# LARSON—INFO 790–CLASSROOM WORKSHEET 06
## Titanic!

1. **Log in to VCU's Athena cluster**.

   The following directions assume you have an Athena account, that you have set up Sage, and that you have set up (using `make`) the CONJECTURING program.

   (a) Start the Chrome browser.

   (b) If you are off-campus, you'll need to connect to the VPN first.

   (c) Then go to `https://athena3.hprc.vcu.edu`

   (d) Login using your VCU EID as your username, and your corresponding VCU password.

   (e) Click the Apps button and a `Sage` session. The default options are fine. This will take a couple of minutes.

   (f) Click the Apps button and start an "athena shell access" session (this will give you a terminal window, where we can issue commands).

   (g) Your Sage session will first say "Queued", then "Starting". When it is ready you will see a button that says, "Connect to Sage". Click that.

   (h) You should then get an "untitled" interactive-Python notebook (ipynb), or the last file you had open the previous time you used Athena.

   (i) When your notebook opens look on the upper-right to make sure the SageMath kernel is running (if it isn't you can change the *kernel*).

2. **Reminders for setting up Expressions and Conjecturing**. In each case, for each experiment, we will make a folder in your root directory; we will need a copy of the "expressions" compiled executable in that folder; and we will use an .ipynb located in that notebook. When we call the CONJECTURING program we will use the version in the ∼/`conjecturing` folder downloaded from github (what you did with the github command; if there are ever new files on github, using the command `git pull` will update your files).

3. **Setting up Titanic on Athena**

   (a) In your Athena shell tab, make a Titanic directory; run: `mkdir Titanic`

   (b) Check that you have this directory by running the directory command: `ls`

   (c) Change into your Titanic directory: `cd Titanic`

   (d) Copy the expressions file to your Titanic directory:
   `cp /conjecturing/c/build/expressions ./`

4. **Getting the Titanic data and worksheet**.

   (a) Go to `https://math1um.github.io/Teaching/`

   (b) Scroll down and find the INFO 790 files. Download the Titanic .csv (data) and .ipynb (script) files.

   (c) These two files need to be in your Titanic directory on Athena. On your Athena Jupyter notebook, there is a button for *uploading* files. Upload the Titanic .csv and .ipynb files. Check that they are in the Titanic directory.

5. **Loading the Titanic script**

   (a) In your open Sage session tab, you will see a list of files on the left. Double-click on your Titanic folder, then double click on `titanic_example.py`.

   (b) Check on the upper-right that Sage is the kernel. If not, change it to Sage.

   (c) Run the commands one cell at a time (go to the first cell, and click RUN, or SHIFT-ENTER).

   **Final Note**

   Dr Brooks wrote this file so that it could be easily imitated for a wide-variety of tabular data-files. You should read each cell carefully and **ask questions** about what the commands do. **You will be doing this with your own data files**.