Documentation

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Topics Covered:

- Git branching and workflows (Gitflow & Trunk-based)
- Feature branch creation and switching
- Staging and committing files using 'git add' and 'git commit'
- Rebasing and merge workflows ('git rebase', 'git merge')
- Conflict creation and resolution during merges
- Remote operations with GitHub ('clone', 'pull', 'push', 'fetch', 'delete branch')
- File recovery and directory management ('restore', 'rm', 'rmdir', 'ls -la ~/.Trash')
- Git file recovery with 'checkout' and 'restore'

Practice Done:

- Created and switched between multiple branches: 'main', 'develop', 'feature/login', 'feature/rebase', 'feature/merge', 'conflict-branch'
- Staged and committed files to respective branches using:

```
  git add .
  git commit -m "Message"
```

- Performed rebasing and merging between 'main' and feature branches
- Simulated a merge conflict scenario and resolved it using:

```
  git add conflict.txt
  git commit -m "Resolved merge conflict"
```

- Cloned a repository using:

```
  git clone https://github.com/yourname/test.git
```

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- Pulled and pushed changes using:

```
  git pull origin main
  git push origin main
```

- Deleted local and remote branches
- Restored deleted files using:

```
  git restore path/to/file
  git checkout HEAD -- path/to/file
```

- Cleaned folders using:

```
  rm -rf foldername
```

Challenges Faced:

- While practicing rebase, I created a file in the 'main' branch and then switched to 'develop'. The same file appeared there too, which confused me. I later understood it was because I didn't add and commit the changes before switching branches. Git carries uncommitted changes across branches. The issue was fixed by always using 'git add' and 'git commit' before switching.

Key Learnings:

- Understood the importance of committing before switching branches to avoid accidental file carryover
- Gained practical experience with Git branching, merging, rebasing, and conflict resolution
- Confident in working with local and remote repositories