**Developer Environment Setup Documentation**

**1. Installing Prerequisites**

Before setting up the development environment, I ensured that the necessary software and tools are installed on my system or laptop

**a. Operating System**

* **Windows**: Windows 10 or 11

**b. Basic Tools**

* **Git**: Version control system
  + **Windows**: I Downloaded and installed from [Git for Windows](https://gitforwindows.org/).
* **Code Editor**: Visual Studio Code (VSCode)
  + Downloaded and installed from [VSCode](https://code.visualstudio.com/).
  + Downloaded and installed it from the [Python official website](https://www.python.org/).
  + Installed extensions and plugins for vscode ,added for python development support including linting, IntelliSense, code navigation.

**2. Setting Up GitHub Repository**

**a. Create a New Repository on GitHub**

1. Navigated to [GitHub](https://github.com/) and signed in.
2. Clicked on the **New repository** button.
3. Filled in the repository name (e.g., plp-project), description, and chose public or private.
4. Clicked **Create repository**.

**b. Clone the Repository Locally**

Opened a terminal and run:

bash

git clone https://github.com/stephen-ki/plp-project.git

cd plp-project

**c. Initialized Project and Created Configuration Files**

**Sample Python Project Setup**

1. **Created a Project Directory**

Created a new directory for my project and navigated into it:

bash

mkdir plp-python-project

cd plp-python-project

1. **Initialized a Git Repository**

bash

git init

1. **Created a Virtual Environment**

bash

python -m venv venv

source venv/bin/activate # On Windows, use `venv\Scripts\activate`

1. **Installed Dependencies**

**Create a requirements.**txt file and list your dependencies. **Then install them using:**

bash

pip install -r requirements.txt

1. **Created Sample Python Files**

**Create a sample main.py file:**

python

def main():

print("Hello, World!")

if \_\_name\_\_ == "\_\_main\_\_":

main()

1. **Added and Committed Changes**

bash

git add .

git commit -m "Initial commit with Python setup"

git remote add origin https://github.com/stephen-ki/plp-python-project.git

git push -u origin main

**Reflection Challenges and troubleshooting**

**Challenges faced;**

1. **Python Path Configuration**
   * Ensuring the correct Python interpreter is selected, especially in environments with multiple Python installations.
2. **Linting and Formatting Conflicts**
   * Conflicts between different linters and formatters did arise. It's crucial to configure them to work together smoothly.
3. **Virtual Environment Issues**
   * Activating the virtual environment within VSCode was problematic, especially on OS Windows.

**Solutions**

1. **Consistent Configuration**
   * Used VSCode's workspace settings to ensure consistent configuration across different projects.
2. **Documentation and Community Support**
   * Regularly referred to the official documentation and community forums (e.g., Stack Overflow) for troubleshooting.
3. **Automation**
   * Used scripts and tools like pre-commit hooks to automate linting and formatting checks, ensuring consistency across the codebase.