Prework for Scikit-Learn and Deep Learning Training Session

0. "This training will be all in Python." Skip to step (1.) if that sentence makes sense to you.
    a. What is Python? What is a command line? Look at parts 1-2 of Getting Started with Python Programming (pythontutorial.net)
    b. I've used the command line. I've written some scripts. But I've never used python. Look at parts 2-4 of Getting Started with Python Programming (pythontutorial.net)

1. Get a UAB Cheaha account if you don't have one, and make sure you can login.
   Cheaha GettingStarted - UABgrid Documentation

2. Sign up for a google drive if you don't have one
   Google Drive: Getting Started with Google Drive (gcfglobal.org)
   We will use Google Colaboratory for some tutorials/examples. Also, it provides you *free* access to a GPU for model training!

3. Set up a Deep Learning environment on Cheaha using these instructions from a UAB Computer Science Class:
   Cheaha_GPU_Access_for_Deep_Learning.pdf (cpb-us-w2.wpmucdn.com)

4. Set up **free** GPU usage in Google Colab.
   Google Colab Free GPU Tutorial. Now you can develop deep learning… | by fuat | Deep Learning Turkey | Medium
   You should follow the instructions *at least* through "Running Basic Python Codes with Google Colab." Though, if you have time to go further, please do! You'll gain more experience and knowledge about deep learning on GPUs.
    a. If this page tells you that you've reached an article limit, open it in a "private" or "incognito" window in your browser.
    b. If you don't see the "Colaboratory" option in the step "Creating New Colab Notebook," click "connect more apps" in that same menu and find "Colaboratory." Follow the steps provided on screen by Google and then try the linked instructions again.
    c. If you are able to follow ALL of the steps linked in this post and don't mind helping others, please reach out to me (Ryan Melvin) in the hackathon slack. I will ask you to help answer setup questions during the actual training session.

If you need help with (1) or (3), attend one of the Research Computing Office Hours and ask for help. They aren't directly associated with this training, so you'll need to give them the context and show them the instructions I've provided.

- RC Open Office Hours Wednesdays 1 to 3 PM: https://uab.zoom.us/j/97296139490?pwd=K3FFblNhZjlJWTUzMnBCVGRwYUtsUT09
- RC Open Office Hours Thursdays 10 AM to Noon: https://uab.zoom.us/j/96229651103?pwd=RmpsWG1NYkxjclgxTThXb1h2bVBndz09

If you need help with (0), (2) or (4), ask in the “help-needed” channel of the hackathon slack, try searching for help on Google, or ask friends/colleagues. If you DON'T need help, please provide help to others via the slack. Unfortunately, this summer I won't have much time outside of the training to offer individual, personal assistance.

If we were doing training in-person, I would have those who don't have trouble getting set up go around at the start and help those who do. Let's try to replicate that process as much as possible remotely! Help others with the training and pre-work, even if they aren't on your team.

Bonus points!
If you want to try out some Machine Learning before the training, here are some tutorials at various levels of experience/comfort. Yes, they are all from the same person's blog. He's great! He's trying to sell his books, but the content he gives away for free on his blog is outstanding. Except for the first one, these should all work on Google Colaboratory.

- Setup a machine learning environment your local computer/laptop: How to Setup Your Python Environment for Machine Learning with Anaconda (machinelearningmastery.com)
- Beginner: Python Machine Learning Mini-Course (machinelearningmastery.com)
- Beginner: Your First Machine Learning Project in Python Step-By-Step (machinelearningmastery.com)
- Intermediate: Your First Deep Learning Project in Python with Keras Step-By-Step (machinelearningmastery.com)
- Intermediate: Ensemble Machine Learning With Python (7-Day Mini-Course) (machinelearningmastery.com)
- Advanced: How to Get Started with Deep Learning for Natural Language Processing (machinelearningmastery.com)
- Advanced: How to Get Started With Deep Learning for Computer Vision (7-Day Mini-Course) (machinelearningmastery.com)
- Even more: Start Here with Machine Learning (machinelearningmastery.com)