DS 50 - February 2022 (Live Online)

Tech check

GENERAL ASSEMBLY

Objectives for today

- Welcome!
- Orientation: who's who and what's what for the course
- Tech check: make sure you're set up for success
- What *is* Data Science? Let's get a common understanding

In Class Tools

We'll use the technologies listed below. Click here for a Google Doc version of this list, which you can download or print (go to File > Download or Print).

Anaconda: We will be using Anaconda as our primary development environment. When you get to class, you'll install Python on your machine using this tool. It's important that you, your instructor, and your classmates all use the same versions of Anaconda and Python, so install Anaconda and Python 3+.

Python: This is included with your Anaconda installation.

GitHub: We'll be using GA's GitHub servers on a daily basis to store and share our code. You'll learn more in your pre-work about what Git and GitHub are and why you'll need them in class. In the meantime, set up an account on GA's internal GitHub server so that you're ready to use GitHub in your pre-work and can access course content in class. Follow these steps:

1. Go to git.generalassemb.ly/join. Enter your username and email address, and click "Invite."
2. This will create your account, then redirect you to the password reset page. Your email will already be filled out in the box.
3. Press the green button. This will send a password reset link to your email address.
4. Click on the link provided in your email and set a password. Access will now be available.
5. **Note: Do this even if you already have a GitHub account!** We'll be using a version called "Github Enterprise," which is separate from any GitHub account you've previously created.

Git (Mac/PC): Git is a version control system that tracks changes in computer files and makes it easy to coordinate work across multiple machines and people. PC users should install GitBash; Mac users should install Homebrew.

Atom: Atom is a popular text editor for writing code. (VS Code is great too)

Chrome: We'll use Google's web browser for its built-in Developer Tools.

Solo Exercise:

Install check

15 mins

Take a few minutes to make sure you have the following tools working:

- Slack
- Anaconda
- GitHub Enterprise: account for General Assembly
- (Optional): Atom or VS Code

Once you've done this, open Anaconda and the Jupyter Notebooks we'll post in Slack, start with **02_install_check.ipynb** and work your way through the steps from **Part 3. Git Configuration**

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Introducing Jupyter

What's Jupyter Hub?

Jupyter Hub (or 'Jupyter') is an **environment** for writing and running Python code.

It's widely used in industry and academia, and has lots of handy features that make it easier to use than many other programming **environments**.

Let's explore them!

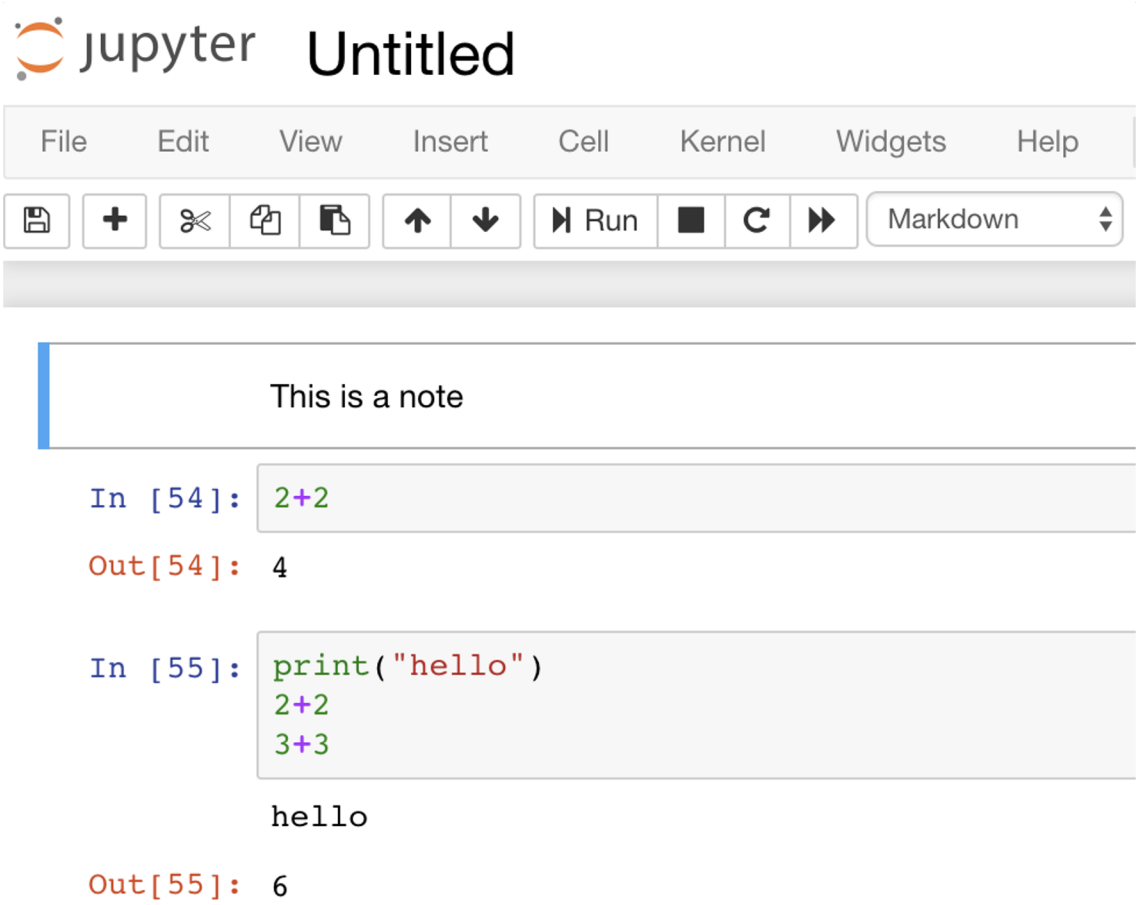
What's Jupyter Notebook?

