## **3. Git-HOL**

### **Task 3: Branching and Merging in Git**

**Objective:**

* Create a new branch, make changes, commit, and merge it with the main branch.
* Understand branching, merging, and checking differences.

**Step-by-Step Instructions with Commands**

**Step 1: Open Git Bash and navigate to your local repository**

cd ~/Documents/gitdemo

**Step 2: Check the current branch**

git branch

**Step 3: Create a new branch named GitNewBranch**

git branch GitNewBranch

**Step 4: Switch to the new branch**

git checkout GitNewBranch

**Step 5: Create or modify files**

* Open the gitdemo folder in File Explorer.
* Create a file named branch-file.txt.
* Add some text content to this file and save it.

**Step 6: Stage and commit your changes**

git add branch-file.txt

git commit -m "Add branch-file.txt in GitNewBranch"

**Step 7: Verify your commit**

git status

**Step 8: Switch back to the main branch**

git checkout main

**Step 9: View differences between main and GitNewBranch**

git diff main GitNewBranch

**Step 10: Merge the branch into main**

git merge GitNewBranch

**Step 11: View commit history graph**

git log --oneline --graph --decorate

**Step 12: Delete the branch after merge**

git branch -d GitNewBranch

**Step 13: Check repository status**

git status

**Step 14: Push changes to remote repository**

git push origin main

**Notes:**

* Ensure all commands are run inside your local repo directory (gitdemo).
* Always create and save files before staging and committing.
* Deleting a branch locally does not delete it on the remote repository.