Experiment -2.1

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Section/Group: 22BCD-1/A
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Subject Name: Git and Hub
Subject Code: 22CSH-293

1. **Aim/Overview of the practical:** Editing a file and committing changes on GitHub.

2. **Software Used:** Git Bash, GitHub.

3. **Steps for experiment/practical:**

- ❖ Create or clone a repository on your local machine and open GIT BASH.
- ❖ Move to the directory using the **cd** command.

```
yashd@Tempestation MINGW64 /f/Git Practicals/Exp3 (
master)
$ git clone https://github.com/Tempestyash123456/te
mpestYash.git
Cloning into 'tempestYash'...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (8/8), done.
Receiving objects:  45% (5/11), 356.00 KiB | 298.00
Receiving objects:  45% (5/11), 900.00 KiB | 403.00
Receiving objects:  45% (5/11), 1.18 MiB | 351.00 K
Receiving objects:  45% (5/11), 1.64 MiB | 373.00 K
Receiving objects:  45% (5/11), 1.89 MiB | 376.00 K
Receiving objects:  45% (5/11), 2.40 MiB | 417.00 K
Receiving objects:  45% (5/11), 2.87 MiB | 402.00 K
Receiving objects:  45% (5/11), 3.45 MiB | 470.00 K
Receiving objects:  45% (5/11), 4.11 MiB | 505.00 K
remote: Total 11 (delta 0), reused 11 (delta 0), pa
ck-reused 0
Receiving objects:  54% (6/11), 4.11 MiB | 505.00 K
Receiving objects:  63% (7/11), 4.11 MiB | 505.00 K
Receiving objects:  72% (8/11), 4.11 MiB | 505.00 K
Receiving objects:  81% (9/11), 4.11 MiB | 505.00 K
Receiving objects:  90% (10/11), 4.11 MiB | 505.00
Receiving objects: 100% (11/11), 4.11 MiB | 505.00
Receiving objects: 100% (11/11), 4.32 MiB | 459.00
KiB/s, done.

yashd@Tempestation MINGW64 /f/Git Practicals/Exp3 (
master)
$ cd tempestYash
```

- Create or open a file in the master or main branch , eg , **file.c** and add some text to the file.
- Add the file to the staging area using **git add** and then commit the changes using the **git commit** command.

```
yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (m
aster)
$ git add file.c
warning: in the working copy of 'file.c', LF will b
e replaced by CRLF the next time Git touches it

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (m
aster)
$ git commit -m "Added file.c"
[master bd74693] Added file.c
 1 file changed, 7 insertions(+)
 create mode 100644 file.c
```

- Pull the changes to the remote repo using the command **git push <remote_name> <branch_name>**.

```
yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (m
aster)
$ git push origin master
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 351 bytes | 351.00 KiB
/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused
0
remote: Resolving deltas: 100% (1/1), completed wit
h 1 local object.
To https://github.com/Tempestyash123456/tempestYash
.git
   a6f5129..bd74693  master -> master
```

- You will be able to see the changes in the remote repository.

```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        return 0 ;
}
```

(local)

```c
1   #include <stdio.h>
2
3   int main() {
4           printf("Hello world \ Local \ Part 1");
5           return 0 ;
6   }
```

(remote)

- Now, make some changes in the file in the remote repository and pull those changes in the local repository.

```
yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (master)
$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 2), reused 0 (delta 0), pack-reu
sed 0
Unpacking objects: 100% (3/3), 939 bytes | 2.00 KiB/s,
done.
From https://github.com/Tempestyash123456/tempestYash
 * branch            master     -> FETCH_HEAD
   bd74693..fd98ab7  master     -> origin/master
Updating bd74693..fd98ab7
Fast-forward
 file.c | 1 +
 1 file changed, 1 insertion(+)
```

Code | Blame | 8 lines (6 loc) · 131 Bytes

```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        printf("Hello world \ remote \ Part 1");
        return 0 ;
}
```

(remote)

```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        printf("Hello world \ remote \ Part 1");
        return 0 ;
}
```

(local)

