About Us
- ✘ About Lab: Policies & Overview
- ✘ Account Forms
- ✘ Anaconda Installation
- ✘ Ipython Bootcamp

Survey Time!

About Us!

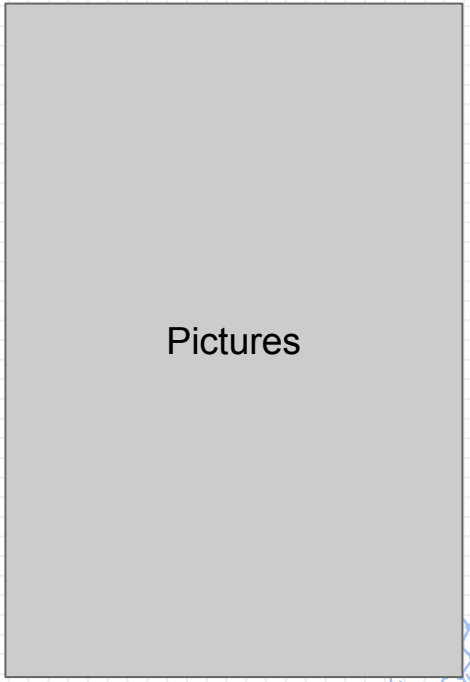
Seiya - GSI

scono12@b.e.

- ✘ 21 B+ Capricorn hates worms
- ✘ 4th Year EECS, 5th time TA
- ✘ Took 16A Fa15
- ✘ Interests: Karate, Robots, GNU/Linux, Fashion, Cooking, Melee, Future Funk
- ✘ Oh Deer

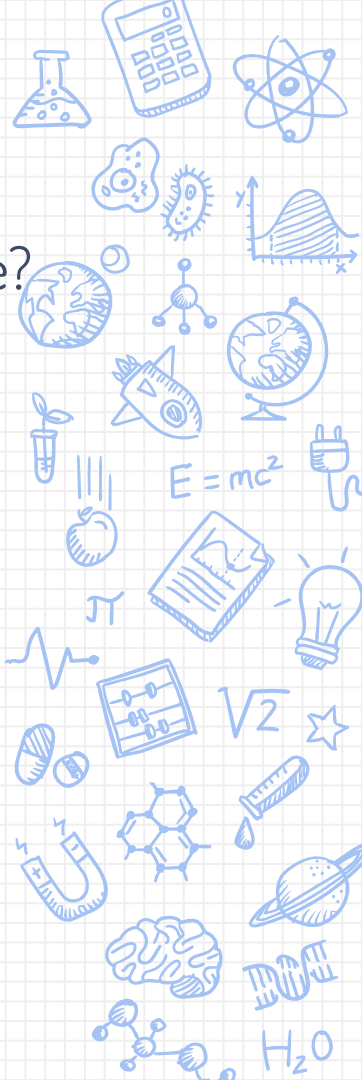
ASE Name – Lab ASE

- ✘ Year, major
- ✘ Fun
- ✘ Facts
- ✘ Interests



Lab Logistics & Policies

- ✘ Go to your registered section.
- ✘ Work in **pairs!**
- ✘ Arrive on time!
- ✘ Individual lab score is binary: complete / incomplete.
- ✘ **Free 16%** of your grade!
- ✘ Should not be stressful!
- ✘ Buffer Weeks? What are those?
- ✘ Lab is for lab.
- ✘ Clean up after yourself.
- ✘ Use the Lab Machines.
  - ✘ Aside from intro labs
- ✘ Do NOT touch/use equipment you are unfamiliar with!
- ✘ Help your peers!



Semester Outline

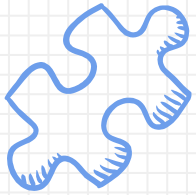
Imaging Module

Touchscreen Module

Acoustic Positioning Module

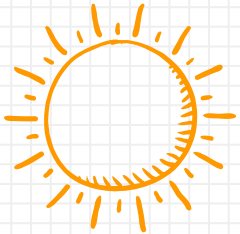
“Lab is awesome! It inspired me to start more personal projects.”

-Fall ‘15 student



“I really enjoy lab because it’s the physical manifestation of lecture. Learning about something is one thing, but actually building it is much more rewarding.”

-A hands-on learner



“Even though my lab is at 8am, I always looks forward to going because it's so much fun! It’s like breakfast...for your brain!”

