M4.A5: Programming Assignment on Linear Systems and Iterative Solvers

Start Assignment

Due Sunday by 10:59pm **Points** 100 **Submitting** a file upload **File Types** pdf
Available after Jun 13 at 11pm

Overview

In this week's programming assignment, you learn to modify Gaussian elimination methods for multiple tasks, among them finding PLU decomposition and finding determinants and inverses. You also implement iterative methods for solving linear systems.

Activities

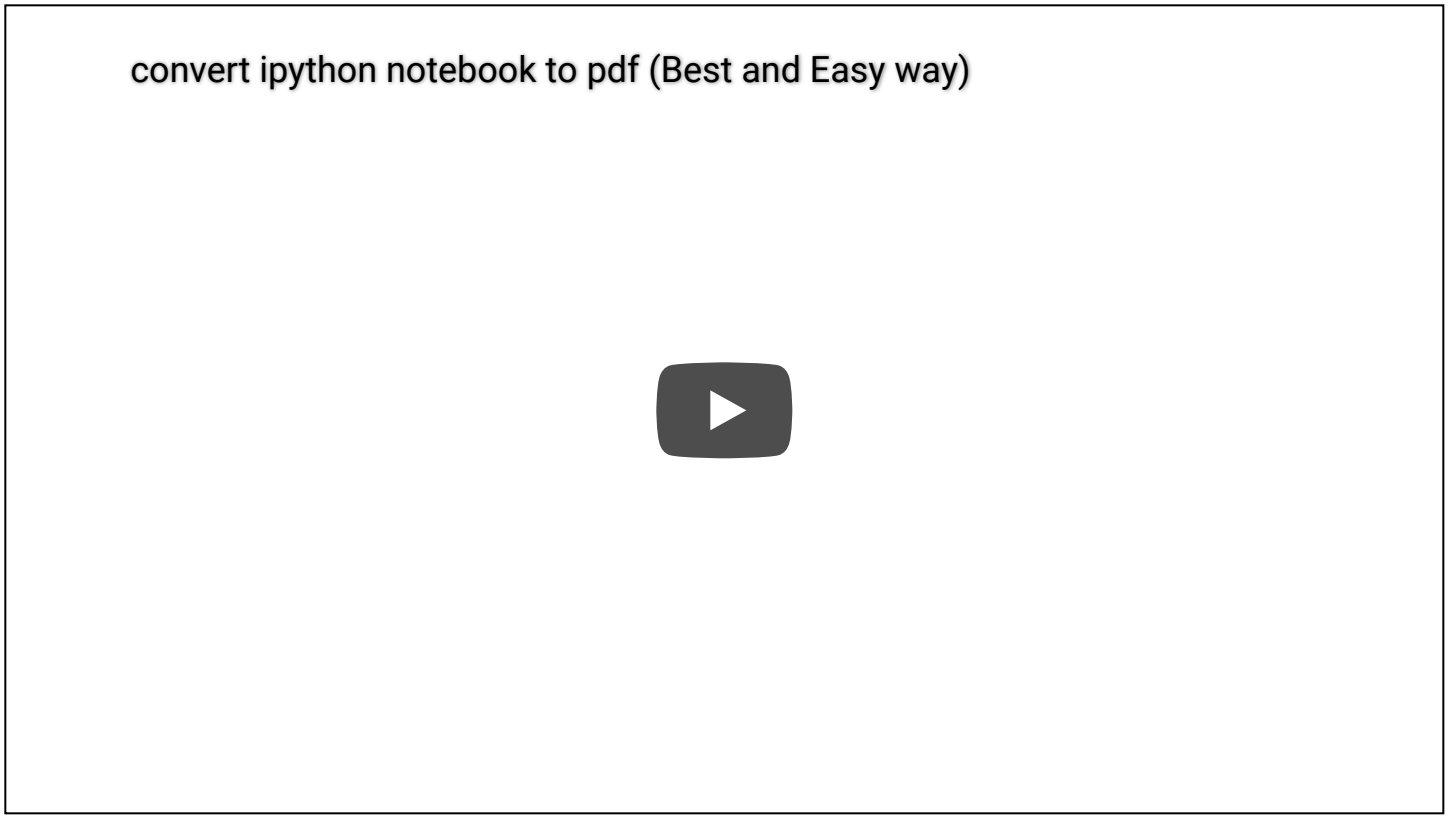
- Create an iPython notebook to work on the following problems. [How To link: **https://www.dataquest.io/blog/jupyter-notebook-tutorial/ (https://www.dataquest.io/blog/jupyter-notebook-tutorial/)**]
- Clearly put the problem numbers in appropriate headers and subheaders on the notebook.
- Do not display information that is not being sought.
- Images or data files, if any, should be kept in folders such as './images/im_name.kpg' or './data/data_file.jpg'.

- **MA544_S21_PA4.pdf (https://sit.instructure.com/courses/48974/files/7959012/download?download_frd=1)**

- **MA544_S21_PA4.ipynb (https://sit.instructure.com/courses/48974/files/7959009/download?download_frd=1)**

In your submission, you must:

- Provide the console output of the routines that you have implemented in the text input box in the format as specified in the problems.
- Provide a pdf file of the iPython notebook of your code. Check the following video for a convenient way to convert an iPython notebook to a pdf document:



Programming Assignment Grading Rubric					
Criteria	**Ratings**				**Pts**
Completeness and Accuracy Programming output is complete and accurate.	**100 pts** **Exceeds Expectations** Work is complete and accurate.	**80 pts** **Somewhat Meets Expectations** Output is not as expected but most of the necessary steps were taken in programming; minor errors.	**60 pts** **Below Expectations** Work is only partially complete and/or contains many errors.	**0 pts** **No Points** Assignment not submitted.	100 pts
					Total Points: 100