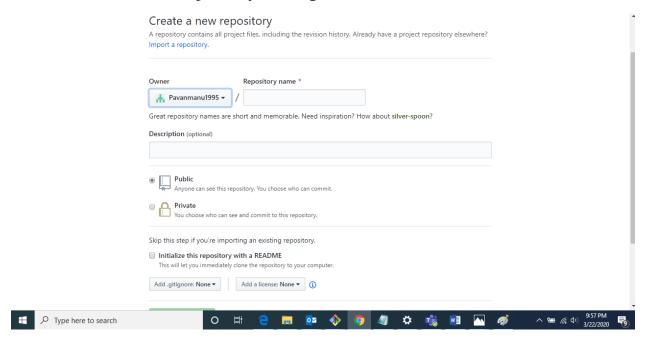
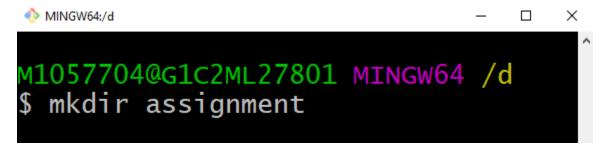
Git Assignment

GitHub is a cloud-based service that helps developers store and manage their code, share codes as well as track and control changes to their code.

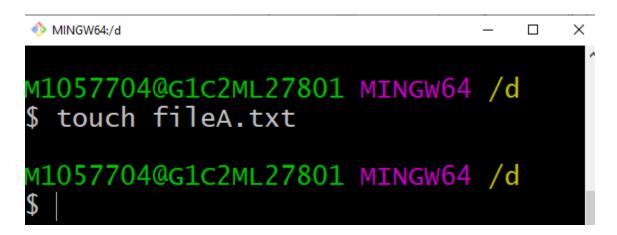
• Create a remote repository in the github.



• In git bash create a directory using **mkdir** command.



• Using git bash create a file inside the directory using **touch** command.



Commit A:

- By default the master branch will be created which is the main branch.
- **Init**: is used to initialize the local repository.
- Add . : it is used to add the file to the staging.
- **Push**: it is used to send the files from the local repository to the remote repository.

```
MINOSY704@GIC2ML27801 MINGW64 /d/assignment (master)
$ git init
Reinitialized existing Git repository in D:/assignment/.git/
MI057704@GIC2ML27801 MINGW64 /d/assignment (master)
$ git add .

MI057704@GIC2ML27801 MINGW64 /d/assignment (master)
$ git remote add origin https://github.com/Pavanmanu1995/assignment.git fatal: remote origin already exists.

MI057704@GIC2ML27801 MINGW64 /d/assignment (master)
$ git push -u origin master
Username for 'https://github.com': pavanmanu1995
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 217 bytes | 217.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Pavanmanu1995/assignment.git
* [new branch] master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```

• **Clone**: it is used to create a copy of files that are present in the remote repository.

```
M1057704@G1c2ML27801 MINGW64 /d/assignment (master)

$ git clone https://github.com/Pavanmanu1995/assignment.git
Cloning into 'assignment'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
```

Commit B:

- **Branch**: it is used to create a branch from the master.
- Develop is a branch name.
- Checkout: it points to the branch to which the branch name is given.
- Ls: it is used to list the directories and the files.
- **Echo:** it is used to create a file and write the content to the file.
- Cat: it is used to create a file and displays the content in the file.
- The develop branch is created.
- An empty string is written in the fileA.txt in the develop branch.
- Using **add** . the fileA.txt is added to the staging area.

```
M1057704@GIC2ML27801 MINGW64 /d/assignment (master)
$ git branch develop

M1057704@GIC2ML27801 MINGW64 /d/assignment (master)
$ git checkout develop
Switched to branch 'develop'

M1057704@GIC2ML27801 MINGW64 /d/assignment (develop)
$ ls
assignment/ fileA.txt

M1057704@GIC2ML27801 MINGW64 /d/assignment (develop)
$ echo "" (empty string) >> fileA.txt
bash: syntax error near unexpected token '('

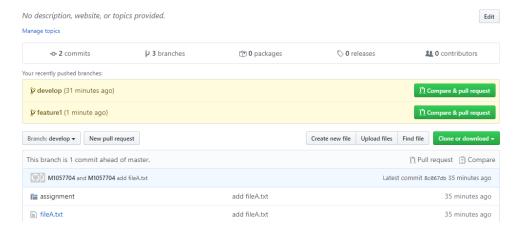
M1057704@GIC2ML27801 MINGW64 /d/assignment (develop)
$ echo "" >> fileA.txt

