COM4043 – Computational Skills – Task 1

Explain application of version control using git and provide a working example of using Git with a step-by-step practical implementation in GitHub?

Version control is a system that monitors changes to files. This allows us to revert files back to a previous state without a bug for example and compare changes over time and see who last modified something that might be causing a problem.

Git is a popular version control system as it allows us to track changes to their files, as well as collaborate with other people on the same files.

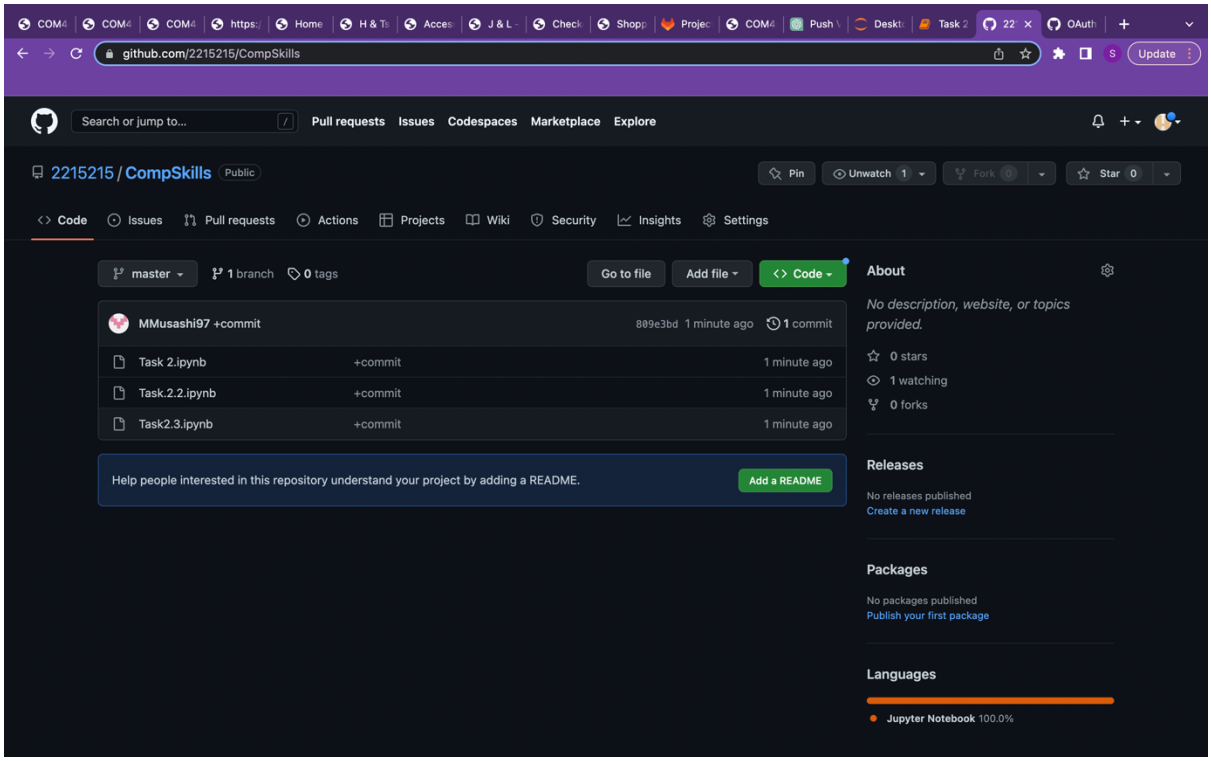
Using Git with GitHub:

Create a new directory for your project and open a terminal or command prompt in that directory.

1. Run the **git init** command to initialize a new Git repository for your project.
2. Add the files you want to track to the repository, using the **git add** command.
3. Commit the changes to your files, using the **git commit** command. This will save a snapshot of your files at their current state.

