**Journal/Summary**

What I Did:

1. Explored GitHub Interface:

* Logged into my GitHub account and navigated through the dashboard to understand the layout.
* Explored various sections such as repositories, issues, pull requests, and settings.

1. Created a New Repository:

* Clicked on the "+" icon in the top right corner and selected "New repository."
* Named the repository "jupyter-exploration."
* Initialized the repository with a README file.

1. Made a First Commit:

* Edited the README file to include a brief description of the lab session.
* Committed the changes directly to the main branch.

1. Launched Jupyter Notebook:

* Opened Jupyter Notebook from the command line.
* Navigated through the interface to understand the notebook dashboard, file list, and kernels.

1. Created My First Notebook:

* Created a new notebook in Jupyter Notebook.
* Added a Markdown cell and wrote "My first markdown cell in Jupyter."
* Added a Code cell with the Python code print("Hello, World!") and executed it.
* Saved the notebook as "My\_First\_Notebook.ipynb."

1. Uploaded the Notebook to GitHub:

* Encountered issues with directly uploading the file via the GitHub web interface.
* Installed GitHub Desktop, cloned the repository to a local directory, and added the notebook file.
* Committed and pushed the changes to GitHub using GitHub Desktop.

What I Learned**:**

1. Navigating GitHub:

* Learned the basics of the GitHub interface, including repositories, commits, and version control.
* Understood the importance of a README file and how to initialize a repository.

1. Version Control:

* Realized the critical role of version control in collaborative projects.
* Understood how to commit changes and manage different versions of files.

1. Using Jupyter Notebook:

* Learned how to create and navigate a Jupyter Notebook.
* Understood the difference between Markdown and Code cells.
* Learned how to execute Python code within a Jupyter Notebook.

1. Challenges with File Upload:

* Encountered difficulties with directly uploading files to GitHub.
* Learned to use GitHub Desktop for managing repositories, which provided a more streamlined experience.

Challenges and Solutions:

1. Navigating GitHub Interface:

* Challenge: Initially, the GitHub interface was overwhelming due to the many features and options.
* Solution: Utilized GitHub’s help documentation and online tutorials to familiarize myself with the interface.

1. Executing Cells in Jupyter Notebook:

* Challenge: Understanding how to format and execute cells in Jupyter Notebook was confusing at first.
* Solution: Followed step-by-step instructions and practiced creating and running different types of cells, which helped me become more comfortable with the tool.

1. Uploading Files to GitHub:

* Challenge: The "Add file" button was not visible, making it difficult to upload files directly through the web interface.
* Solution: Learned about GitHub Desktop, installed it, and used it to manage my repository. This included cloning the repository to my local machine, adding the file, and pushing the changes.

1. Cloning the Repository:

* Challenge: Cloning the repository required an empty folder, which was not immediately clear.
* Solution: Created a new empty folder for cloning the repository, which resolved the issue.

1. Branch Management:

* Challenge: Ensuring the correct branch was used for commits and understanding branch management.
* Solution: Created and switched to the main branch in GitHub Desktop to ensure all changes were committed correctly.

**Reflection:**

This lab session was highly educational and provided practical experience with both GitHub and Jupyter Notebook. The initial challenges were daunting, especially with file uploads and navigating new interfaces, but each issue provided an opportunity to learn. The use of GitHub Desktop was a significant turning point, simplifying repository management and file uploads. This experience emphasized the importance of persistence and the value of utilizing available resources, such as documentation and tutorials.

Overall, the skills gained from this lab, including version control with GitHub and interactive computing with Jupyter Notebooks, are invaluable. These tools are essential for collaborative projects and data analysis tasks, making this lab a crucial step in my learning journey.

GitHub Repository Link:

<https://github.com/oscarecortez361/jupyter-exploration>