Assignment 15

-Snehal Deshmukh

Create a user case to generate a merge conflict and resolve it :-

- User: John, a software developer
- Context: John is working on a project with his colleague, Sarah. They are using a version control system (VCS) to manage their codebase. John and Sarah are both working on a feature that involves modifying the same file.

- John makes some changes to the file main.py in his branch, commits them, and pushes the branch to the remote repository

- Sarah also creates a new branch to work on her featureSarah makes some changes to the same file main.py, commits them, and pushes her branch to the remote repository
- John and Sarah both create a pull request to merge their branches into the main branch

When John tries to merge his feature branch into the main branch, he gets a merge conflict:

```
Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main)
$ git merge feature-branch
Auto-merging main.py
CONFLICT (content): Merge conflict in main.py
Automatic merge failed; fix conflicts and then commit the result.

Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main|MERGING)
$
```

This command will display the commit history in a graph format, with each commit shown on a single line.


```
Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main|MERGING)
$ git log --pretty=oneline --graph
* e8ed7c51e8d82320e6e967c9c06f8c03833b0b91 (HEAD -> main, origin/main, origin/HEAD) Fix some
bug in main.py
* 50e18506c419e8e23598ea61f7a45ffa79cf0012 (origin/another-feature-branch, another-feature-br
anch) Fix bug in main.py
```

```
Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main|MERGING)
$ cat main.py
<<<<<<< HEAD
john make changes to the file.
sarah making changes 2nd time.
=======
 make changes to the file.
 sarah makes some changes.
>>>>>>> feature-branch
```

John resolves the merge conflict by editing the main.py file to include both his changes and Sarah's changes. John adds the resolved file to the staging area and completes the merge. John pushes the merged changes to the remote repository:

```
Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main|MERGING)
$ vim main.py

Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main|MERGING)
$ git add main.py

Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main|MERGING)
$ git commit -m " Resolve the conflict"
[main 3b388cf]  Resolve the conflict

Admin@Snehal MINGW64 ~/Desktop/Codemind/assignment (main)
$ git push origin main
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 8 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 613 bytes | 613.00 KiB/s, done.
Total 6 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To https://github.com/snehaldeshmukh9146/assignment.git
   e8ed7c5..3b388cf  main -> main
```

And that's how John generated and resolved a merge conflict in his codebase!