Examination: A report using Python

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Requirements:

1. Flexible: open to any interesting work with the tool of Python.
2. Complete: need to have a complete and systematic story
3. Knowledge: make full use of the knowledge learned from the course are highly encouraged.
4. Reproducible: need to be fully replicated by the scripts which needs at least 100 lines in ipython notebook (.ipynb).
5. No plagiarism: you can refer to the online matrials or books, but simple copy paste is strictly prohibted.
6. Either techinically fantansic or empircally insightful.

Examples but not strict to these:

1. To do an empirical study with statistical/econometric tools with Python, you can show the steps of data collection, data manipulation, summary statistics as well as statistical inference. For such a task, you also need to tell the significance of your findings from the data, echoing the spirit of the completeness of the story.
2. Use the data mining techinique like machine learning tools to do the prediction, similar steps can be involved as the one listed in example 1.
3. Systematically show a new module that you think it has the great potential but is not covered in the current class, I still encourage you to make full use of the knowledge that covered in this class.
4. To use the Python to better show/explain the principle of the econometric,statistical or machine learning theory.
5. To present a story with data visualization in python, it's also important to show the implications infered from the figures/plots.