

Project requirements

Your project should include the following:

Part 1 – your project objective and data :

(10pts)

1. Set your goal(s) in a paragraph and state why you chose this project and what you are trying to solve
2. Load your data from an external source (.xls, .txt, .mat, image, audio file) into the workspace for any kind of mathematical operations, filtering, analysis you intent to perform

Part 2 – demonstrate understanding of NumPy's key objects:

(30pts)

1. Use array or matrix objects
2. Use iteration and conditional statements in your code
3. Use typecasting whenever necessary

Part 3 – use some of the modules available in SciPy :

(30pts)

1. The linalg module and it's methods, applying them to NumPy data objects
2. Use any of the following SciPy modules:
 1. interpolation, integration, FFT, signal processing, optimization, statistics or any other SciPy module needed in your case
3. Since using sophisticated modeling may require the execution of calculations on a set of given data over and over again, you should use functions and/or classes with different methods

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Part 4 – plotting some of your results:

(20pts)

1. make the best use of what we have covered: use 2-D or 3-D plots whenever necessary
2. make sure that at minimum you use: titles, x- and y- labeling, x- and y- ticks
3. when possible, use legends and annotations

Part 5 – clean up your code:

(10pts)

1. Use good coding practices (avoid cryptic expressions, use comments and sections, load only what you need, etc.)
2. Save your project to a .py file and email it to me along with your data source before the beginning of presentation day. Your project may need to include different modules that you wrote. In this case send me the whole package. I will run it after you present it in class
3. Presentations will take place in our last class, so get ready to discuss your results. Keep in mind you only have 10min to present your case to the class so be concise. The floor will be open for questions. The order of presenting will be chosen randomly before we begin.
4. Include the following in a README.txt file and send it to me:
 - what platform/system and Python version you used to run your code
 - what packages and dependencies you used
 - the sequence of how your code needs to be executed
 - any other details that you think might be useful

Please come on time!