Getting set up

In this class, we will be using *IPython Notebooks* for all of the problem sets. We have set up a server that you can use to access the assignments. Using the server you will also be able to submit your assignments and receive feedback about previous assignments.

Step 1: Signing in to the server

Before you can access the problem sets, you will need to log in to the course server using your UC Berkeley email address and CalNet ID. To get started, click the following url:

`http://datahub.berkeley.edu/user-redirect/interact?account=compmodels&repo=problem-sets&branch=master&path=ps0`

You should be greeted with the following screen:

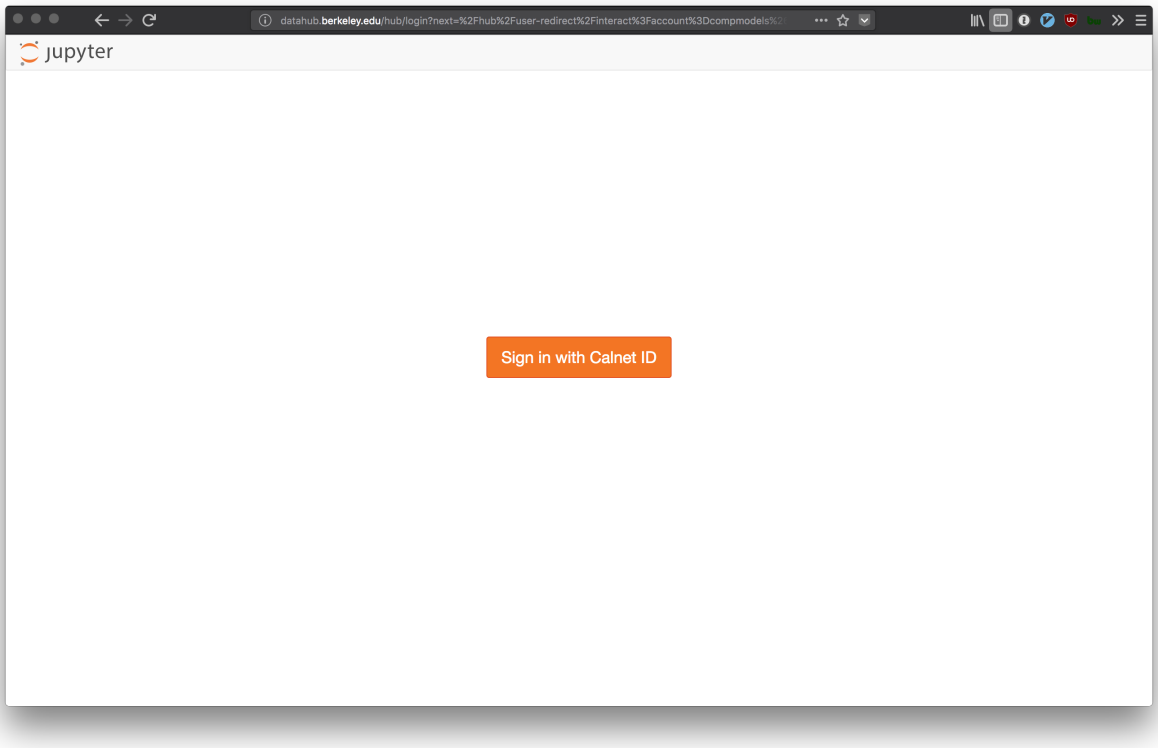

Figure 1: Jupyter sign-in screen

Upon clicking the 'Sign In' button, you should be prompted with a Google log-in form:

