

Final Project

Professor:

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What should be submitted?

- ☐ A one page document that contains a executive summary of your project:
 - A paragraph and what the code does and/or what problem the code is solving.
 - A description of the capabilities of the code: successes and limitations
 - Documentation for how to run your code.
 - ☐ Your code - you can submit either a .py file or a .ipynb notebook. Either is fine depending on what type of project you do. Triple check that whatever you submit works.
 - The code should be properly styled: inputs at top, functions and classes next, then the main code. If you are doing a data based project in Colab, this might look a little different, but you should still have inputs and data imports at the very top followed by code that is run in order.
 - The code should be appropriately commented: each function/class should have a comment about what it does if you are producing graphs or tables you should also include markdown or print information about what the user is looking at.
 - The code should use proper referencing - if you used code from an online resource or resources you should say so AT THE TOP OF THE CODE and give credit to where you found the code - a link to the site.
 - ☐ A very brief self reflection.
 - How do you feel this semester of programming went for you?
 - What were some of your successes?
 - What were some of your challenges?
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Final Project Info:

Your project will solve a problem from an area of your own interest. This could be code that might help you on homework assignments, code that analyzes some data, or even code that helps you with something from your life. You are welcome to be creative (eg. build a small video game - the problem is “I am bored”). Projects can be completed at a variety of levels:

P1 A level 1 project will meet all of the following requirements

- Clearly define the problem being solved; explain it's importance and any background.
- Accepts at least one user input.
- Prints or Saves an output (the solution) that includes either a graphical or tabular component.
- Contains appropriate commenting and uses good Python Style (as defined in class).
- Completes a non-trivial calculation (using loops and/or conditionals).
- Is unique and related to an area of your interest

** A level 1 project should be doable in the last week of classes. It should take about 10 hours to complete. (10 points)

P2 A level 2 project will meet all of the level 1 requirements plus

- Contains more advanced user interactions - accepts multiple inputs or imports multiple files as appropriate.
- Contains saves a report of the final data in both tabular and graphical form as appropriate.
- Uses more advanced looping and conditional statements.
- Uses functions and modules to organize the code.

** A level 2 project should be doable in the last two weeks of class. It should take about 20 hours to complete. (15 points)

P3 A level 3 project will meet all of the level 2 requirements plus

- Programmer meets with Joanna at least once to brainstorm.
- Uses classes to define data types used in the program.
- Does one of: Advanced data or graphical processing or advanced user interaction GUI or completes advanced testing and algorithm analysis.
- Learns something that was not directly covered in class.

** A level 3 project must be started well before the end of the semester. It should take 30+ hours to complete. (20 points)
