Assignment 3: Collaborative Development Using Git - Fork an existing repository (this can be a simulated action if no actual repository is available), clone it

locally, and demonstrate managing updates from the original repository. Create a pull request to the original repository with changes made in the forked repository,

and outline a simple code review process.

SOLUTION:

1. \*\*Fork an existing repository:\*\*

- If you're using a real repository, you can fork it on the platform where it's hosted (like GitHub, GitLab, Bitbucket, etc.).

- If you don't have a real repository to work with, you can simulate forking by creating a copy of a local repository.

2. \*\*Clone the forked repository locally:\*\*

```bash

# Clone the forked repository to your local machine

git clone <URL\_of\_your\_forked\_repository>

```

3. \*\*Manage updates from the original repository:\*\*

- Add the original repository as a remote to your local clone:

```bash

git remote add upstream <URL\_of\_original\_repository>

```

- Fetch the latest changes from the original repository:

```bash

git fetch upstream

```

- Merge the changes from the original repository into your local branch (e.g., main or master):

```bash

git checkout main # switch to your main branch

git merge upstream/main # merge changes from the original repository into your main branch

```

4. \*\*Create a pull request to the original repository with changes made in the forked repository:\*\*

- Push your changes to your forked repository:

```bash

git push origin main # push changes to your forked repository

```

- Go to the original repository's platform (e.g., GitHub) and create a pull request from your forked repository to the original repository.

- Provide a meaningful description of the changes in the pull request and submit it.

5. \*\*Outline a simple code review process:\*\*

- Review the changes made in the pull request:

- Check for code quality, readability, and adherence to coding standards.

- Test the changes locally if possible.

- Leave comments or suggestions for improvement.

- Discuss any concerns or questions with the author of the pull request.

- Once the code review is complete and any necessary changes have been made, approve the pull request.

- Optionally, if your project requires it, you can set up automated tests to run on pull requests to ensure code quality.

This process allows for collaborative development, where contributors can fork a repository, make changes, and submit pull requests to contribute back to

the original project. Code reviews help ensure that changes are of high quality and align with the project's standards.