What is Git?

Git is a distributed version control system used to track changes in source code during software development. It allows multiple developers to work on a project simultaneously and keeps a history of changes for collaboration and rollback if necessary.

What is GitHub?

GitHub is a cloud-based platform that uses Git for version control. It provides a collaborative environment where developers can host repositories, review code, and manage projects.

How to Use GitHub and Configure Git in VS Code

1. Install Git

- Download and install Git from git-scm.com.

After installation, configure your username and email (used for commits):

```
git config --global user.name "Your Name"
git config --global user.email "youremail@example.com"
```

2. Install VS Code

- Download and install Visual Studio Code from code.visualstudio.com.

3. Set Up GitHub Account

- Create a GitHub account at github.com.

Steps to Configure Git and GitHub in VS Code

1. Install Git Extension in VS Code

- Open VS Code.
- Go to the Extensions view by clicking the Extensions icon on the Activity Bar (left side).
- Search for **GitLens** or **GitHub Pull Requests and Issues** and install it.

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2. Clone a GitHub Repository

- Open a terminal in VS Code (`Ctrl + ~` or `View > Terminal`).

Clone a repository using:

```
git clone <repository-url>
```

Example:

```
git clone https://github.com/yourusername/your-repo.git
```

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3. Create a New Repository

1. In GitHub:
    - Go to your GitHub account.
    - Click on the **Repositories** tab.
    - Click **New** and fill in the details for your new repository.
2. In VS Code:

Open a terminal and initialize a Git repository:

```
git init
```

Add your repository's remote URL:

```
git remote add origin <repository-url>
```

Example:

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

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4. Stage, Commit, and Push Changes

1. **Stage Changes**:

Use the Source Control panel in VS Code or run:

```
git add .
```

2. **Commit Changes**:

Add a commit message to describe the changes:

```
git commit -m "Initial commit"
```

3. **Push Changes to GitHub**:

Push your code to the remote repository:

```
git push -u origin main
```

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5. Pull Updates from GitHub

To get the latest updates from the GitHub repository:

```
git pull origin main
```