Dear students,

Next class we will be talking about OpenSeesPy, a powerful tool for structural analysis that is being used widely in research and increasingly for special projects in engineering practice. The lecture will be highly practical, so please bring your laptops since we will be creating some models together. We will run OpenSeesPy using a notebook in Google Colab. Notebook programing is a very useful tool for data-science since it enables mixing code, descriptions, and data visualization. In preparation for the class, please make sure to follow these steps:

1. Familiarize yourself with **Google Colab** (requires a Google account, you can use your personal account or your Stanford account). Please watch this short introduction about Google colab:

<https://youtu.be/inN8seMm7UI>

1. Familiarize yourself with [Jupyter using the basic Colab Notebook](https://colab.research.google.com/notebooks/intro.ipynb) so you can follow along with the demos and in-class exercises:

<https://colab.research.google.com/notebooks/intro.ipynb>

1. **If you have never used Python**, you can still follow along with the notebooks without knowing Python. As an introduction to help you understand the programming language, you can watch chapter 1 of this video (just under 2 hours total, watch at least the first hour):

<https://nheri-simcenter.github.io/SimCenterBootcamp2020/source/lecture_videos_part1.html>

1. Copy the following Google Colab notebook in your own Google Drive and try to run the first cell to install OpenSeesPy in your session. To accomplish this, please follow these steps:

* Click the following link:

<https://drive.google.com/file/d/1-OEAvmo3bEaK6BUCIAX-nuk5Ub72pJdy/view?usp=sharing>

* Click the top tab that says “Open with”
* Scroll down and select “+Connect more apps”
* Search for Collaboratory and install the app (you may be prompted to sign in again in your Google account)
* Then refresh the page. The top tab should say “Open with Google Collaboratory”
* Once the file open, you will have viewer rights only. To edit the file, please make a copy of the file in your own Google Drive by clicking *Files* -> *Save a copy in Drive*. This will create a folder on your Google Drive called Colab Notebooks where you will find the copied notebook with edition enabled.
* To run the first line of the notebook, you can click the play  at the left of the cell.

As an optional step, you can familiarize yourself with OpenSees by looking at the reference material listed below:

OpenSeesPy documentation: <https://openseespydoc.readthedocs.io/>

OpenSees command manual:<https://opensees.berkeley.edu/wiki/index.php/Command_Manual>

OpenSees: A Comprehensive Overview video: <https://www.youtube.com/watch?v=X78FIsZQ330>