Some important points about writing code in Jupyter:

1. Use the **save** button to save your progress and work
2. You don't always need to be connected to the internet to use Jupyter
3. One cell must **finish** running before another cell can run
4. A code won't be executed until you run the cell

Jupyter Notebook

- **Cells**
  - **Markdown** for notes
  - **Code** for Python
- **Execution**
  - Shift + return
- **Output**
  - Print (all)
  - Return values (last)



Jupyter Shortcuts

Shift+Enter Run cell

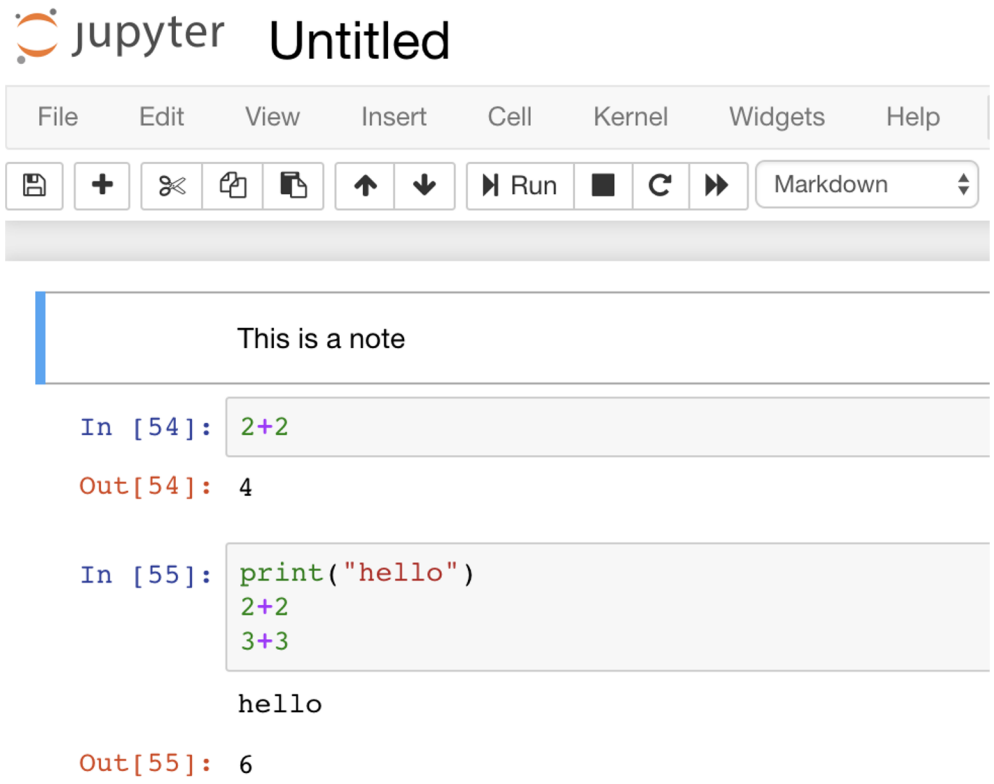
Esc+B Insert cell below

Esc+A Insert cell above

Esc+Y Convert to code cell

Esc+M Convert to markdown cell

Esc+H View all shortcuts



Jupyter Notebook errors

Mistakes happen! Here's what they look like:

```
just some code
```

```
  File "<ipython-input-56-2516a36d8922>", line 1
    just some code
               ^
SyntaxError: invalid syntax
```

1. **Try to understand what went wrong**
2. **Attempt to fix the problem**
3. **Execute the cell again**

Solo Exercise:

Try out Jupyter notebook

Open a new Python 3 Jupyter notebook.

Practise using Jupyter by doing the following:

1. Insert a cell, convert it to a **markdown** cell, insert some text and execute the cell
2. Edit the **markdown** cell so it contains a large heading (hint: use '#' to make a heading)
3. Insert a **code** cell below the **markdown** cell, and execute the calculation '2+2'
4. Insert a new cell and delete it immediately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