M1057704@GIC2ML27801 MINGW64 /d/assignment (develop)
$ cat fileA.txt

M1057704@GIC2ML27801 MINGW64 /d/assignment (develop)
$ cat fileA.txt

M1057704@GIC2ML27801 MINGW64 /d/assignment (develop)
$ git add .

warning: LF will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.
warning: adding embedded git repository: assignment
hint: You've added another git repository inside your current repository.
hint: Clones of the outer repository will not contain the contents of
hint: the embedded repository and will not know how to obtain it.
hint: git submodule add <ur>
hint: git submodule add <ur>
hint: If you added this path by mistake, you can remove it from the
hint: index with:
hint:
```



Commit C:

- Feature 1 wip is written into the filleA.txt using **echo** command.
- Using cat content is displayed from the fileA.txt
- Feature1 branch is created using **branch** command.
- Using **checkout** command the branch is pointed.
- Using **add** . command the fileA.txt is added to the staging.
- **Commit:** is used to send the fileA.txt from staging area to the local repository.
- -m: is the message.
- The content in the fileA.txt is pushed to the remote repository from the local repository.

```
MINGW64/dassignment

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ cat fileA.txt

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ cat fileA.txt

feature 1 wip

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git branch feature1

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git checkout feature1

Switched to branch 'feature1'

M fileA.txt

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git add .

warning: LF will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git add .

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git commit — "feature1 wip"

Ifeature1 a850b38] feature1 wip

I file changed, 1 insertion(+)

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git push —u origin feature1

Username for 'https://github.com': pavanmanu1995

Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 296 bytes | 296.00 KiB/s, done.
```

Commit D:

- using echo "feature 1 with 2 bugs" is written into the fileA.txt
- the fileA.txt is added to the staging.
- Using **commit** command the fileA.txt is sent from staging area to the local repository.

```
MINGW64/d/assignment

M10577040G1C2ML27801 MINGW64 /d/assignment (feature1)
$ cho feature 1 with 2 bugs >> fileA.txt

M10577040G1C2ML27801 MINGW64 /d/assignment (feature1)
$ cat fileA.txt

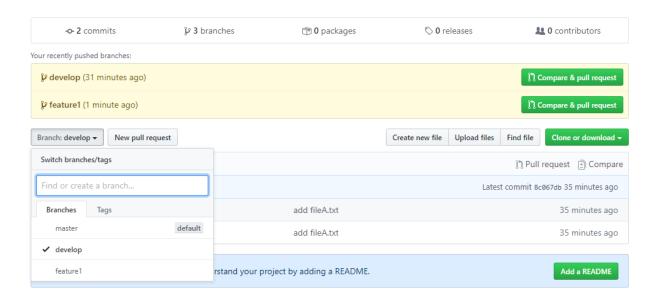
feature 1 wip
feature 1 with 2 bugs

M10577040G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git add .
warning: LF will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.

M10577040G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git commit -m "add feature1"
[feature1 7e97f8a] add feature1
1 file changed, 1 insertion(+)

M10577040G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git push -u origin feature1
Username for 'https://github.com': pavanmanu1995
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 309 bytes | 154.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Pavanmanu1995/assignment.git
a850b38.7e97f8a feature1 -> feature1
Branch 'feature1' set up to track remote branch 'feature1' from 'origin'.
```

• Feature1 branch is created in the github.



Commit E:

- Using **checkout** the branch is changed from feature1 branch to the develop branch.
- **Merge**: it is used to merge the content of feature1 branch to the develop branch.
- After merging it is added to the staging area using **add**.
- Using **commit** command it is sent to the local repository from the staging area.
- Then it is pushed to the remote repository.

```
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature1)
$ git checkout develop
Switched to branch 'develop'
Your branch is up to date with 'origin/develop'.

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git merge feature1
Updating 8c067db..7e97f8a
Fast-forward
fileA.txt | 2 ++
1 file changed, 2 insertions(+)

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git add .

