Git and GitHub- Day 0

::: callout 👉

Let's start a new series together on Data Structures and Algorithms! We can begin by learning Git and GitHub, which are essential tools for any developer. By learning these tools, we'll be able to collaborate more effectively and keep track of our code changes. I'm excited to continue this journey with you every day!

:::

What is a GIT?

Git is a version control system that helps developers keep track of changes to their code over time. It allows multiple people to work on the same codebase simultaneously and helps prevent conflicts and mistakes by keeping a history of all changes made to the code.

Video Reference- By Love Babbar (MUST WATCH)

https://youtu.be/uj4fy4kpaOA

Note: You do not need to memorize all the Git command prompts for now. Simply install Git on your system. All the Git commands will be listed below.

Some Basic Concepts on GIT

1. **Repository:** A repository is a collection of files and folders that make up a project. It's where your codebase lives.

2. **Commit:** A commit is a snapshot of your code at a particular point in time. Each commit represents a set of changes that have been made to the code.
3. **Branch:** A branch is a separate version of your codebase that you can work on independently of the main codebase. You can create a branch to experiment with new features or to fix a bug without affecting the main codebase.
4. **Merge**: Merging is the process of combining changes from one branch into another. This is typically done when a feature is complete or a bug has been fixed.
5. **Pull request**: A pull request is a request to merge changes from one branch into another. It's a way to get feedback on your changes before they are merged into the main codebase.
6. **Fork**: Forking is the process of creating a copy of someone else's repository. This is often done when you want to contribute to someone else's project or use it as a starting point for your own project.
7. **Clone**: Cloning is the process of copying a repository from Github to your local machine. This allows you to work on the code locally and make changes before pushing them back to Github.

Playlist for future reference in GitHub Command Prompts

https://www.youtube.com/playlist?list=PLu0W_9lII9agwhy658ZPA0MTStKUJTWPi

This playlist is not necessary to watch at this time. We'll get to it eventually.

What is GITHUB?

Make a beautiful GitHub profile by adding all the necessary details, including a profile picture and bio.

Once you have created your profile, you can start using GitHub to store your Git repositories online. It is a great platform to collaborate with others. You can manage issues and bugs, create pull requests for code review, and host documentation and other files.

To get started, you must create a GitHub account. Please watch the video reference provided above to make a GitHub account. It will guide you through the process.

Video Reference to Make a GitHub Account- (MUST WATCH)

https://www.youtube.com/watch?v=kJaIYx5tHOI&list=LL&index=1&pp=gAQBiAQB

Summary

- **Git** is a version control system that helps developers keep track of changes to their code over time.
- **GitHub** is a platform to store Git repositories online, collaborate with others, manage issues and bugs, create pull requests for code review, and host documentation and other files.
- Basic concepts of Git include **repositories, commits, branches, merging, pull requests, forking, and cloning**.
- Video references are provided for creating a **GitHub account** and learning **Git command prompts**.
- You do not need to memorize all the Git command prompts for now. A **playlist** for future reference in GitHub Command Prompts has been provided which can be watched later whenever needed.

It's important to note that the document provides resources for both Git and GitHub. Git is the version control system that helps developers keep track of changes while GitHub is an online platform used for storing Git repositories and collaborating with others. The document provides basic concepts of Git like repositories, commits, branches, merging, pull requests, forking, and cloning. There are also video references provided for creating a GitHub account and learning Git command prompts.