

ASTR 400B Research Assignment 3: Hack Day

Due: March 30th 2023 9 AM + Meeting on March 30th

This assignment will not be graded, but will count towards a participation grade. We will organize a code check-in over zoom. You are assigned to a time to meet with the TA or Prof. Besla and a group of other students to discuss your code (see the end of this document).

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 the Goal of your Code in Documentation

1. At the beginning of your code write a comment that states the topic of your research project.
2. Some of you have outlined multiple questions to pursue. For this assignment pick ONE of those questions and add it to the comments.
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.
4. 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. Before you start writing code, OUTLINE as much of your code **in words** (that are commented out) as you can. Like the templates you've been using for In Class Labs or Homeworks, where the steps are laid out.
2. Create python script or a Jupyter notebook to compute relevant equations and make plot(s) to answer your chosen idea. This can be originally based on a lab or homework, but should evolve from there eventually to something new.
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 other students and the TA/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 in a group 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.

2 Assigned Groups and Times

2 PM Group 1: Besla

Zoom: <https://arizona.zoom.us/j/85916436158>

Kush Aggarwal, Muzuon Alzaabi, Ritvik Basant, Max Cabrera, Malhar Dave, Aidan De-Brae, Mika Lambert

2 PM Group 2: Foote

Zoom: <https://arizona.zoom.us/j/84588840134>

Ezekiel Dong, Charlie Goldberg, Ansh Gupta, Peter Hartman, Carl Ingebretsen, Avichal Kaul, Sanvi Khairnar,

2:40 Group 1: Besla

Zoom: <https://arizona.zoom.us/j/85916436158>

Matei Corbeanu, Olivia Jones, Travis Matlock, Jay Motka, Aidan Nakhleh, Paarth Parab, Binh Nguyen

2:40 Group 2: Foote

Zoom: <https://arizona.zoom.us/j/84588840134>

Rianne Kooi, Bennett Skinner, Rey Squillace, Surya Suresh, Gabe Weible, Zach Werber,
Cyrus Worley