New Learnings

Group 2

* GitHub

Git is a popular version control system.It is used for:

* Tracking code changes
* Tracking who made changes
* Coding collaboration

### What does Git do?

* Manage projects with Repositories
* Clone a project to work on a local copy
* Control and track changes with Staging and Committing
* Branch and Merge to allow for work on different parts and versions of a project
* Pull the latest version of the project to a local copy
* Push local updates to the main project

### 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 files you want to Stage
* The Staged files are Committed, which prompts 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.
* Git does not store a separate copy of every file in every commit, but keeps track of changes made in each commit!

### Why Git?

* Over 70% of developers use Git!
* Developers can work together from anywhere in the world.
* Developers can see the full history of the project.
* Developers can revert to earlier versions of a project.

### What is GitHub?

* Git is not the same as GitHub.
* GitHub makes tools that use Git.
* GitHub is the largest host of source code in the world, and has been owned by Microsoft since 2018.

### Repositories

* A GitHub repository can be used to store a development project.
* It can contain folders and any type of files (HTML, CSS, JavaScript, Documents, Data, Images).
* A GitHub repository should also include a file and a README file about the project.
* A GitHub repository can also be used to store ideas, or any resources that you want to share.

## Branch

* A GitHub branch is used to work with different versions of a repository at the same time.
* By default a repository has a master branch (a production branch).
* Any other branch is a copy of the master branch (as it was at a point in time).
* New Branches are for bug fixes and feature work separate from the master branch. When changes are ready, they can be merged into the master branch. If you make changes to the master branch while working on a new branch, these updates can be pulled in.

## Commits

* At GitHub, changes are called commits.
* Each commit (change) has a description explaining why a change was made.

## Pull Requests

* Pull Requests are the heart of GitHub collaboration.
* With a pull request you are proposing that your changes should be merged (pulled in) with the master.
* Pull requests show content differences, changes, additions, and subtractions in colors (green and red).
* As soon as you have a commit, you can open a pull request and start a discussion, even before the code is finished.