Git Manual for CMPSC 311 Assignments

1 Git

Git is a version control system for tracking changes in computer files and coordinating work on these files among multiple users. It is primarily used for source code management in software development, but it can be used to keep track of changes in any set of files. As a distributed revision control system it is aimed at speed, data integrity, and support for distributed, non-linear work-flows [1].

2 Signing Up

To use GitHub you need first to create an account on GitHub. To do that go to https://github.com and click on Sign Up button and proceed the register form.
Choose a proper username and remember your login credentials.

3 Configuring the git

To configure your git client in terminal (either your VM or your Linux/WSL machine), set your name and email using following commands:

```
$ git config ——global user.name "Your Name"
$ git config ——global user.email "Your Email"
```

4 Adding SSH key

In order to authenticate your Git client while working with your repository you need to add your public SSH key to your GitHub account. To do so, follow below steps:

1. Create a SSH key by running this command:

   ```
   $ ssh−keygen −t rsa −b 4096 −C "your@email.com"
   ```

2. Press Enter on any question to select default answer.

3. Your public SSH key will be created in $\sim/.ssh/id\_rsa.pub$. Copy it's content.

4. Go to your GitHub account, click on your profile in top right and click on settings.

5. In the left-side menu select *SSH and GPG keys*.

6. Click on *New SSH Key*, set a proper name for the key (e.g. 311VMKey), paste your public Key and finally click on *Add SSH Key*.

5 Accepting The Assignment

Once the assignment is released, you will receive an invitation link to join a private repository corresponding to it. By accepting the invitation, you will have access to your private repository containing the starter files which we are providing to you. Your private repository is accessible at

https://github.com/PSUCMPSC311/sp22-<LabName>-<YourGitUsername>

6 Cloning The Assignment Repository

To clone your assignment repository to your local machine run the following command:
$ git clone git@github.com:PSUCMPSC311/sp22-<LabName>-<gitUserName>.git

This command will download the repository to your current working directory.

7 Pushing Changes
Whenever you change an existing file or add a new file to your local repository, you must commit the changes and then push them to the remote repository on GitHub.com.

1. Add files that have been created or have been changed:

    $ git add <list of file names separated by space>

2. Commit the changes with a message about that change:

    $ git commit -m "your proper commit message"

3. Finally push the changes to remote repository:

    $ git push origin main

8   Assignment Submission and Grading

You have to continuously commit and push your work on the assignment to the remote GitHub repository and that forms your submission. For grading, we will ask you to submit the commit number that you want to be graded via Canvas, otherwise, we will be grading the latest commit before the deadline.

9   Useful Materials

If you need to know more about git, there are many awesome references that you can find online. [3] is a quick place to start. [4] is an interactive game for learning git, try it! You can also find more references in [2].

10   Important Note

Do not push your assignment in just one shot! You must commit and push **any** change you make on files to the git repository with a proper message!

References

[1] *https://en.wikipedia.org/wiki/Git.*

[2] *https://gist.github.com/jaseemabid/1321592.*

[3] *https://rogerdudler.github.io/git-guide/.*

[4] *https://try.github.io/levels/1/challenges/1.*