- Create a new branch and checkout to it using the **git checkout -b** command , eg , **test**.
- Open the **file.c** on the **vi** editor and make some changes in it.

```
yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (master)
$ git checkout -b test
Switched to a new branch 'test'

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (test)
$ vi file.c

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (test)
$ git add file.c

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (test)
$ git commit -m "Changed file.c in test branch"
[test 2791321] Changed file.c in test branch
 1 file changed, 1 insertion(+)
```

- Merge the changes made in the **test** branch with the **master** branch and resolve the conflicts manually if necessary.
- Push the **master** and **test** branch onto the remote repository.

```
yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (test)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (master)
$ git merge test
Updating fd98ab7..2791321
Fast-forward
 file.c | 1 +
 1 file changed, 1 insertion(+)

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (master)
$ git push origin master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 347 bytes | 347.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Tempestyash123456/tempestYash.git
   fd98ab7..2791321  master -> master

yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (master)
$ git push origin test
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'test' on GitHub by visiting:
remote:      https://github.com/Tempestyash123456/tempestYash/pull/new/test
remote:
To https://github.com/Tempestyash123456/tempestYash.git
 * [new branch]      test -> test
```

❖ You will be able to see the new changes in the remote repository.

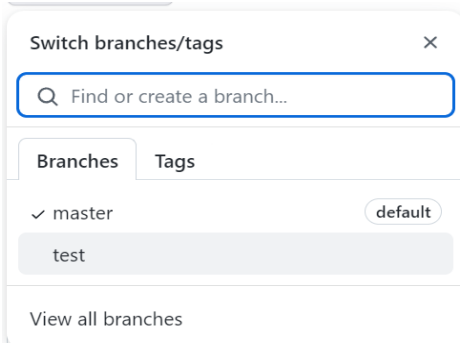
```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        printf("Hello world \ remote \ Part 1");
        printf("Hello world / Local / test / Part 2");
        return 0 ;
}
```

(local)

```c
1   #include <stdio.h>
2
3   int main() {
4           printf("Hello world \ Local \ Part 1");
5           printf("Hello world \ remote \ Part 1");
6           printf("Hello world / Local / test / Part 2");
7           return 0 ;
8   }
```

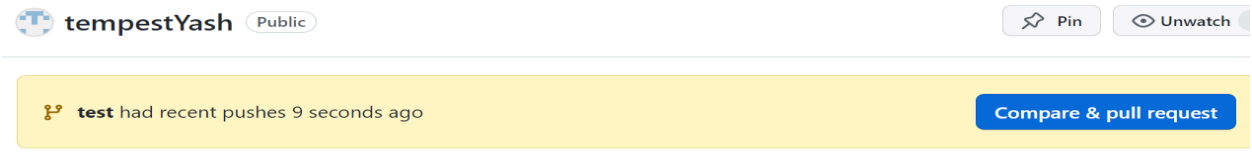
(remote)

❖ Now, Go to github, open the repository and move to the **test** branch and make some changes in a file.

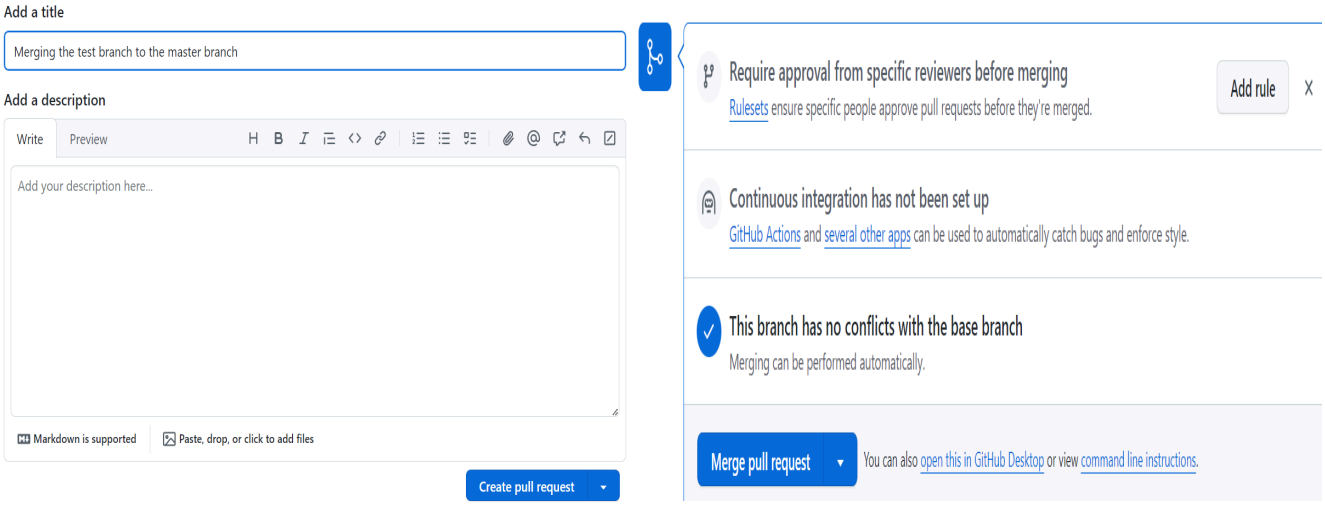



```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        printf("Hello world \ remote \ Part 1");
        printf("Hello world / Local / test / Part 2");
        printf("Hello world / Remote / test / Part 2");
        return 0 ;
}
```