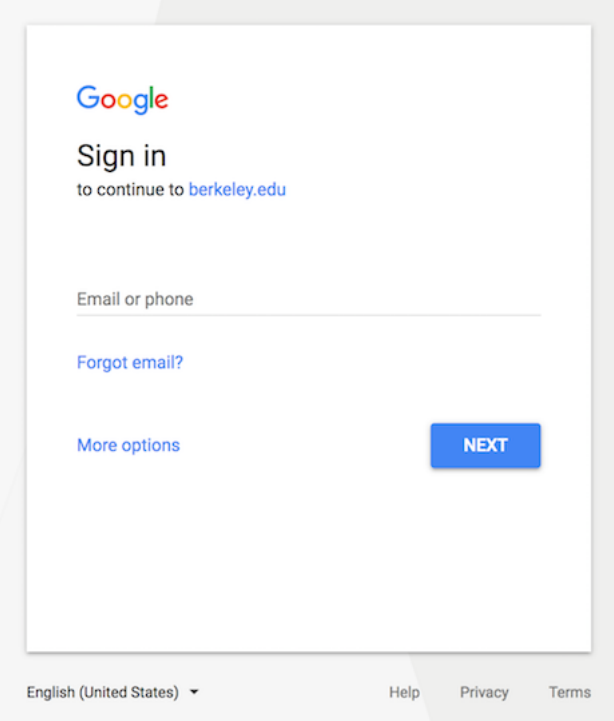

Figure 2: Google sign-in screen

In order to be granted access to the server, you *must* log in using your `@berkeley.edu` email address.

Note: This page may not load correctly if you are already signed in to a different Google account. In this event, try either (a) accessing the website from an incognito/private browsing window, (b) accessing the website using a different web browser, or (c) deleting any stored cookies from your current browser and retrying.

Upon entering your Berkeley email address, you will be redirected to the familiar CalNet Authentication page. Sign in as you would for any other Berkeley service and you should be greeted with a loading page, indicating that the first problem set, `ps0`, is being downloaded to your account:

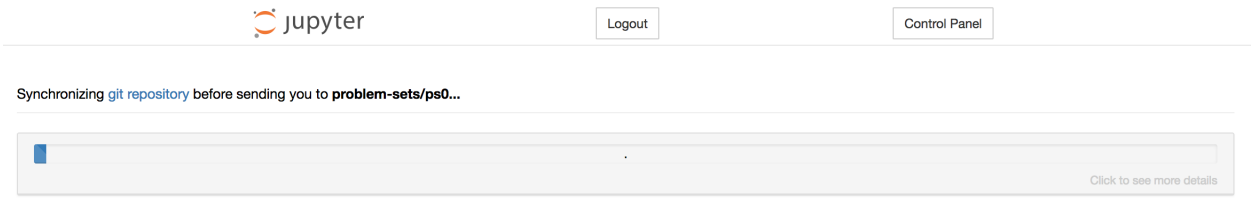

Figure 3: Loading screen

When the download is complete, you should arrive at a screen like this:

