Lab 01 - (in class lab)

Github, Linux Command Line Instructions, Regular Expressions and Visual Programming

You will be maintaining a repository on github for all your lab work. Step 0 will help you create the skeleton for that repository and give you a head start on the lab report for lab 01 (`labs/lab-01/report.md`). You must maintain this lab as an open repository or Submitty will not be able to access your submissions. When you submit your lab to Submitty you will need to supply your github user name and the name of your fork. For me, after following the directions in Step 0, I would enter `wdturner` and `oss-repo-template`. This structure will be used for each of your labs this semester, so for instance when doing lab 2, you will need to create and commit a report `labs/lab-02/report.md` **IN THE SAME REPOSITORY**.

Markdown syntax is here and here

0. Create and setup a Github account

1. Go through this tutorial to get familiar with Git and GitHub and to set up a GitHub account.
2. Fork the template repository.
3. Fill out the information in the file `index.md`.
   - Please have your name and a photo in the markdown page . Here is a sample page.
   - You can copy and paste screen shots as well as add text.
   - Please add your Discord handle.

1. Join the Discord if you haven't already

1. Join here: https://discord.gg/5WEv84aGDz
2. Post a message into the "#general" channel
3. Take a screenshot the post and paste it into your lab report .

2. Reading assignments - make sure to reflect on these in your lab report

1. Please read the 10 criteria of Open Source Definition and understand why they are important.
2. Please read Eric Raymond's article Smart Questions - How to ask the question The Smart Way.
3. Do you have more suggestions for `How To Answer Questions in a Helpful Way` (from your past experience)?
   - List at least two.
4. Please read chapter 3 of Free Culture

- Write a short paragraph (8 to 10 sentences) of what you got out of reading that chapter.

5. Read the first chapter in Beautiful Code about the development and implementation (in C) of a very simple `grep`
   - You don't need to record anything here on the reading, but it will help you with the exercises on `grep`, `egrep`, and `regex`.

3. Linux

1. Boot linux (Ubuntu) through a USB, dual boot, or WSL (version 2 strongly recommended)
   - **For WSL: How to make graphical utilities work**
   - Get familiar with the directory structure.
   - Practice with `ls`, `cd`, `mkdir`, `chmod` commands - when in doubt search the web to find the answer.
2. Practice with `grep`, `egrep` commands
   - Look at the manual (`man grep`) to see how to use these commands.
3. Install tree and get the directory structure.
   - On linux: `sudo apt-get install tree`, or use the Ubuntu software install
   - For Ubuntu versions 18.04 and greater:
     - `sudo snap install tree`
     - `tree --help`
   - On OSX: `brew install tree`
   - On WSL, it looks like it is already available https://docs.microsoft.com/en-us/windows-server/administration/windows-commands/tree
   - Run `man tree`
   - Take a screenshot and add it to your lab report.

4. Regex

1. In your Foundations of Computer Science class you learned about Regular expressions. (If you have not taken Foundations of Computer Science class, please talk to the instructor for an explanation). Please do the practice problems given here.
   - To get full credit, do at least 7 problems.
   - Take a screenshot and add it to your lab report.
2. Go through the tutorials here to practice regex crosswords, then try a few problems.
   - Do at least four problems on beginner level here.
   - Take a screenshot and add it to your lab report.
3. (Optional But Recommended) Do problem 11 in adventofcode 2015 (You may use regular expression)

5. Play with Snap or Blockly

1. Create something using Snap or solve this using blockly
2. Add documentation (screenshots) of your accomplishments in your lab report.

6. Reflection

1. Pick an Open Source Project that might be interesting to evaluate
2. Start thinking/finding a problem/project that interests you
3. Add a paragraph on how you are doing this activity to your lab report
4. Check out http://aosabook.org/en/index.html for a list of a number of open source projects and for a discussion of the architectures they use.