Dev\_Setup: Setting Up Your Developer Environment

# 1. Select Your Operating System (OS)

Download and Install Windows 11:  
1. Go to the Windows 11 download page: https://www.microsoft.com/software-download/windows11  
2. Click on "Download now" and follow the instructions to create installation media.  
3. Boot from the installation media and follow the prompts to install Windows 11.

# 2. Install a Text Editor or Integrated Development Environment (IDE)

Download and Install Visual Studio Code:  
1. Go to the Visual Studio Code download page: https://code.visualstudio.com/Download  
2. Choose the version for Windows and download the installer.  
3. Run the installer and follow the installation wizard to complete the setup.

# 3. Set Up Version Control System

Install Git:  
1. Go to the Git download page: https://git-scm.com/download/win  
2. Download the installer and run it, following the installation steps.  
  
Configure Git:  
1. Open a terminal (Command Prompt or Git Bash) and run the following commands:  
```  
git config --global user.name "Benard Karanja"  
git config --global user.email "benardopeter4.email@example.com"  
```  
  
Create a GitHub Account:  
1. Go to GitHub: https://github.com and sign up for a new account.  
  
Initialize a Git Repository and Make Your First Commit:  
1. Navigate to your project directory in the terminal.  
2. Initialize a Git repository:  
```  
git init  
```  
3. Create a new file and make your first commit:  
```  
echo "# MyProject" >> README.md  
git add README.md  
git commit -m "Initial commit"  
```

# 4. Install Necessary Programming Languages and Runtimes

Install Python:  
1. Go to the Python download page: https://www.python.org/downloads/  
2. Download the installer and run it, ensuring you check the option to add Python to your PATH.  
3. Follow the installation steps.

# 5. Install Package Managers

Install pip for Python:  
- Pip is included with Python installation by default. You can verify it by running:  
```  
pip --version  
```

# 6. Configure a Database (MySQL)

Download and Install MySQL:  
1. Go to the MySQL download page: https://dev.mysql.com/downloads/windows/installer/5.7.html  
2. Download the MySQL Installer and run it.  
3. Follow the installation steps, choosing the appropriate configuration for your setup.

# 7. Set Up Development Environments and Virtualization (Optional)

Install Docker:  
1. Go to the Docker download page: https://www.docker.com/products/docker-desktop  
2. Download Docker Desktop for Windows and install it.  
3. Follow the setup instructions to get Docker up and running.

# 8. Explore Extensions and Plugins

Install Extensions in Visual Studio Code:  
1. Open Visual Studio Code and go to the Extensions view (Ctrl+Shift+X).  
2. Search for and install useful extensions like:  
- Python  
- Prettier - Code formatter  
- ESLint  
- GitLens

# 9. Document Your Setup

Create a comprehensive document outlining the steps you've taken to set up your developer environment. Include any configurations, customizations, or troubleshooting steps encountered during the process.

# Challenges and Solutions

Challenges:  
- Encountered issues with starting the MariaDB service, which was resolved by ensuring the correct directory permissions and configuration settings.  
- Had to modify the MariaDB configuration file to set the correct socket path.  
  
Solutions:  
- Ensured the /run/mysqld directory existed and had the correct permissions.  
- Modified the 50-server.cnf file to ensure the correct socket path was set.  
- Used sudo systemctl enable mariadb to ensure the service starts automatically on boot.