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git commit -m "Merge branch 'feature1' into develop"
On branch develop
Your branch is ahead of 'origin/develop' by 2 commits.
   (use "git push" to publish your local commits)

nothing to commit, working tree clean

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git push -u origin develop
Username for 'https://github.com': pavanmanu1995
Total 0 (delta 0), reused 0 (delta 0)
To https://github.com/Pavanmanu1995/assignment.git
   8c067db..7e97f8a develop -> develop
Branch 'develop' set up to track remote branch 'develop' from 'origin'.
```

- -d: it is used to delete the branch.
- This command will not delete the branch in the github.

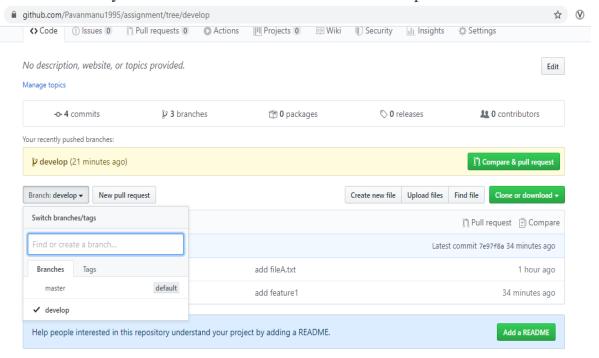
```
M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git branch -d feature1
Deleted branch feature1 (was 7e97f8a).
```

• **push origin**: branchName will delete the branch in github.

```
M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)

$ git push origin :feature1
Username for 'https://github.com': pavanmanu1995
To https://github.com/Pavanmanu1995/assignment.git
- [deleted] feature1
```

- The feature1 is deleted in the github.
- So there are only two branches that is master and develop branch.



Commit F:

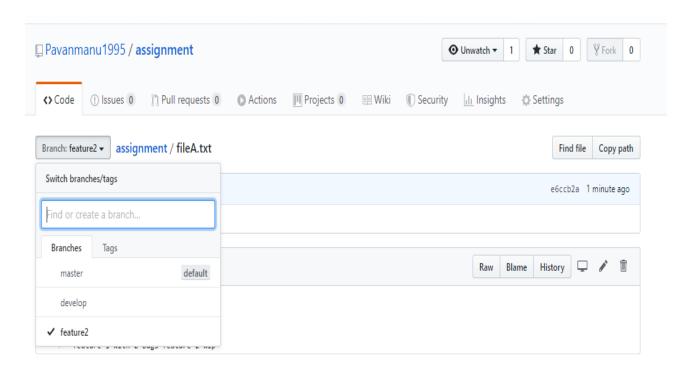
- Branch feature2 is created using **branch** command.
- "Feature 1 with 2 bugs feature 2 wip" is written to the fileA.txt.
- Then it is added to the staging area using add.
- Using commit command it is sent to the local repository from the staging area.
- Then it is pushed to the remote repository.

```
M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git branch feature2
M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
$ git checkout feature2'
Switched to branch 'feature2'
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
$ echo feature 1 with 2 bugs feature 2 wip >> fileA.txt
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
$ cat fileA.txt

feature 1 wip
feature 1 with 2 bugs
feature 1 with 2 bugs feature 2 wip
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
$ git add .