4. Push your local changes to the GitHub repository, using the **git push** command.

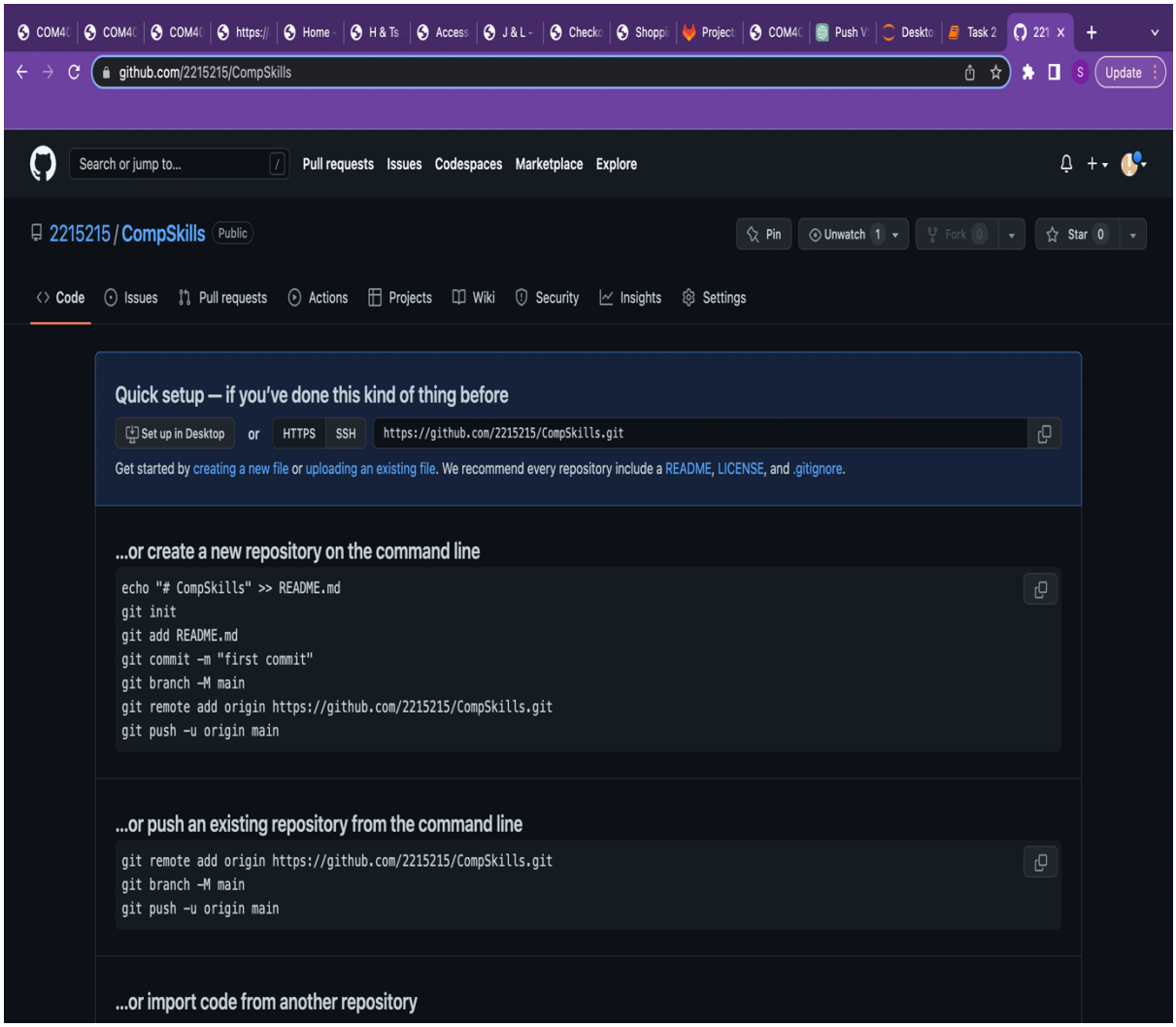
At this point, your project files are now being tracked by Git and hosted on GitHub. You can continue to make changes to your files, commit those changes locally, and push them to GitHub to share them with others.



To clone a repository using GitHub:

1. Navigate to the repository you want to clone on GitHub.
2. Under the repository name, click the green "Clone or download" button.
3. In the Clone with HTTPs section, click the clipboard icon to copy the repository link.
4. Open a terminal and navigate to the local directory where you want to store the repository.
5. Run the following command to clone the repository:

git clone <repository link>
This will create a local copy of the repository in the specified directory. You can then navigate to the repository and start working on the code.



Pull changes from a repository using GitHub:

Open a terminal and navigate to the local directory of the repository you want to update.
Run the **git fetch** command to fetch the latest changes from the remote repository