Lab Experience Reflection

**What I Did**

During the lab session, I undertook several key activities to set up and work within a new computing environment with a lot of challenges since I had no exposure of installing multiple programs and running them all together:

1. **Setting Up GitHub Account:**
   * I created a new GitHub account by visiting the GitHub website, registering with my email, and setting up a username and password.
2. **Creating a Repository:**
   * After setting up my GitHub account, I created a new repository. This involved choosing a repository name, deciding on its visibility (public or **private**), and initializing it with a README file.
3. **Installing Jupyter Notebook:**
   * I installed Jupyter Notebook using the Python 3, which simplifies package management and deployment. This involved downloading Python 3, installing it, and verifying the installation by running Jupyter Notebook from the command line.
4. **Setting Up Visual Studio Code:**
   * I installed Visual Studio Code (VS Code) as my code editor. This included downloading VS Code, installing it, and adding necessary extensions for Python and Jupyter Notebooks.
5. **Performing Basic Operations in Jupyter Notebook with VS Code and Python 3:**
   * Within VS Code, I created and opened a new Jupyter Notebook.
   * I wrote and executed basic Python code cells to familiarize myself with the interactive computing environment.
   * I performed basic operations such as importing libraries, creating variables, performing calculations, and visualizing data using simple plots.

**What I Learned**

The lab introduced me to several new concepts and tools, each of which plays a crucial role in modern software development and data science:

1. **Version Control with GitHub:**
   * I learned about the importance of version control and how GitHub helps manage and track changes in code. It provides a platform for collaboration and ensures that all contributions are documented and reversible if necessary.
2. **Interactive Computing with Jupyter Notebooks:**
   * Jupyter Notebooks provide an interactive environment where code can be written, executed, and documented in a single interface. This is particularly useful for data analysis, visualization, and sharing results in an easily readable format.
3. **Challenges and Solutions:**
   * One significant challenge I faced was linking Jupyter Notebook to GitHub. The process was complex, involving numerous installations and extensions. Despite following multiple tutorials on YouTube, I found the setup to be quite tough.
   * To overcome this, I meticulously followed step-by-step guides, ensured all necessary software and extensions were correctly installed, and tested each step to verify successful integration.

**Conclusion**

This lab experience was both challenging and rewarding. Setting up and using these tools has provided me with a foundational understanding of essential practices in version control and interactive computing. Although linking Jupyter Notebook to GitHub was difficult, the persistence paid off, and I now feel more confident in managing and sharing my work through these platforms. This experience has also highlighted the importance of utilizing community resources and step-by-step guides to navigate complex technical setups.

Please find the link to Github:

[bintezahra14/jupyter-exploration: First assignment to link Jupyter notebook to github](https://github.com/bintezahra14/jupyter-exploration)