

Assignment 2 SCM with GIT

1. Cloned the Repository for Developer 1:

```
SHAM@Shams-PC MINGW64 /d/dev1
$ git clone https://github.com/sham9394/sample_project.git
Cloning into 'sample_project'...
remote: Enumerating objects: 14, done.
remote: Counting objects: 100% (14/14), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 14 (delta 0), reused 14 (delta 0), pack-reused 0
(from 0)
Receiving objects: 100% (14/14), 460.42 KiB | 4.11 MiB/s, done
.
```

2. Created Separate Branches from master for 2 different developers:

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git branch feature
```

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git branch
feature
* main
```

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git branch defect
```

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git branch
defect
feature
* main
```

3. Made changes in feature branch and merging into main branch:

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (feature)
$ git status
On branch feature
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")

SHAM@Shams-PC MINGW64 /d/dev1/sample_project (feature)
$ git add .

SHAM@Shams-PC MINGW64 /d/dev1/sample_project (feature)
$ git commit -m "new feature added"
[feature 425a573] new feature added
1 file changed, 1 insertion(+), 1 deletion(-)
```

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git merge feature
Updating e943bce..425a573
Fast-forward
 index.html | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
```

4. New feature pushing to remote:

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git push origin main
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/sham9394/sample_project.git
 e943bce..425a573  main -> main
```

5. Made changes in file index.html for creating conflict in defect branch:

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (defect)
$ git status
On branch defect
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
       modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")

SHAM@Shams-PC MINGW64 /d/dev1/sample_project (defect)
$ git add .

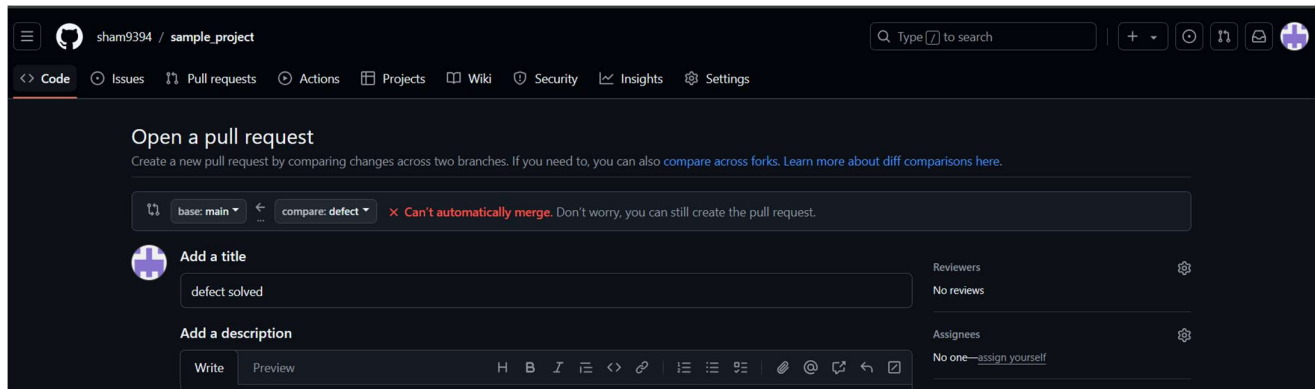
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (defect)
$ git commit -m "defect solved"
[defect 0b27012] defect solved
 1 file changed, 1 insertion(+), 1 deletion(-)
```

6. Merge defect branch into main branch:

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git merge defect
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.
```

- Now, attempt to merge defect branch into main. Since made changes to the same function in both branches, this causes a merge conflict.

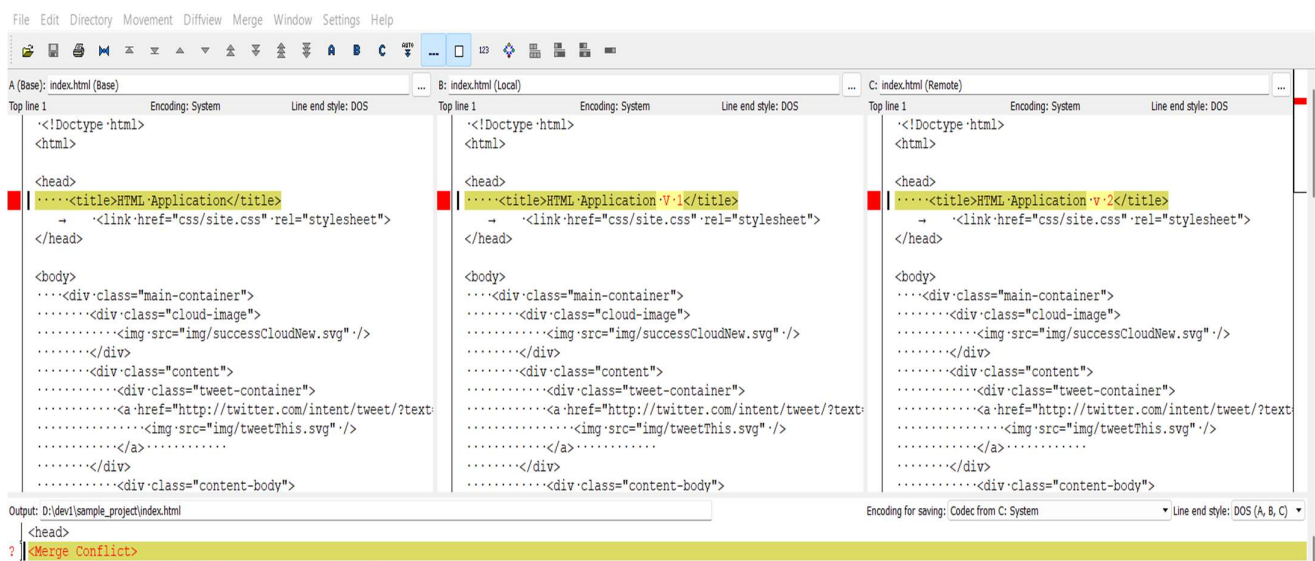
```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git merge defect
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.
```



- Installed a Merge Tool and Resolved Merge Conflict Using Git Merge tool:

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main|MERGING)
$ git mergetool
Merging:
index.html

Normal merge conflict for 'index.html':
{local}: modified file
{remote}: modified file
```



9. Solved conflict and pushed to remote repository

```
SHAM@Shams-PC MINGW64 /d/dev1/sample_project (main)
$ git push origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 317 bytes | 317.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local o
bjects.
To https://github.com/sham9394/sample_project.git
425a573..61cf40e  main -> main
```

The screenshot shows the GitHub interface for a repository named 'sample_project' owned by 'sham9394'. The repository is public and has 3 branches and 0 tags. The main branch is selected. The file list shows 'css', 'fonts', 'img', and 'index.html'. The 'index.html' file has a status of 'Resolved merge conflict' and was committed 3 minutes ago. The 'About' section on the right indicates no description, website, or topics are provided. The 'Releases' section shows no releases published.

File	Status	Commit Time
css	first commit	47 minutes ago
fonts	first commit	47 minutes ago
img	first commit	47 minutes ago
index.html	Resolved merge conflict	3 minutes ago