

Introduction

This report documents the steps taken to complete Homework 1, which involved practicing branching, merging, and reverting changes using Git. The tasks were performed on the "ITMO_ScientificPython_2024" repository.

Task 1: GitHub Repository Setup

1. Created a GitHub repository named "ITMO_ScientificPython_2024".

git init

git remote add origin

https://github.com/kunjrathi2004/ITMO_ScientificPython_2024.git

2. Added a README file in bash:

echo "# ITMO_ScientificPython_2024 for Kunj Rathi, 436669" >> README.md

git add README.md

git commit -m "Initial commit - added README"

git push -u origin master

3. Cloned the repository to the local directory using the command

git clone https://github.com/kunjrathi2004/ITMO_ScientificPython_2024.git

Task 2: Branching and File Setup

1. Created a new branch named "HW1" locally using **git checkout -b HW1**.
2. Created a directory named "HW1" within the "HW1" branch.
3. Copied the files **hw1.txt**, **test_revert.txt**, and **test_revert_merge.txt** into the "HW1" directory.
4. Added, committed, and pushed these changes to the "HW1" branch using the commands:

git add .

git commit -m "Added files for HW1"

git push -u origin HW1

Task 3: Practicing Branching and Git Revert

1. Modified the content of **hw1.txt** within the "HW1" branch.
 - Command: **vim HW1/hw1.txt**

- Made necessary changes and saved the file.

2. Added, committed, and pushed the changes made to **hw1.txt**:

git add HW1/hw1.txt

git commit -m "Modified hw1.txt "

git push origin HW1

3. Switched to the "testing" branch and modified **test_revert.txt**.

- Command: **git checkout testing**
- Modified the file **test_revert.txt** using a text editor.

4. Added, committed, and pushed the changes made to **test_revert.txt** within the "testing" branch:

git add test_revert.txt

git commit -m "Modified test_revert.txt"

git push origin testing

5. Merged the "testing" branch into the "HW1" branch:

git checkout HW1

git merge testing

6. Attempted to revert the merge commit but encountered an error:

git revert 2cdcfd6b6628ebefa26318ab329f33ba4716ffb5 Error: Commit 2cdcfd6b6628ebefa26318ab329f33ba4716ffb5 is a merge but no -m option was given. Fatal: Revert failed.

7. Resolved the error by specifying the parent number for the revert:

git revert -m 1 2cdcfd6b6628ebefa26318ab329f33ba4716ffb5

8. Switched back to the "testing" branch and modified **test_revert_merge.txt**.

- Command: **git checkout testing**
- Modified the file **test_revert_merge.txt** using a text editor.

9. Added, committed, and pushed the changes made to **test_revert_merge.txt** within the "testing" branch:

git add test_revert_merge.txt

git commit -m "Modified test_revert_merge.txt"

git push origin testing

10. Attempted to merge the "testing" branch into the "HW1" branch again:

git checkout HW1

git merge testing

- I observed conflicts due to changes in **test_revert_merge.txt**.
- Analyzed Git's behavior and conflicts resolution.

Task 4: Pull Request and Finalization

1. Created a pull request to merge the "HW1" branch into the "master" branch on GitHub.
 - Visited the GitHub repository.
 - Switched to the "HW1" branch.
 - Clicked on "New pull request" and followed the instructions to create the pull request.
2. Reviewed the changes in the pull request and merged it into the "master" branch.
3. Deleted the "HW1" branch after merging.

Conclusion

The tasks were successfully completed, providing hands-on experience with branching, merging, and reverting changes using Git. Git commands and workflows were effectively utilized to manage version control and collaboration in the project.