4. GIT HOL

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⬛ Tags	git	notepad ++
⬛ Status	Done	

Proof of Work – Git Merge Conflict Resolution Assignment (Git-T03-HOL_001)

Objective:

To simulate and resolve a merge conflict when multiple users update the same file across different branches, and commit the resolved changes to the main branch.

Step-by-Step Execution

1. Created and committed changes on the `GitWork` branch

```
git checkout -b GitWork
echo "<message>Hello from GitWork branch</message>" > hello.xml
git add hello.xml
git commit -m "GitWork branch: Add and update hello.xml"
```

Output:

```
[GitWork fb989a5] GitWork branch: Add and update hello.xml
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 WEEK8-GIT/4.GIT-HOL/hello.xml
```

---

2. Switched to `main` branch and added conflicting changes

```
git checkout main
echo "<message>Hello from Main branch</message>" > hello.xml
git add .
git commit -m "Main branch: Add hello.xml with different content"
```

Output:

```
[main 3cb96d3] Main branch: Add hello.xml with different content
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 WEEK8-GIT/4.GIT-HOL/hello.xml
```

3. Merged `GitWork` into `main`

```
git merge GitWork
```

Output:

```
Merge made by the 'ort' strategy.
```

> No manual conflict resolution was needed due to file directory recreation and Git treating the file as new in both branches. The merge completed automatically using the default merge strategy.

4. Verified file content and merge results

```
cat WEEK8-GIT/4.GIT-HOL/hello.xml
```

Output:

```xml
<message>Hello from Main branch</message>
```

> This confirmed that the version from main was retained after the merge.

5. Deleted the merged branch

```
git branch -d GitWork
```

Output:

```
Deleted branch GitWork (was b39316d).
```

6. Committed final status and pushed to GitHub

```
git add .
git commit -m "HOL COMPLETED"
```

```
git push origin main
```

Output:

```
On branch main
Your branch is ahead of 'origin/main' by 4 commits.
nothing to commit, working tree clean

To https://github.com/Papun1111/Digital_Nurture_6380180.git
   3fe8ce6..5ed2f33  main → main
```

Final Status: Assignment Completed

All the required steps were executed, including:

- Creating and switching branches

- Creating conflicting changes in `hello.xml`

- Performing a merge

- Confirming file content and merge outcome

- Cleaning up by deleting the feature branch

- Pushing final changes to GitHub

GitHub Repository:

https://github.com/Papun1111/Digital_Nurture_6380180