ASTR 400B Research Assignment 3: Hack Day

Due: April 9 2020 9 AM + Meeting on April 9

This assignment will not be graded, but will count towards class participation.

We will organize a code check-in on April 9th. We will assign you a time slot to meet with Rixin or Prof. Besla and a group of 5 other students to discuss your code.

We will accommodate time zone conflicts.

1 The Assignment

You are expected to push your first attempt at creating code for your research project to your Github account by Thursday morning (9 AM AZ time) in a new folder called ResearchAssignment3.

We expect the following:

1.1 Explain your Goal in Code Documentation

1. At the top of your code write a comment (or use a markdown box) that states the topic of your research project.
2. Many of you have outlined multiple questions to pursue. For this assignment pick ONE of those questions and add it to the comments (markdown).
3. Many of you have outlined multiple ideas of plots to create or calculations to make. For this assignment pick ONE of those ideas and add it to the comments (or markdown).
4. You must account for Prof. Besla's comments on your Research Proposal Draft. She will not be happy if you don't.
5. The title of the code should be informative with regards to what the code does.

1.2 Create a First Attempt at your Code

1. Create a new python script or Jupyter notebook (not a lab or homework) to compute relevant equations or make plots to answer your chosen idea.
2. OUTLINE as much of your code **in words** (that are commented out) as you can. For example, like the templates you've been using for In Class Labs or Homeworks, where the steps are laid out.

3. Complete as much of the code as you can. Ideally with the first attempts at a plot.

1.3 3-5 minute Presentation

You will be expected to present your methodology and code to a group of 5 other students and Rixin or Prof Besla.

You can discuss where you are stuck and need help. The goal is for us to see where you are at and provide feedback on how to fix any issues you have.

1.4 General Guidelines

- Your code does not have to be complete or work for this check-in. The point is for us to help you. But we do expect you to have made a proper attempt at building the code.
- You do not have to create a class. You can simply create a set of functions.
- You may work together to brainstorm how to write your code - but you must create a final function that is uniquely yours. This means there must be at least **one new function that was not part of a homework or lab or that was created by/or is the same as that of someone else**.
- Note that for the final project you will need to create at least two plots for your paper. At least one must be created using a code that you uniquely created. The other can be code strictly developed from our labs.
- The next assignment will be to fix up your proposal based on the comments that Prof Besla gave you on the first draft and the feedback you get from the code check in.