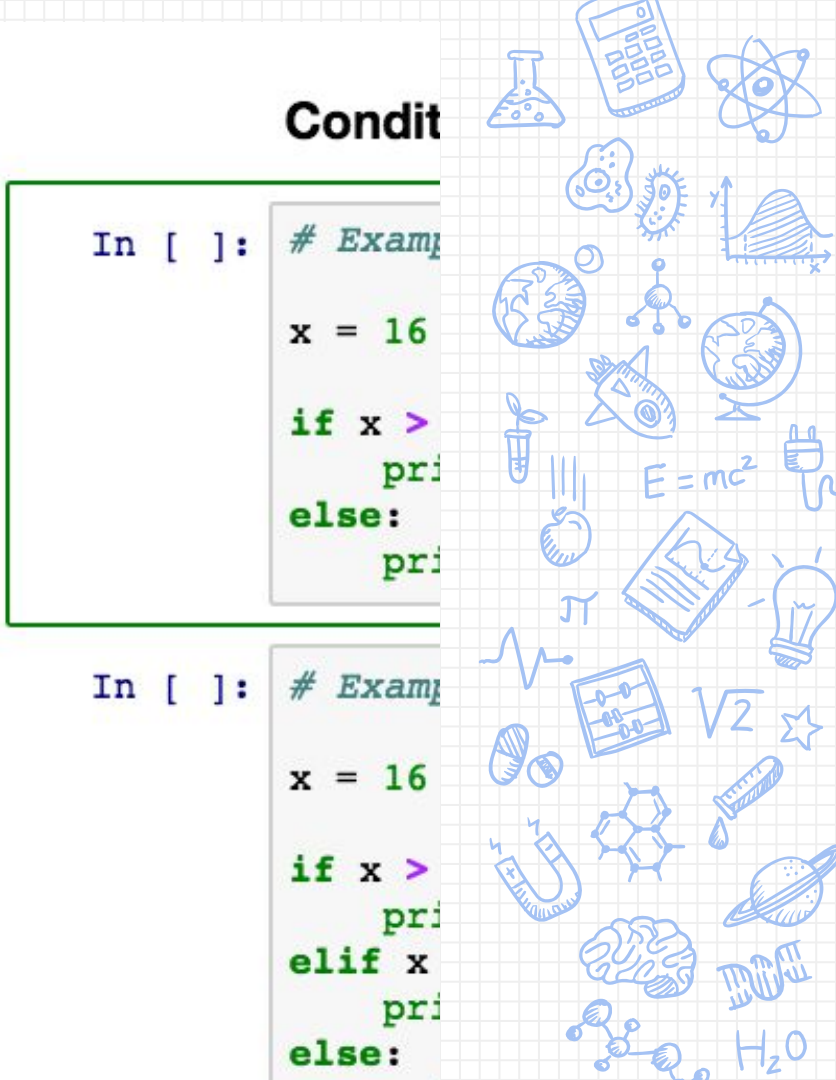
-Actual 16A student...not kidding

iPython Notebook

- A web-based interactive computational environment
  - JSON document containing an **ordered list** of input/output cells
  - Can contain code, text, mathematics, plots and rich media.
  - But what does this look like?

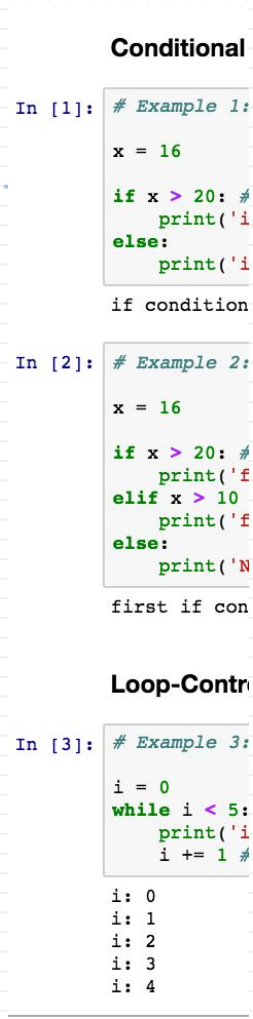
iPython Notebook

- **Ordered** list of **input & output**



iPython Notebook

- **Ordered** list of **input & output**
- Control + Enter to run current block
- Shift + Enter to run and move forward



iPython Notebook

- ✘ **Ordered** list of **input & output**
- ✘ ***Order matters!***

In [ ]:
```
a = True
```

In [ ]:
```
if a:
    print("hello")
else:
    print("goodbye")
```

In [ ]:
```
a = False
```

iPython Notebook

- ✘ **Ordered** list of **input & output**
- ✘ ***Order matters!***

```
In [1]: a = True

In [2]: if a:
            print("hello")
        else:
            print("goodbye")

        hello

In [3]: a = False
```

