**Assignment: Setting Up Your Developer Environment**

**Step 1: Download and Install Windows 11**

1. **Visit the Windows 11 Download Page:**
   * Go to [Windows 11 Download](https://www.microsoft.com/software-download/windows11).
   * Click on "Download Now" under "Windows 11 Installation Assistant".
2. **Run the Installation Assistant:**
   * Open the downloaded file and follow the on-screen instructions to install Windows 11.
   * Ensure your system meets the minimum requirements before proceeding.
3. **Complete the Installation:**
   * After the installation process, your PC will restart several times. Make sure to save your work before starting.

**Step 2: Install Visual Studio Code**

1. **Visit the Visual Studio Code Download Page:**
   * Go to [Visual Studio Code Download](https://code.visualstudio.com/Download).
   * Choose your operating system (Windows) and click "Download".
2. **Run the Installer:**
   * Open the downloaded installer and follow the instructions to install Visual Studio Code.
3. **Launch Visual Studio Code:**
   * After installation, launch Visual Studio Code and complete any initial setup prompts.

**Step 3: Set Up Version Control System (Git and GitHub)**

1. **Install Git:**
   * Download Git from [Git for Windows](https://git-scm.com/download/win).
   * Run the installer and follow the default setup instructions.
2. **Configure Git:**
   * Open Git Bash (installed with Git).
   * Configure your Git identity:

sh

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git config --global user.name "Your Name"

git config --global user.email "your.email@example.com"

1. **Create a GitHub Account:**
   * Go to [GitHub](https://github.com) and sign up for a new account if you don’t have one.
2. **Initialize a Git Repository:**
   * Open a terminal in your project directory or use Git Bash.
   * Initialize a new Git repository:

sh

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git init

* + Add a README file and make your first commit:

sh

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echo "# MyProject" >> README.md

git add README.md

git commit -m "first commit"

1. **Create a Repository on GitHub:**
   * On GitHub, create a new repository and follow the instructions to push your local repository to GitHub:

sh

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git remote add origin https://github.com/your-username/your-repo.git

git branch -M main

git push -u origin main

**Step 4: Install Python**

1. **Visit the Python Download Page:**
   * Go to [Python Downloads](https://www.python.org/downloads/).
   * Click "Download Python" and choose the latest version.
2. **Run the Installer:**
   * Open the downloaded installer.
   * Check the box "Add Python to PATH" and click "Install Now".
3. **Verify Installation:**
   * Open a command prompt and type:

sh

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python --version

**Step 5: Install pip (Python Package Manager)**

1. **Verify pip Installation:**
   * Pip is installed by default with Python. Verify by typing in the command prompt:

sh

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pip --version

1. **Upgrade pip if necessary:**
   * Upgrade pip to the latest version:

sh

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python -m pip install --upgrade pip

**Step 6: Download and Install MySQL**

1. **Visit the MySQL Download Page:**
   * Go to [MySQL Installer](https://dev.mysql.com/downloads/windows/installer/5.7.html).
   * Choose "MySQL Installer for Windows" and download the web installer.
2. **Run the Installer:**
   * Open the downloaded file and follow the instructions to install MySQL.
3. **Configure MySQL:**
   * During installation, configure the root user and set a password.
   * Optionally, install MySQL Workbench for a GUI interface.

**Step 7: Optional: Set Up Development Environments and Virtualization**

1. **Consider Docker:**
   * Download Docker from Docker Desktop and install it.
   * Follow the installation instructions and start Docker Desktop.
2. **Set Up Virtual Machines:**
   * If needed, download and install VirtualBox from [VirtualBox](https://www.virtualbox.org/) or use the built-in Hyper-V on Windows.

**Step 8: Explore Extensions and Plugins for VS Code**

1. **Open Visual Studio Code:**
   * Go to the Extensions view by clicking the Extensions icon in the Activity Bar on the side of the window or pressing Ctrl+Shift+X.
2. **Install Useful Extensions:**
   * Python extension for Python development.
   * GitLens for Git integration.
   * Prettier for code formatting.
   * pylint for Python linting.

**Step 9: Document Your Setup**

1. **Create a Document:**
   * Document each step you took, any configurations, customizations, or troubleshooting steps encountered.
2. **Include Screenshots:**
   * Add screenshots where necessary to illustrate the steps.

**Step 10: Create a GitHub Repository for Documentation**

1. **Create a New Repository:**
   * On GitHub, create a new repository for your documentation.
   * Clone the repository locally:

sh

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git clone https://github.com/your-username/your-repo.git

1. **Add Documentation:**
   * Add your documentation to the repository, commit, and push:

sh

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git add.

git commit -m "Add setup documentation"

git push