VIT Vidyalankar Institute of Technology ACCREDITED A+ BY NAAC	**Department of Information Technology**

Semester	T.E. Semester VI – INFT
Subject	DevOps Labs
Laboratory Teacher:	Bushra Shaikh
Laboratory	-

Student Name	Om Alve	
Roll Number	22101A0073	
Grade and Subject Teacher's Signature		

Experiment Number	2	
Experiment Title	To Perform Code Collaboration of TE Mini Project using GIT workflow	
Problem Statement	TechCo's development team is collaborating on a new feature for their application. However, multiple developers are working on the same parts of the codebase, causing merge conflicts, inconsistent commits, and errors in version control. The team struggles to manage branches effectively and maintain a clean history. The current workflow relies heavily on manual processes, making it difficult to track and resolve issues efficiently.	
Resources / Apparatus Required	Hardware: Desktop/Laptop	Software:
Theory :	· Set up a Git repository for a project (either create a new project or use an existing one).	

	· Collaborate with a team member by creating multiple branches for different features. · Implement the following: • Create a feature branch and make changes to the code. • Push changes to the remote repository. • Use a Git cheat sheet to commit, merge branches, and resolve conflicts. • Create a pull request (PR) and ensure code review processes are followed.

Output:	Team Members:
	Om Uday Alve (22101A0073)
	Bhagyoday Bade (22101A0075)
	
	Step 1 - Initialising the repo
	
	`❯ git clone https://github.com/Om-Alve/Devops-Lab-02.git`
	`Cloning into 'Devops-Lab-02'...`
	`warning: You appear to have cloned an empty repository.`
	`❯ cd webdev/`
	`❯ cd ..`
	`❯ cd Devops-Lab-02`
	`❯ cat >> README.md`
	`Hello World`
	
	Step 2 - Initial Commit
	
	`❯ git add .`
	`❯ git commit -m "initial commit"`
	`[main (root-commit) b6291a5] initial commit`
	` 1 file changed, 1 insertion(+)`
	` create mode 100644 README.md`
	`❯ git push origin main`
	`Enumerating objects: 3, done.`
	`Counting objects: 100% (3/3), done.`
	`Writing objects: 100% (3/3), 226 bytes | 226.00 KiB/s, done.`
	`Total 3 (delta 0), reused 0 (delta 0), pack-reused 0`
	`To https://github.com/Om-Alve/Devops-Lab-02.git`
	` * [new branch]      main -> main`

Step 3: Creating a new branch and making changes to README.md parallely.And then pushing both branches and creating pull requests.

```
❯ git checkout -b oms-branch
Switched to a new branch 'oms-branch'
❯ vi README.md
❯ git status
On branch oms-branch
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   README.md

no changes added to commit (use "git add" and/or "git commit -a")
❯ git add .
❯ git commit -m "om's commit"
[oms-branch f707037] om's commit
 1 file changed, 1 insertion(+)
❯ git push origin oms-branch
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Writing objects: 100% (3/3), 272 bytes | 272.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'oms-branch' on GitHub by visiting:
remote:      https://github.com/Om-Alve/Devops-Lab-02/pull/new/oms-branch
remote:
To https://github.com/Om-Alve/Devops-Lab-02.git
 * [new branch]      oms-branch -> oms-branch
```

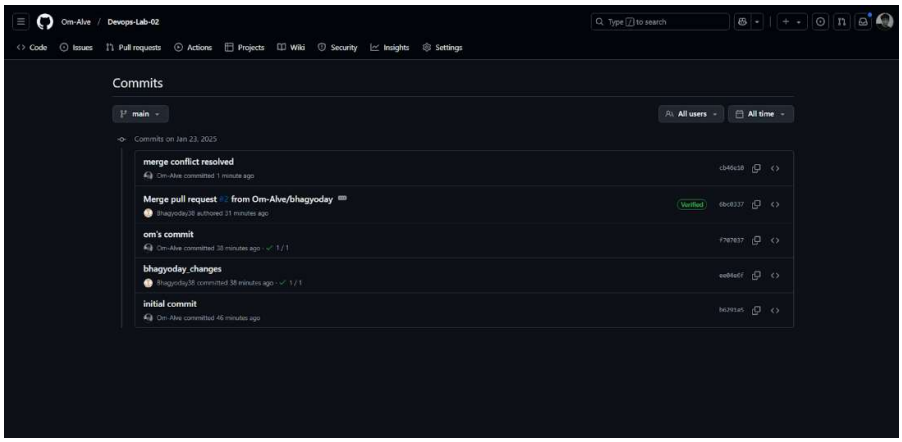
https://github.com/Om-Alve/Devops-Lab-02.git
Ctrl+Click to follow link

Step 4 - Resolving Merge Conflict:

```
❯ git merge oms-branch
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.
❯ nvim README.md
```

```
❯ git add README.md
❯ git commit -m "merge conflict resolved"
[main cb46e10] merge conflict resolved
❯ git push origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 321 bytes | 321.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Om-Alve/Devops-Lab-02.git
   6bc0337..cb46e10  main -> main
~/Devops-Lab-02 main ❯
```

Commit History:



Repository Link: https://github.com/Om-Alve/Devops-Lab-02/