

Pick a final project

Your homework over spring break is to come up with a final project.

The final project will be done alone or in groups of 2. However, at this stage, you need to state the idea on your own - no working with others on the idea development phase.

Propose a final project for the class. State at a minimum:

1. What is the overall goal of the project?
2. What language will you use?
3. Why are you interested in doing this project?
4. What are 3 functions you will need to write for your final project?

You should write this up in a .txt file and put it on your github repository as `finalproject_proposal.txt`. You should have at least a short paragraph for (1), and you should consider writing a little bit of pseudo-code for (4).

These are final project *proposals*, so if your proposal is good (and realistically completable by the end of class), we'll let you do it. But if your proposal looks like it's a joke, you won't be allowed to do it, and if it's too hard, we'll work with you to tone it down.

Finally, please e-mail astr2600@gmail.com with the names of 3 classmates you'd like to work with. Don't put this in your turned-in .txt file.

Here are some ideas you can work with:

Image Photometry

Examine an astronomical image. Find stars in that image and measure their properties, like their location and brightness.

N-body simulation with higher-order integrator

Improve the N-body simulator you made using higher-order integration, and set up realistic systems like the solar system.

Monte-Carlo analysis

Create a monte-carlo simulator to model some statistical problem, e.g. poker games, asteroid collision likelihood.

Fractal Generation and Analysis

Make some fractals, then analyze some of their properties (length scales, etc.)