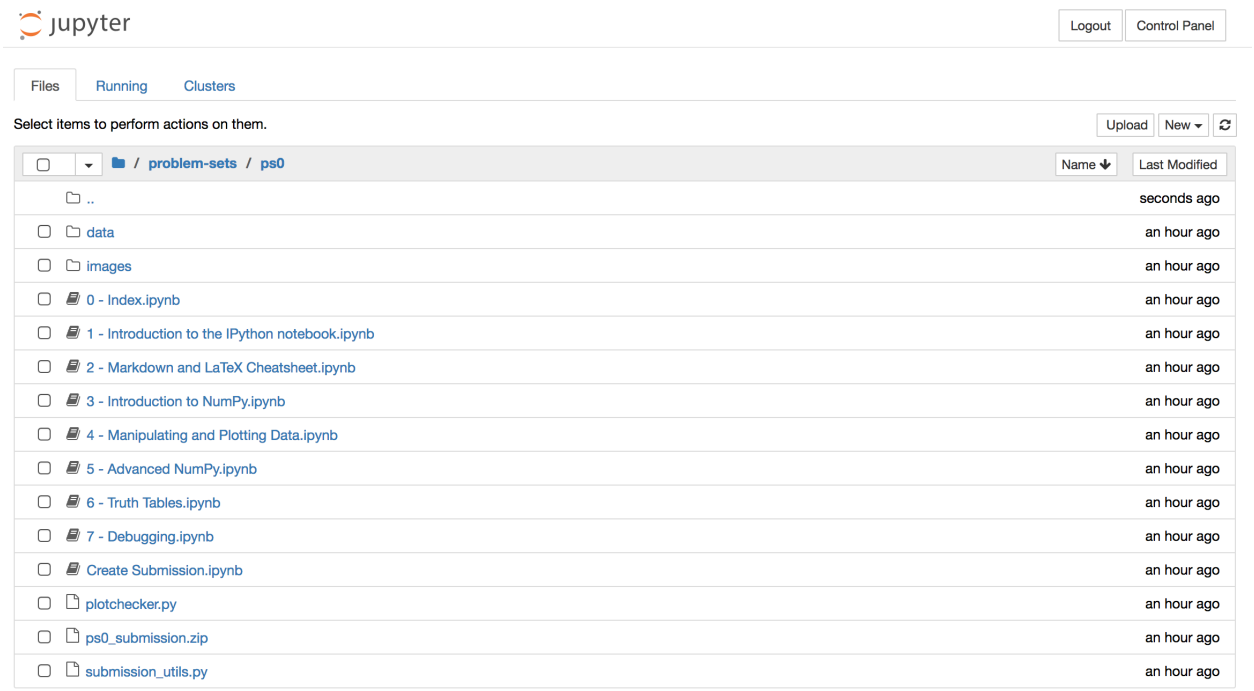

Figure 4: IPython Notebook server, `ps0` directory

Congratulations! You are now authenticated, and have already downloaded `ps0` to your account. This system is called *JupyterHub*, and it will be the main entry point to accessing your COG SCI 131 assignments throughout the semster.

Step 2: Opening a notebook

From the `ps0` page, if you select, `1 - Introduction to the IPython Notebook.ipynb` (notebooks always end with the `.ipynb` extension), the notebook will open in a new tab in your browser:

