CMSI 1010
Git and Terminal practice

Learning Objectives
Students will (1) write a program in a text editor, (2) run the program from the Terminal, (3) use comments to document the program, and (4) push code to GitHub.

0. **Install a terminal**
   Mac: If you're on a Mac or are using a form of Linux (such as Ubuntu), you already have a program called Terminal or something similar on your computer. Open that up: you can search for it with Spotlight by pressing `command + spacebar` and typing "terminal." You can keep it at the bottom of your screen by right-clicking the black Terminal icon, selecting Options, and checking the option for "Keep in dock."

   Windows: Install a terminal called **Git Bash**: http://git-scm.com/downloads. Very important: **You MUST select the option *Use Windows' default console window***, or it won't work!!

1. **Install Python 3**
   Mac: Installer: https://www.python.org/ftp/python/3.7.0/python-3.7.0-macosx10.6.pkg You may need to right-click the download icon and select "Open."

   Windows: Get the installer: https://www.python.org/ftp/python/3.7.0/python-3.7.0.exe Very important: When installing, **make sure to check the *Add Python 3.6 to PATH* box**!!

   Ubuntu: `sudo apt-get install python3`

   After installing, close and re-open your Terminal. We can test that Python 3 was installed properly by typing this command: `python3` (`py` on Windows). **If it all works, you should see your Python version number printed out, followed by the >>> prompt.** Now type some code in the **interpreter**!

   ```
   >>> print('hi')
   ```

2. **Install a text editor**
   The Python **interpreter** that you just installed allows you to *run* Python code. You will also need a **text editor**, where you will *write* Python code. Please do NOT use Microsoft Word to edit programs!

   I use Sublime Text 3, but you can choose whichever text editor you like.

   - Sublime Text 3: https://cs61a.org/articles/sublime.html
   - Atom: https://cs61a.org/articles/atom.html
   - Emacs: https://cs61a.org/articles/emacs.html
   - Vim: https://cs61a.org/articles/vim.html

3. **Using GitHub**
   In GitHub, click the green "Code" button to copy your repository's link. From your Terminal (Git Bash on Windows), clone the repository by pasting the link into this command: `git clone YOUR_REPO_LINK`

   Now navigate into the directory that was just created by using this command: `cd ps4-YOUR_USERNAME` Type `ls`. You should see the Python script I have provided for you in this assignment.

4. **Writing your first program in terminal**—`hello.py`
   In your text editor, open a new `.py` file. Write a program that prints "Hello, <your name>!!!" in the box below. Run it from the Terminal: `python3 hello.py` (or if you're on Windows, try `py hello.py`)

```
**************************************
*                                    *
*        Hello, Harry Potter!!!      *
*                                    *
**************************************
```

Hint: You will need to use more than one `print` *command.* You should put each command on a new line.

5. **Adding comments**
   You may want to explain your code to someone else (like me, when I'm grading you) or understand it yourself at a later date. Instead of having to understand what every line of code does, you can add comments to your code that explain what you were trying to do.

   You can add a comment using the `#` sign.

```
# Print a message to the screen
print('hello, lmu!')
```

   Comments are ignored by the computer—you can write anything you want there. Best practice, and what I would like you to do in this class, is to *always document your code*!

   Now edit the `hello.py` program that you just wrote in the previous exercise and add a *multi-line comment* at the beginning of the file with the filename, your name, any collaborators, and a description of what it does. You should do that for all future programs.

What to turn in

Submit the electronic copy of any programs you wrote. In the Terminal, type these commands:

```
git config --global user.name "YOUR NAME"
git config --global user.email "YOUR EMAIL"
git add hello.py
git commit -m "adding hello.py"
git push
```