Introduction To GITHUB AND VERSION CONTROL TOOLS

- ## Github:

Github is a web-based platform that uses Git, a version control system, to help developers manage and track changes in their code. It allows multiple people to collaborate on a project, track, revisions and contribute to code from anywhere in the world.

- ## Key Features of Github:

1.) version control: Github's core functionally is based on Git, which allows you to keep track of changes in your codes over time. This means you can always revert to previous version if something goes wrong, compare different versions, and understand the history of your project.

2.) Repositories: A repositories (or repo) is a central place where, all the files for a project are stored. Each repositories can hold multiple files or folders, and it track the history of every change made. Repositories can be public or private.

3) Branches: Branches are a crucial features in Github that enables parallel development. You can create a branch to work on a new feature or fix a bug without affecting the main code base. once your changes are ready, you can merge the branch back into the main branch.

4.) **Pull requests :** Pull requests are a way to propose changes to a repository. When you submits a pull request, you're asking the project maintainer to review and merge your changes into main codebase. This feature promotes collaboration and ensure code quality through peer review.

5.) **Issue and project Management :**

Github provides tools to track bugs, enhancement, and other task through the issue features. You can create issue, assign them to team members and track their progress. Github also offers project boards for more advanced project management.

- **Version Control :**

A system called version control, sometimes referred to as source control or revision control, keeps track of changes made to a file or group of file over time so that you may retrieve particular versions at a time.

- **Git:** Git is a popular version control system. It was created by linus Torvalds in 2005, and has been maintained by Junio Hamano since then.

- **It is used for :**

→ Tracking code changes
→ Tracking who made changes
→ coding collaboration.

- what does Git do?
- → Manage project with Repositories
- → Clone a project to work on a local copy
- → Control and track changes with staging and comitting
- → Pull the latest version of the project to a local copy

- working with Git:
- Initialize Git on a folder, making it a Repository
- Git now creates a hidden folder to keep track of changes in that folder
- when a file is changed, added or deleted, it is considered modified
- you select the modified file you want to stage
- The staged file are comitted, which prompt, Git to store a permanent snapshot of the files.
- Git allows you to see the full history of every commit.
- you can revert back to any previous commit.

- Concurrent versions system (CVS):
Concurrent version system is functional version control system which is developed by Dick Grune as series of Shell scripts. This helps the teams to be connected to the changes that are measured into repositories when working on software. This tool was used as the version control system for long time.