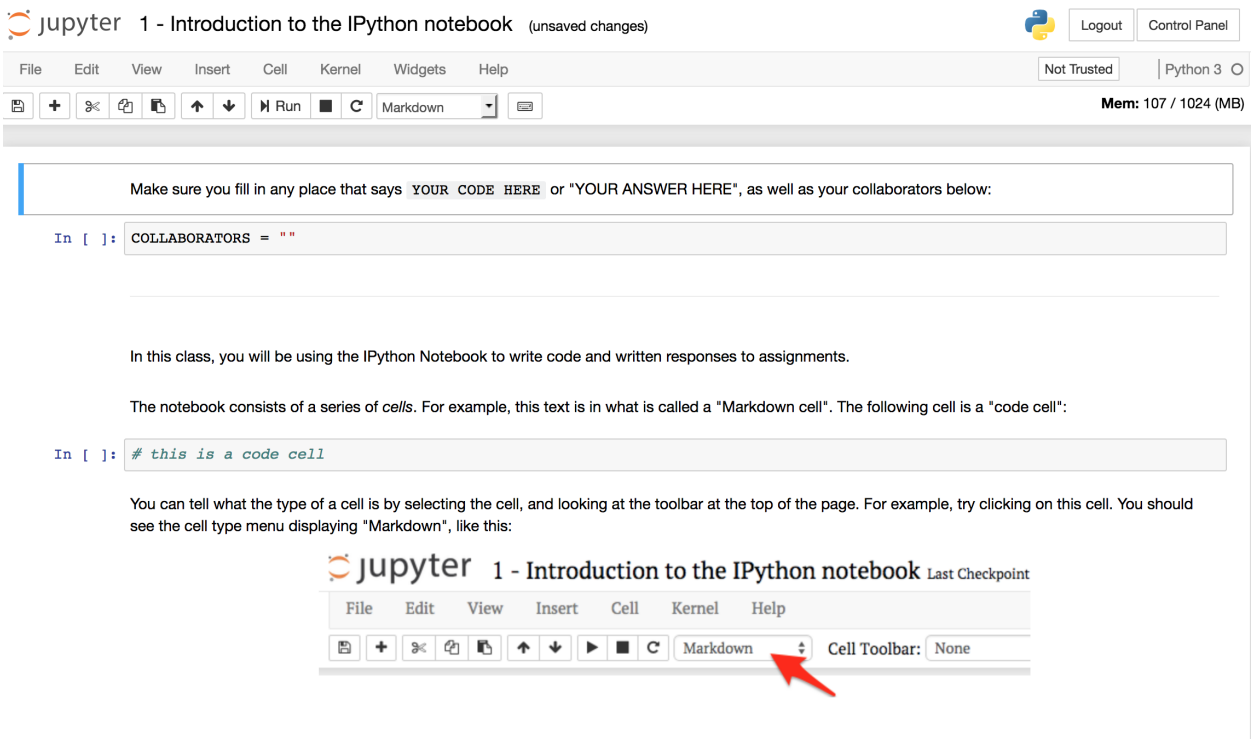

Figure 5: IPython Notebook server, Files tab, `ps0/1 - Introduction to the IPython Notebook.ipynb`

From here, you should follow the instructions in the notebook, which will walk you through how to use the IPython Notebook interface. The other notebooks will cover other tools we'll be using in this class, including Markdown, LaTeX, NumPy, and Matplotlib.

Important: Be sure to read the material in `0 - Index.ipynb`, which details policies on academic misconduct, collaboration, late days, problem set submissions, and other course FAQs.

Step 3: Validating a notebook

When you have finished working on a notebook, you can check to see if your coding solutions pass the included autograder tests. These tests are meant to give you an indication whether your coding solutions are on the right track, though they do not guarantee a correct solution. To run the validation tests for a notebook, open it and:

1. Restart the kernel and run all notebook cells (select "Restart & Run All" in the "Kernel" dropdown menu at the top of the notebook)
2. Save your work (select "Save and Checkpoint" in the "File" dropdown menu at the top of the noteobok)
3. Scroll to the bottom of the notebook and ensure that the final cell has printed "No errors." **If it has not, then your code has a bug in it!** Make sure you fix this error before creating your submission in order to receive full credit.

Note that validation only works for coding problems – there are no autograders for your written responses!

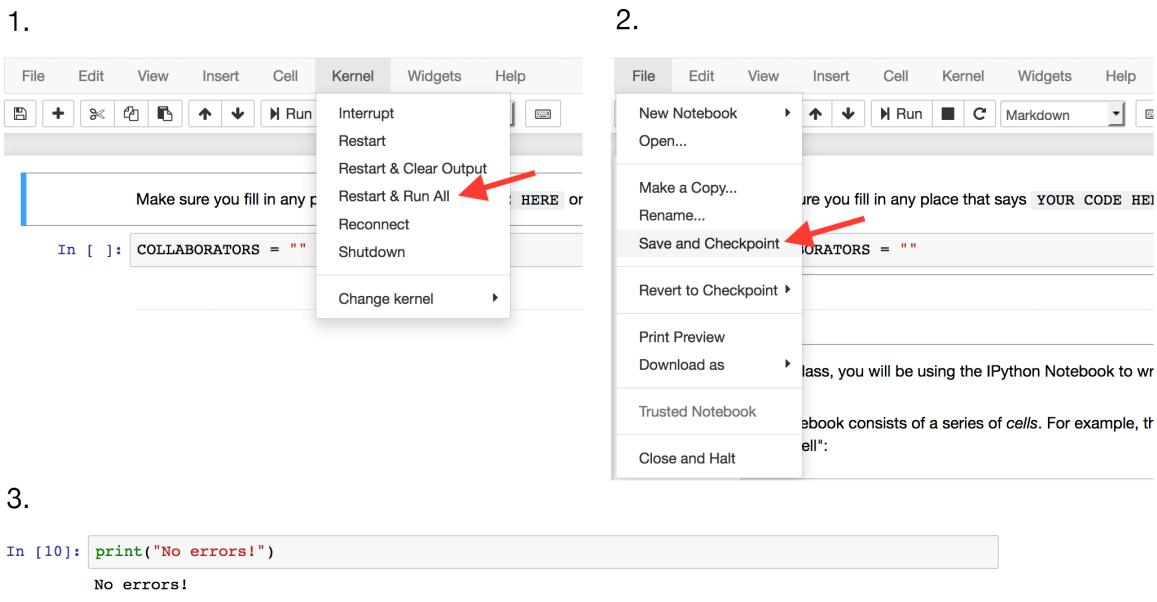

Figure 6: Steps for validating a problem set notebook

Step 4: Closing a notebook

Once you have finished working through the problems in a notebook, you should save your work either by going to "Save and Checkpoint" in the notebook's File menu, or by using the keyboard shortcut `Cmd + s` (Mac) or `Ctrl + s` (Windows/Ubuntu).

