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

Pictures
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?
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

### Conditional

```python
# Example 1:
In [1]:
x = 16
if x > 20:
    print('i
else:
    print('i
if condition
```

### Loop-Contr

```python
# Example 3:
In [3]:
i = 0
while i < 5:
    print('i
i += 1 #
i: 0
i: 1
i: 2
i: 3
i: 4
```
Ordered list of input & output

Order matters!

In [ ]: a = True

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

In [ ]: a = False
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
```
Ordered list of input & output

Asterisk means it’s still running or it is queued up to run
# Table of Contents

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  - [Slicing](#slice)
  - [Useful Functions](#funcs)
- [Miscellaneous Functions](#misc)
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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.
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”
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