warning: LF will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
$ git commit -m "feature 2 wip"
[feature2 e6ccb2a] feature 2 wip
1 file changed, 1 insertion(+)
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
$ git push -u origin feature2
$ git push -u origin feature2
Username for 'https://github.com': pavanmanu1995
Enumerating objects: 5, done.
Countring objects: 100% (5/5), done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), 316 bytes | 316.00 KiB/s, done.
Writing objects: 100% (3/3), 316 bytes | 316.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
Temote:
```

• Feature 2 branch is created in github.



Commit G:

- Release branch is created using **branch** command.
- Using **echo** command "feature 1 with 1 bug" is written to the fileA.txt.

MI057704@GIC2ML27801 MINGW64 /d/assignment (feature2)
\$ git branch release1

M1057704@GIC2ML27801 MINGW64 /d/assignment (feature2)
\$ git checkout release1

M1057704@GIC2ML27801 MINGW64 /d/assignment (release1)
\$ echo feature 1 with 1 bug >> fileA.txt

M1057704@GIC2ML27801 MINGW64 /d/assignment (release1)
\$ cat fileA.txt

feature 1 wip
feature 1 with 2 bugs
feature 1 with 2 bugs feature 2 wip
feature 1 with 1 bug

M1057704@GIC2ML27801 MINGW64 /d/assignment (release1)
\$ git add .
warning: LF will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.

M1057704@GIC2ML27801 MINGW64 /d/assignment (release1)
\$ git commit -m "fix feature 1 bug x"
[release1 d290758] fix feature 1 bug x"
1 file changed, 1 insertion(+)

M1057704@GIC2ML27801 MINGW64 /d/assignment (release1)
\$ git push -u origin release1
Username for 'https://github.com': pavanmanu1995
Enumerating objects: 100% (5/5), done.
Counting objects: 100% (3/3), 332 bytes | 166.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)

Commit H:

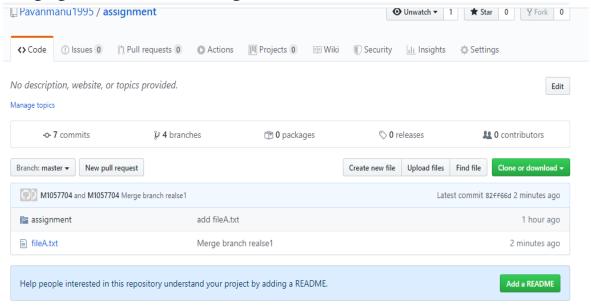
- Using **merge** command release1 is merged with the master branch.
- Then it is added to the staging area using add.
- Using commit command it is sent to the local repository from the staging area.
- Then it is pushed to the remote repository.

Commit I:

- Using **merge** command release1 is merged with the develop branch.
- Then it is added to the staging area using add.
- Using commit command it is sent to the local repository from the staging area.
- Then it is pushed to the remote repository.
- After merging the release1 branch is deleted

```
MINGWOAJ/Jassignment
M1057704@G1CZML27801 MINGW64 /d/assignment (master)
$ git checkout develop
Switched to branch 'develop'
Your branch is up to date with 'origin/develop'.
M1057704@G1CZML27801 MINGW64 /d/assignment (develop)
$ git merge release1
Updating 7e97f8a..d290758
Fast-forward
fileA.txt | 2 ++
    1 file changed, 2 insertions(+)
M1057704@G1CZML27801 MINGW64 /d/assignment (develop)
$ git add .
M1057704@G1CZML27801 MINGW64 /d/assignment (develop)
$ git commit -m "Merge branch release1 into develop"
On branch develop
Your branch is ahead of 'origin/develop' by 2 commits.
(use "git push" to publish your local commits)
nothing to commit, working tree clean
M1057704@G1CZML27801 MINGW64 /d/assignment (develop)
$ git push -u origin develop
Username for 'https://github.com': pavanmanu1995
Total 0 (delta 0), reused 0 (delta 0)
To https://github.com/pavanmanu1995/assignment.git
    7e97f8a..d290758 develop -> develop
Branch 'develop' set up to track remote branch 'develop' from 'origin'.
M1057704@G1CZML27801 MINGW64 /d/assignment (develop)
$ git branch -d release1
Deleted branch release1 (was d290758).
M1057704@G1CZML27801 MINGW64 /d/assignment (develop)
$ git push origin :release1
```

Merging of release1 branch in github



Commit F1:

- Initially the branch is pointing to the develop branch.
- Using **checkout** command the branch is pointing to the feature 2 branch.
- Using **echo** command "feature 1 with 1 bug feature 2 wip" is written to the fileA.txt.
- Then it is added to the staging area using **add** . command.
- Using **commit** command it is sent to the local repository from the staging area.
- Only after commit rebase can be done.
- **Rebase:** it is similar to merge but the difference is merge creates a new commit to merge master and sub-branch, but rebase is used merge a feature branch onto master, you move the base of the feature branch to master branch's ending point.
- when rebase is done conflict arises, that conflict need to be resolved using
 mergetool command, it will take to a new window which gives a option to
 change or keep both the things then is saved using :wq.
- conflict arises when two people changed the same lines in a file, or if one developer deleted a file while another developer was modifying it.

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)
\$ git checkout feature2'
Your branch is up to date with 'origin/feature2'.

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ echo feature 1 with 1 bug feature 2 wip >> fileA.txt

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ git rebase master
Cannot rebase: You have unstaged changes.
Please commit or stash them.

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ git add .

W1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ git add .

W1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ git commit -m will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ git commit -m "feature 2 wip"
[feature2 e240bd8] feature 2 wip
1 file changed, 1 insertion(+)

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
\$ git rebase master
First, rewinding head to replay your work on top of it...
Applying: feature 2 wip
Using index info to reconstruct a base tree...

M fileA.txt
Falling back to patching base and 3-way merge...
Auto-merging fileA.txt
CONFLICT (content): Merge conflict in fileA.txt
error: Failed to merge in the changes.
Patch failed at 0001 feature 2 wip
Use 'git am --show-current-patch' to see the failed patch
Resolve all conflicts manually, mark them as resolved with

- After resolving the conflict **rebase --continue** command is used to continue the rebase to merge the feature2 branch to the master branch.
- Then it is pushed to the remote repository.