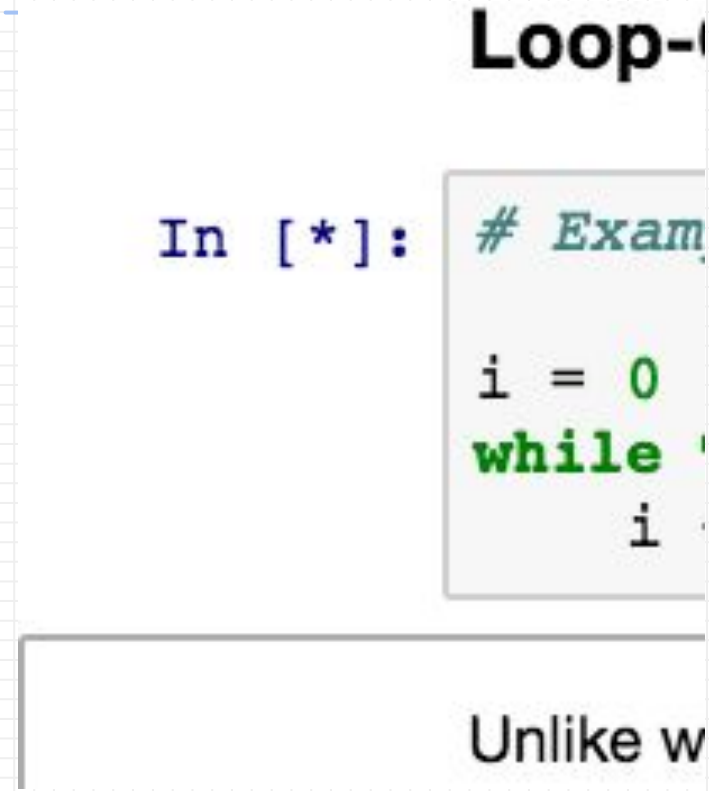
iPython Notebook

- ✘ **Ordered** list of **input & output**
- ✘ ***Order matters!***

```
In [1]: a = True

In [4]: if a:
            print("hello")
        else:
            print("goodbye")

        goodbye

In [3]: a = False
```

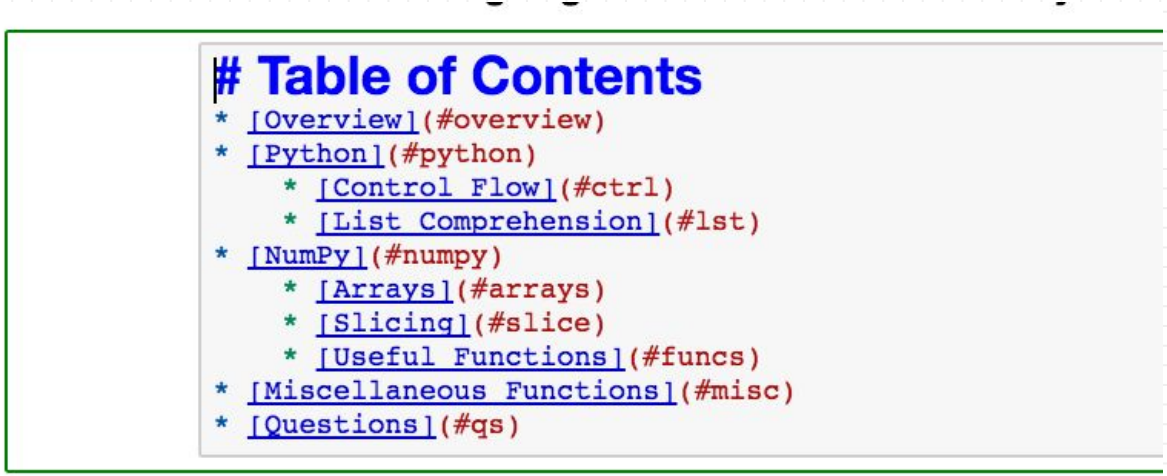
iPython Notebook

- **Ordered** list of **input & output**
- Asterisk means it's still running or it is queued up to run



