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**Faculty: Prof. Vitthal Gutte**

**Subject: Full Stack Development**

**Title**: Assignment-1

**Problem Statement**: Create a public git repository for your team and submit the repo URL as a solution to this assignment, Learn Git concept of Local and Remote Repository, Push, Pull, Merge and Branch.

**Theory:**

**1. What is Git? What is Version Control?**

Git is a distributed version control system that allows developers to track changes in their codebase, collaborate with others, and manage different versions of their projects efficiently. It keeps a history of changes and helps in coordinating work among multiple contributors.

Version control, in general, is a system that records changes to a file or set of files over time so that you can recall specific versions later. It enables multiple people to work on a project simultaneously and provides mechanisms for merging and managing changes.

**2. How to use Git for version controlling?**

Using Git for version control involves the following key steps:

a. Initialize a Git repository: Use git init to create a new Git repository in your project directory.

b. Add files to the repository: Use git add to stage files for commit.

c. Commit changes: Use git commit to save changes with a meaningful commit message.

d. Create branches: Use git branch to create branches for different features or tasks.

e. Switch branches: Use git checkout to switch between branches.

f. Merge branches: Use git merge to combine changes from one branch into another.

g. Clone a repository: Use git clone to make a copy of a remote repository on your local machine.

h. Push changes: Use git push to send your local changes to a remote repository.

i. Pull changes: Use git pull to retrieve changes from a remote repository.

**FAQ:**

**1. What is branching in Git?**

Branching in Git is a way to create separate lines of development within a repository. Each branch represents a different line of work, allowing developers to work on features, fixes, or experiments independently without affecting the main project until they are ready to merge their changes.

**2. How to create and merge branches in Git? Write the commands used.**

To create and merge branches in Git, you can use the following commands:

Create a new branch: git branch <branch\_name>

Switch to a branch: git checkout <branch\_name>

Create and switch to a new branch: git checkout -b <new\_branch\_name>

Merge a branch into the current branch:

Switch to the target branch (where you want to merge changes): git checkout <target\_branch>

Use “git merge <source\_branch> ”to merge changes from the source branch into the target branch.

**Output:** https://github.com/PatelOm07/FSD-Om16.git