```
Resolve all conflicts manually, mark them as resolved with M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2|REBASE 1/1)

§ git rebase --continue Applying: feature 2 wip

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)

§ git add .

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)

§ git commit -m "feature 2 wip"

[feature2 22656bc] feature 2 wip

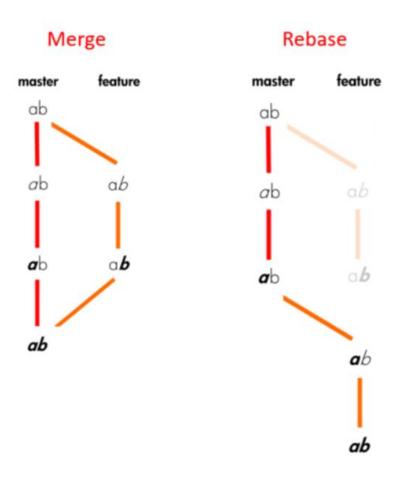
1 file changed, 10 insertions(+)
create mode 100644 fileA.txt.orig

M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)

§ git push -u origin feature2
Username for 'https://github.com': pavanmanu1995
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads.
Compressing objects: 100% (5/5), 542 bytes | 542.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/Pavanmanu1995/assignment.git
e6ccb2a..22656bc feature2 -> feature2
Branch 'feature2' set up to track remote branch 'feature2' from 'origin'.
```

Merge: merging commits makes changes to another branch. It takes the contents of a source branch and integrates it with a target branch. In this process, only the target branch is changed. The source branch history remains.

Rebase: compresses all the changes into a single "patch." Then it integrates the patch onto the target branch. It transfers the completed work from one branch to another. In the process, history is eliminated.



Commit K:

- Create a new branch "hotfix1" using **branch** command.
- Initially the branch is pointing to the feature2 branch using **checkout** command it is changed to hotfix1 branch.
- Using **echo** command "feature 1" is written to the fileA.txt.
- Then it is added to the staging area using **add** . command.
- Using **commit** command it is sent to the local repository from the staging area.
- Then it is pushed to the remote repository.

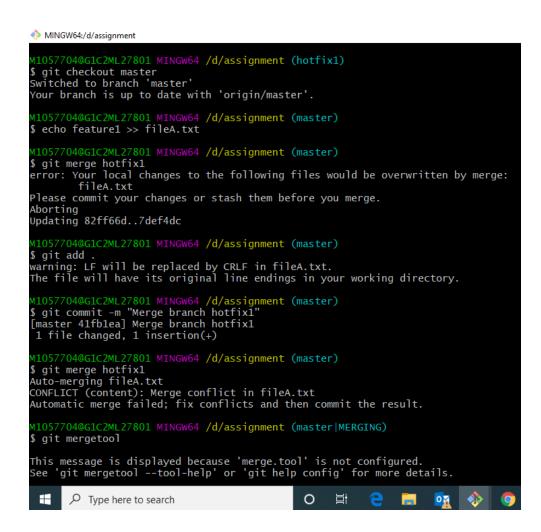
```
MINGW64:/d/assignment
  M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
 $ git branch hotfix1
M1057704@G1C2ML27801 MINGW64 /d/assignment (feature2)
$ git checkout hotfix1
 Switched to branch 'hotfix1'
 M1057704@G1C2ML27801 MINGW64 /d/assignment (hotfix1)
 $ echo feature1 >> fileA.txt
  11057704@G1C2ML27801 MINGW64 /d/assignment (hotfix1)
$ git add .
warning: LF will be replaced by CRLF in fileA.txt.
The file will have its original line endings in your working directory.
 M1057704@G1C2ML27801 MINGW64 /d/assignment (hotfix1)
$ git commit -m "fix feature 1 bug Y"
[hotfix1 7def4dc] fix feature 1 bug Y
1 file changed, 1 insertion(+)
M1057704@G1C2ML27801 MINGW64 /d/assignment (hotfix1)
$ git push -u origin hotfix1
Username for 'https://github.com': pavanmanu1995
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), 356 bytes | 356.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
 remote:
 remote: Create a pull request for 'hotfix1' on GitHub by visiting: remote: https://github.com/Pavanmanu1995/assignment/pull/new/hotfix1
 remote:
To https://github.com/Pavanmanu1995/assignment.git