iPython Notebook

- ✘ Text/Markdown
- ✘ Shift+Enter to run and format



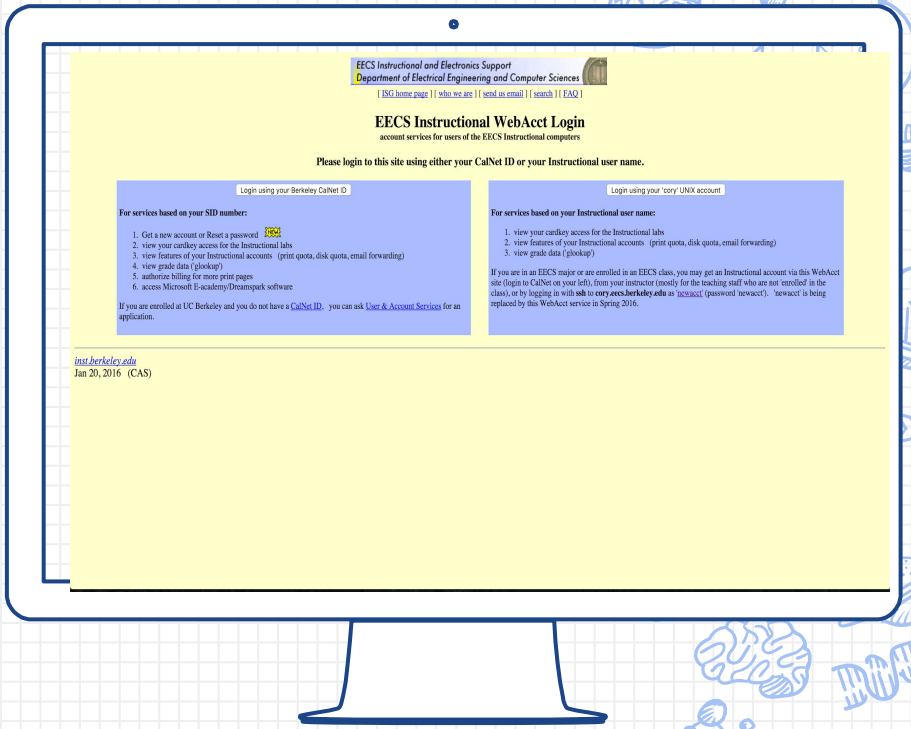
Anaconda Installation

- ✘ Go to **https://www.anaconda.com/download**
- ✘ Download the **Python 3.6** package for your OS.
- ✘ Download **iPython Bootcamp** from the course website.
- ✘ Extract the zip file
- ✘ Open a terminal window and navigate to **iPython Bootcamp**.

  Run "**jupyter notebook**", wait for the notebook to start, find the notebook you downloaded, open, and verify that it works.

Account Forms

- ✘ Go to: **https://acropolis.cs.berkeley.edu/~account/webacct/**
- ✘ Click on **Login using your CALNET ID** button.
- ✘ Click on **Get new account** button next to EE16A.
- ✘ **EMAIL YOUR ACCOUNT FORM TO YOURSELF!**



Opening Ipython Notebook

Mac / *nix: Open terminal and type “jupyter notebook”

Windows: Search for “Anaconda Prompt” and then type “Jupyter notebook”

Notes

- ✘ Installing on Mac
  - ✗ Install to Macintosh HD and not just "for me"
- ✘ Installing on GNU/Linux
  - ✗ Choose to automatically append the path names
- ✘ Windows
  - ✗ Only install for your user - not everyone
  - ✗ Don't install to a path that has a space in it
  - ✗ **Make sure to add to Path when prompted.**
  - ✗ Open "Anaconda Command Prompt" and type in "jupyter notebook"

iPython Bootcamp

- ✘ Review Python
  - ✗ List comprehension
  - ✗ Numpy functions: np.linspace, np.eyes
  - ✗ Numpy objects: arrays, matrices

CHECKING-OFF TODAY

- ✘ No graded check off
- ✘ Raise your hand/get my attention
- ✘ Introduce yourself
  - ✗ **Name, major, year**
- ✘ Open the ipython bootcamp
- ✘ Demonstrate how to run a code block
- ✘ Work on iPython Bootcamp
- ✘ Find this presentation on the website