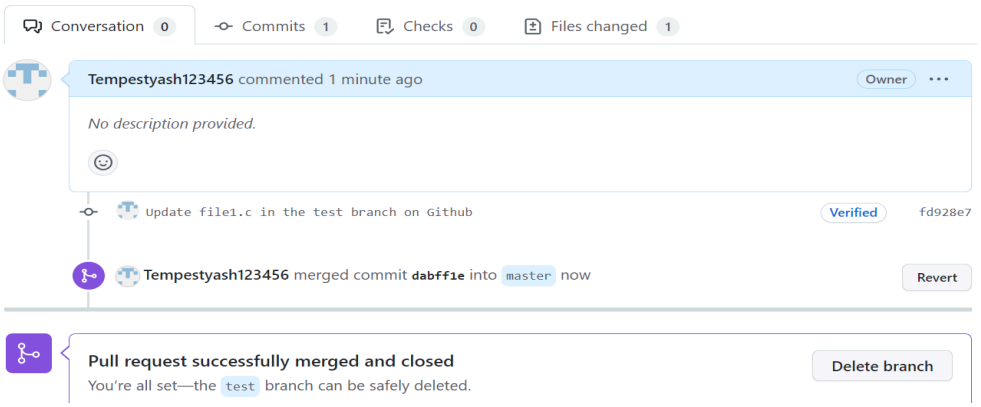
❖ Commit the changes and move to the **master** branch. Click on the **Compare & Pull request**.



❖ **Create the pull request,** resolve the merge conflicts (if any) and then **merge pull request**.



❖ After the merging, you may choose to delete your branch , i.e , **test**



❖ Now, pull the changes to the local repository using **git pull**.

```
yashd@Tempestation MINGW64 /f/Exp2.1/tempestYash (master)
$ git pull origin master
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (4/4), 1.79 KiB | 12.00 KiB/s, done.
From https://github.com/Tempestyash123456/tempestYash
 * branch            master     -> FETCH_HEAD
   2791321..bb5a4ca  master     -> origin/master
Updating 2791321..bb5a4ca
Fast-forward
 file.c | 1 +
 1 file changed, 1 insertion(+)
```

❖ You will be able to see the changes in your local repository.

```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        printf("Hello world \ remote \ Part 1");
        printf("Hello world / Local / test / Part 2");
        printf("Hello world / Remote / test / Part 2");
        return 0 ;
}
```

(remote)

```c
#include <stdio.h>

int main() {
        printf("Hello world \ Local \ Part 1");
        printf("Hello world \ remote \ Part 1");
        printf("Hello world / Local / test / Part 2");
        printf("Hello world / Remote / test / Part 2");
        return 0 ;
}
```

(local)

4. Result/Output/Writing Summary:

In this experiment, we have edited a file in the local repository and shown the changes on the remote repository and vice versa. For this purpose, we have made use of both Git and GitHub.

Learning outcomes (What I have learnt):

1. Learnt how to create a branch.

2. Learnt how to push the changes to the remote repository.

3. Learnt how to pull the changes from the remote repository.

4. Learnt to merge two branches.

5. Learnt how to resolve merge conflicts.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			