FSD LAB1

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Aim: Version control with Git.

Objectives:

- To introduce the concepts and software behind version control, using the example of Git.
- To understand the use of 'version control' in the context of a coding project.
- To learn Git version control with Clone, commit to, and push, pull from a git repository.

Thoery:

1. What is branching in git?

Ans. In Git, branching is a fundamental concept that allows you to create separate lines of development within a repository. Each branch represents an independent line of work, and you can use branches to work on different features, bug fixes, or experiments without affecting the main or "master" branch until you're ready to merge your changes.

Branching is a powerful feature in Git that promotes collaboration, experimentation, and the isolation of different features or bug fixes. It allows teams to work on multiple aspects of a project simultaneously while maintaining a stable main branch for production.

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

Ans. **Create a new branch**: To create a new branch, you can use the **git branch** command followed by the name you want to give to your branch. For example, if you want to create a branch called "my-feature," you would run: **git branch my-feature**

Merge the feature branch: Use the git merge command to merge your feature branch into the main branch: **git merge my-feature**

This will attempt to merge your changes from "my-feature" into the main branch. If there are no conflicts, Git will perform an automatic merge. If there are conflicts, you'll need to resolve them manually and then commit the resolved changes.

GITHUB REPO URL: https://github.com/amarkhakhkhar/fsddemogit

Screenshots:

```
MINGW64:/c/Users/Amar/Downloads/Projects/fsddemo
                                                                                  Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo
$ touch README.md
Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo
$ git init
Initialized empty Git repository in C:/Users/Amar/Downloads/Projects/fsddemo/.gi
Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo (master)
$ git add .
Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo (master)
$ git commit -m "First commit"
[master (root-commit) 5ffdbcd] First commit
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
 MINGW64:/c/Users/Amar/Downloads/Projects/fsddemo
                                                                                  Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo (master)
$ git branch -M main
Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo (main)
$ git remote add origin https://github.com/amarkhakhkhar/fsddemogit.git
Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo (main)
$ git push -u origin main
Enumerating objects: 3, done.

Counting objects: 100% (3/3), done.

Writing objects: 100% (3/3), 252 bytes | 252.00 KiB/s, done.

Total 3 (delta 0), pack-reused 0
To https://github.com/amarkhakhkhar/fsddemogit.git
 * [new branch]
                      main -> main
branch 'main' set up to track 'origin/main'.
Amar@MSI MINGW64 ~/Downloads/Projects/fsddemo (main)
$
```

