GIT

Version control systems are a category of software tools that help a software team manage changes to source code over time. Version control software keeps track of every modification to the code in a special kind of database. If a mistake is made, developers can turn back the clock and compare earlier versions of the code to help fix the mistake while minimizing disruption to all team members.

GIT is a Version control system for tracking changes in computer files, even though many people are working on the same file

* Distributed version control (Many developers can work on a single project without having to be in the same network)
* Coordinates work between multiple developers (Attracts every single version and every single change that is made one the system or on the project, then you upload it to a remote repository)
* Who made what change and when
* Revert back at any time
* Local and remote repository

GIT stores this information in a data structure called a repository. A git repository contains, among others things, the following:

* A set of commit objects, a commit object contains three things:
  + A set of files reflecting the state of a project at a given point in time
  + Reference to parent commit objects
  + An SHA1 name, 40 character string that uniquely identifies the commit object.
* A set of references to commit objects called heads, A head is simply a reference to a commit object. Each head has a name. By default, there is a head in every repository called master.

Concepts of GIT

* Keeps track of the code history
* Takes “Snapshots” of your files
* You decide when to take a snapshot by making “commit”
* You can visit any snapshot at any time
* You can stage files before committing

Basic commands of GIT (Local repository)

* git init: Initialize Local GIT repository
* git add [file]: adds the desired file by creating an ***index*** folder inside of ***.git*** folder and stores the file in that folder.
* git rm [file]: removes the file from the change to be mad e
* git status: show which files are ready to be committed, after printing it will display changes to be committed which includes the files you added to the ***index*** folder and untracked files which includes all the files that have not been through the process of git add [File]
* git commit: commit the changes I n the ***index*** folder and puts it in the local repository

Basic commands of GIT (Remote repository)

* git push: will take your local repository that you created and push it to a remote repository
* git pull: will pull the latest changes from a repository (online).
* git clone: will clone a repository into my current folder

GIT flags

* git commit -m: to skip the editing thing :wp