When you are finished working, you should shut your notebook down to free up memory on your server. To close a notebook, go back to your `ps0` directory and click on the "Running" tab at the top of the page.

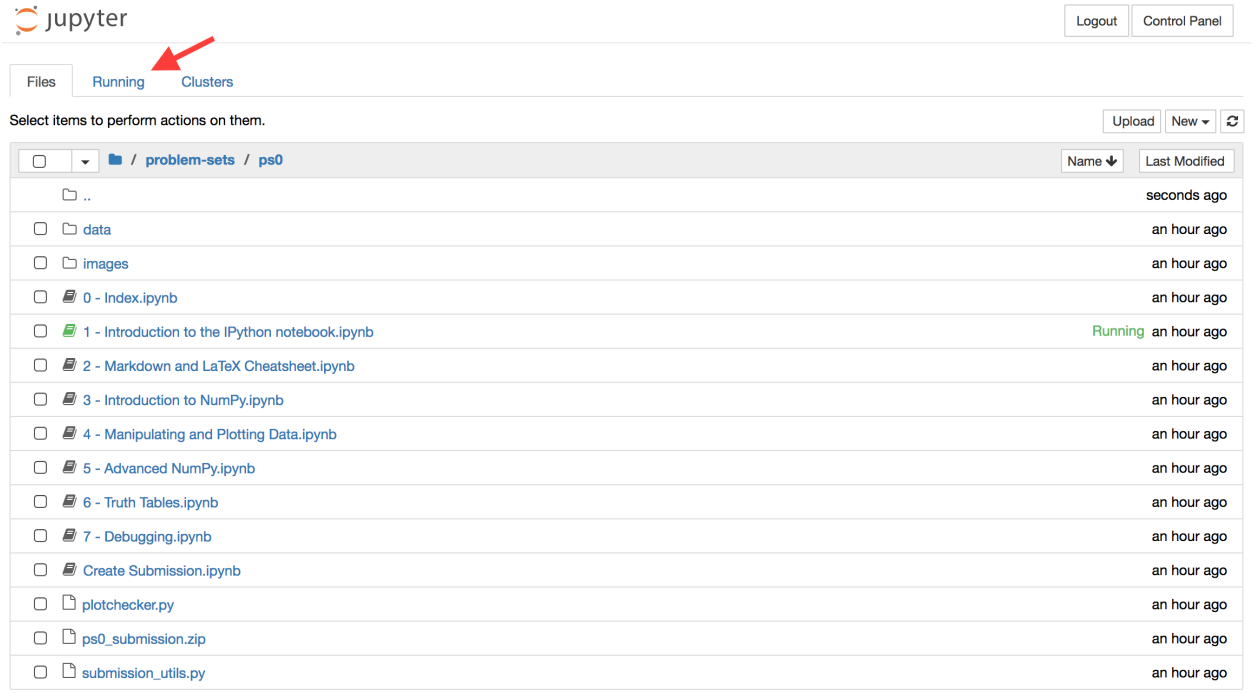

Figure 7: IPython Notebook server, "Files" tab, `ps0` directory

From here, you can see a list of all of your currently running notebooks. To shut one down, simply click the orange "Shutdown" button to the right of the notebook. You can always start your notebook up again later by clicking on it from the Files tab.

Figure 8: IPython Notebook server, “Running” tab

Step 5: Submitting a completed problem set

Once you have completed each of your problem set notebooks and verified that your notebooks pass all of the required tests, you can open the `Create Submission.ipynb` notebook in the `ps0` directory to create a zip file that you can submit to BCourses. More detailed submission instructions are provided in the `submissionInstructions.pdf` file on Piazza / BCourses.

Note that you may make multiple submissions of the same assignment before the deadline – only your most recent submission will be graded. If you make any changes to your submission *after* the due date, we will regard your **entire** problem set as having been turned in at the last time it was changed.