

## Computer Science CS134 (Spring 2020)

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Laboratory 6

*Setting Up Your Remote Lab Environment (due Thursday 11pm EST)*

**Objective.** To test your at-home python programming environment.

This week we'll run through our basic workflow: clone starter files from GitLab, modify and run a python program, answer some questions in a text file, and then stage, commit and push all our work.

**This week's tasks.** Here are the steps you must follow to complete this lab.

1. Install necessary applications. Instructions on how to install these are available here: <https://williams-cs.github.io/cs134-s20-www/shikha-lectures/134-Lecture15.pdf>. If you haven't already, you will need to install the following applications:
  - (a) Atom: <https://atom.io/>
  - (b) Python3 (version 3.6 or greater): [www.python.org](http://www.python.org)
  - (c) git: [www.git-scm.com/download](http://www.git-scm.com/download)
  - (d) VPN client Cisco AnyConnect:  
<https://oit.williams.edu/help-guides/wifi-and-wired-connections/vpn/>
2. Obtain starter repository from evolene.
  - (a) Use Cisco AnyConnect to establish a secure VPN connection to the college network. The Office of Information Technology has instructions on how to do this; see <https://oit.williams.edu/help-guides/wifi-and-wired-connections/vpn/>
  - (b) If you do not have a cs134 folder on your personal machine to store all your work, create one.
  - (c) Navigate to your cs134 and clone the starter repository for this lab by going to <https://evolene.cs.williams.edu> and clicking Clone and the the Copy URL to clipboard button under the Clone with HTTPS text.
    - If cloning via Terminal on a Mac, type `git clone` followed by the URL you just copied, followed by the name of the lab lab05. The command should look something like this:  
`git clone https://evolene.cs.williams.edu/cs134-s20/lab06/22xyz3.git lab06/`  
where your CS username replaces 22xyz3.
    - If cloning on Windows, you can either use the Command Prompt or the Git Bash (if it was part of the installation). The command looks exactly the same as on a Mac:  
`git clone https://evolene.cs.williams.edu/cs134-s20/lab06/22xyz3.git lab06/`  
If you get a permissions error, execute the following commands to do a one-time configuration:  
`git config --global user.name "22xyz3"`  
`git config --global user.email "xyz@williams.edu"`  
`git config --global http.sslbackend schannel`  
where your CS username replaces 22xyz3 and the email is your Williams email. This step is explained in the remote setup slides.
3. Open the editor Atom, click on File and select Add Project Folder from the dropdown menu. Navigate to the lab06 folder within your cs134 directory. This week's lab repository contains a single python file, `fibo.py`, and two text files: `questions.txt`, and `honorcode.txt`.

4. Open `fibonacci.py` and change the line in `if __name__ == '__main__':` that says YOUR NAME HERE to have your name. Save the file.
5. Run the python file:
  - by typing `python3 fibonacci.py` in the Terminal if on Mac (make sure you are in the lab06 directory)
  - by typing `python.exe fibonacci.py` in the Command Prompt if on Windows (again, make sure you are in the right directory<sup>1</sup>).
6. Running `fibonacci.py` should create a new file, `output.txt` that contains the output from the program. You must stage, commit this file to the GitLab repository, along with `questions.txt` as explained in **Submitting your work** section below.
7. Open `questions.txt` and type out the answers below each question. Save the file.
8. Remember that you must certify that your work is your own, by typing out the Honor Code statement in the `honorcode.txt` file.

**Submitting your work.** In Atom, you can push your work to the server as follows.

1. From the top menu, go to Packages and select Github and click on Toggle Git Tab. A new pane will appear on the right with the title Git.
2. You should see your changes under Unstaged Changes in the Git pane. Right click on the file name and select Stage, which will move the file to the Staged Changes section below.
3. Once all your edited files are staged (in this case `fibonacci.py`, `questions.txt` and `honorcode.txt`), you are ready to commit your work. Write a brief commit message in the text box at the bottom of the Git pane and click on Commit to master. This commits your work locally and you do not need to be connected to the internet to commit.
4. After you commit a Push button will appear at the bottom of the pane. Clicking on it will push your work to the CS server. You need to be connected to the internet for this step. After you push your finished work, you are done!

*Late days.* Late days are not available for this lab, please reach out to us if you are having technical difficulties. If you are having difficulty getting your computer set-up for programming, please contact Lida Doret ([lpd2@williams.edu](mailto:lpd2@williams.edu)) as soon as possible!

**Grading Guidelines.** The goal of this lab is for students to set-up their programming environments and for us to identify technical challenges that students may be facing. This lab will thus only be graded on completion, and if there are complications, then on students reaching out to obtain assistance.

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<sup>1</sup>You can list the contents of the current directory with `dir`, change directory with `cd dirname`. You can up one directory with `cd ..`. These Command Prompt instructions may be helpful.