* [new branch] hotfix1 -> hotfix1

Branch 'hotfix1' set up to track remote branch 'hotfix1' from 'origin'.
          Type here to search
                                                                                                          Ħŧ
```

Commit L:

- Initially the branch is pointing to the hotfix1 branch using **checkout** command it is changed to master branch.
- Using **echo** command "feature 1" is written to the fileA.txt.
- Then it is added to the staging area using **add** . command.
- Using **commit** command it is sent to the local repository from the staging area.
- Hotfix1 branch is merged using merge command to the master branch.
- Then it is pushed to the remote repository.



Commit M:

- Initially the branch is pointing to the master.
- Using **checkout** command change the pointing of the branch to develop branch.
- Using **echo** command "feature 1" is written to the fileA.txt.
- Then it is added to the staging area using add. command.
- Using **commit** command it is sent to the local repository from the staging area.
- Hotfix1 branch is merged using **merge** command to the develop branch.
- Then it is pushed to the remote repository.

```
M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)

$ git merge hotfix1
Already up to date.

M1057704@G1C2ML27801 MINGW64 /d/assignment (develop)

$ git push -u origin develop
Username for 'https://github.com': pavanmanu1995
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 4 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 718 bytes | 718.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Pavanmanu1995/assignment.git
f02a7fe..a553f11 develop -> develop
Branch 'develop' set up to track remote branch 'develop' from 'origin'.
```

• Hotfix1 branch is deleted using **push origin:hotfix1** command.



Commit F2:

- Initially the branch is pointing to the develop.
- Using **checkout** command change the pointing of the branch to feature 2 branch.
- Using echo command "feature 1 feature 2 wip" is written to the file A.txt.
- Then it is added to the staging area using add. command.
- Using **commit** command it is sent to the local repository from the staging area.
- Hotfix1 branch is merged using **merge** command to the develop branch.

- After commit rebase command is used to marge the feature 2 branch to the master branch.
- Conflict arises it should be resolved using **mergetool** command then it takes to the new window conflict is resolved and :wq is used to save and quit.

```
MINOSYTO40GICZML27801 MINGW64 /d/assignment (feature2)
$ git rebase master
First, rewinding head to replay your work on top of it...
Applying: feature 2 wip
Using index info to reconstruct a base tree...

# fileA.txt

Kind to to reconstruct a base tree...

# fileA.txt

CONFLICT (content): Merge conflict in fileA.txt

# converse of the file of the file
```

- After saving rebase --continue command is used to continue rebase to merge to the master branch.
- Then it is pushed to the remote repository.

```
M1057704@GIC2ML27801 MINGW64 /d/assignment (feature2|REBASE 1/1)

§ git rebase --continue
fileA.txt.orig: needs update
You must edit all merge conflicts and then
mark them as resolved using git add

M1057704@GIC2ML27801 MINGW64 /d/assignment (feature2|REBASE 1/1)
§ git add .

M1057704@GIC2ML27801 MINGW64 /d/assignment (feature2|REBASE 1/1)
§ git commit -m "feature 2 wip"
[detached HEAD b42f2e8] feature 2 wip
2 files changed, 8 insertions(+)

M1057704@GIC2ML27801 MINGW64 /d/assignment (feature2|REBASE 1/1)
§ git push -u origin feature2
Username for 'https://github.com': pavanmanu1995
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), done.
Writing objects: 100% (3/3), 338 bytes | 358.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/Pavanmanu1995/assignment.git
22656bc..acle571 feature2 -> feature2
Branch 'feature2' set up to track remote branch 'feature2' from 'origin'.
```