

## Experiment -3.3

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**Branch:** CSE(DEVOPS)

**Semester:** 4TH

**Subject Name:** GIT AND GITHUB

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**Section/Group:** 22BCD-1/A

**Date of Performance:** 03/04/2024

**Subject Code:** 22CSH-293

**1. Aim/Overview of the practical:.** Work with your history in Git.

**2. Software used:** Git Bash and Github.

**3. Hardware Used:** Computer system.

**4. Steps for experiment:**

1. Create a file on local device and open that folder with Git Bash.
2. Create a repository on Github with Exp8 name and copy the http link.
3. Now open the file “file.txt” using “vi filename” and edit the file
4. Now add and commit the file using “git add .” and “git commit -m”message””
5. Repeat step 3 and 4 for multiple time to have multiple commits.

```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git commit -m"1st commit"
[main 5ef7b7c] 1st commit
1 file changed, 1 insertion(+)
create mode 100644 file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git commit -m"2nd commit"
[main 495207a] 2nd commit
1 file changed, 1 insertion(+), 1 deletion(-)

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git commit -m"3rd commit"
[main 572e369] 3rd commit
1 file changed, 1 insertion(+), 1 deletion(-)
```

6. Now again edit the file and stage thst edit and instead of making a new commit amend the previous commit by “git commit --amend ”

MINGW64/c:/Users/sneha/OneDrive/Desktop/exp10/exp10

```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git commit --amend
[main 5b35517] 3rd commit edit
Date: Tue Apr 9 22:01:59 2024 +0530
1 file changed, 1 insertion(+), 1 deletion(-)
```

7. realize the commit by using “git log ”

MINGW64/c:/Users/sneha/OneDrive/Desktop/exp10/exp10

```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git log
commit 5b355179b1914264b75ff2ffc675f45456286728 (HEAD -> main)
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:59 2024 +0530

    3rd commit edit

commit 495207a1f73ed1ee483388ad0caedd5f09dea0b6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:20 2024 +0530

    2nd commit

commit 5ef7b7c59fe09db709d6d35eb38ae932128a25a6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:00:44 2024 +0530

    1st commit

commit b91096f4308af18491c8e3fba32c30f44b53fda6 (origin/main, origin/HEAD)
Author: sneha mehrotra <120790893+Sneha2003m@users.noreply.github.com>
Date: Tue Apr 9 21:34:03 2024 +0530

    Initial commit
```

8. Now make a new branch and go to that branch and make changes in the file using “git checkout -b nope”.

MINGW64: c:/Users/sneha/OneDrive/Desktop/exp10/exp10

```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git branch nope

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git checkout nope
Switched to branch 'nope'
```

9. Now make few commits in this branch.

MINGW64: c:/Users/sneha/OneDrive/Desktop/exp10/exp10

```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ git commit -m"1st branch commit"
[nope f3e5bd3] 1st branch commit
1 file changed, 1 insertion(+), 1 deletion(-)

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ git commit -m"2nd branch commit"
[nope 5eca341] 2nd branch commit
1 file changed, 1 insertion(+), 1 deletion(-)

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 3 commits.
(use "git push" to publish your local commits)
```

10. Now make to main branch and rebase the changes to main branch.

```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (nope)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 3 commits.
(use "git push" to publish your local commits)

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git rebase nope
Successfully rebased and updated refs/heads/main.
```

11. Realise these changes using git log to analyse the commit history.

```
MINGW64:/c:/Users/sneha/OneDrive/Desktop/exp10/exp10

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git log
commit 5eca3410896a7b4c7a285548b59034e091076470 (HEAD -> main, nope)
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:07:05 2024 +0530

    2nd branch commit

commit f3e5bd3f6024457a77ea8a7356c6df4502110c3b
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:06:28 2024 +0530

    1st branch commit

commit 5b355179b1914264b75ff2ffc675f45456286728
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:59 2024 +0530

    3rd commit edit

commit 495207a1f73ed1ee483388ad0caedd5f09dea0b6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:20 2024 +0530

    2nd commit

commit 5ef7b7c59fe09db709d6d35eb38ae932128a25a6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:00:44 2024 +0530

    1st commit

commit b91096f4308af18491c8e3fba32c30f44b53fda6 (origin/main, origin/HEAD)
Author: sneha mehrotra <120790893+sneha2003m@users.noreply.github.com>
Date: Tue Apr 9 21:34:03 2024 +0530

    Initial commit
```

12. Again make a new branch make commit in this branch also.

```
MINGW64/c/Users/sneha/OneDrive/Desktop/exp10/exp10
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (main)
$ git checkout -b new
Switched to a new branch 'new'

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git commit -m"first branch new commit"
[new 375f38b] first branch new commit
1 file changed, 1 insertion(+), 1 deletion(-)

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ vi file.txt

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git add .

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git commit -m"sec branch new commit"
[new 471d45c] sec branch new commit
1 file changed, 1 insertion(+), 1 deletion(-)
```

```
MINGW64/c/Users/sneha/OneDrive/Desktop/exp10/exp10
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git log
commit 471d45c0ce7c63b95ffb81e70727540d673d0684 (HEAD -> new)
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:12:22 2024 +0530

    sec branch new commit

commit 375f38b81153e8eb73b1488397efbf783f89ba02
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:11:38 2024 +0530

    first branch new commit

commit 5eca3410896a7b4c7a285548b59034e091076470 (nope, main)
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:07:05 2024 +0530

    2nd branch commit

commit f3e5bd3f6024457a77ea8a7356c6df4502110c3b
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:06:28 2024 +0530

    1st branch commit

commit 5b355179b1914264b75ff2ffc675f45456286728
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:59 2024 +0530

    3rd commit edit

commit 495207a1f73ed1ee483388ad0caedd5f09dea0b6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:20 2024 +0530

    2nd commit

commit 5ef7b7c59fe09db709d6d35eb38ae932128a25a6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:00:44 2024 +0530

    1st commit
```

13. Now merge these changes into main and rebase the head to 4 commits.

```
MINGW64/c/Users/sneha/OneDrive/Desktop/exp10/exp10
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git merge new
Already up to date.

sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new)
$ git rebase -i HEAD~4
Stopped at 5eca341... 2nd branch commit edit
You can amend the commit now, with

    git commit --amend

Once you are satisfied with your changes, run

    git rebase --continue
```

This will open a prompt and makes changes whatever you want to make.

```
MINGW64:/d/CU/GIT/gitbash/exp9
pick fc8ab98 second commit
pick 634b6bf third commit amend
pick e2b6709 branch commit
pick f15aa02 second branch commit new commit message

# Rebase 9c0aa0a..f15aa02 onto 9c0aa0a (4 commands)
#
# Commands:
# p, pick <commit> = use commit
# r, reword <commit> = use commit, but edit the commit message
# e, edit <commit> = use commit, but stop for amending
# s, squash <commit> = use commit, but meld into previous commit
# f, fixup [-C | -c] <commit> = like "squash" but keep only the previous
#                               commit's log message, unless -C is used, in which case
#                               keep only this commit's message; -c is same as -C but
#                               opens the editor
# x, exec <command> = run command (the rest of the line) using shell
# b, break = stop here (continue rebase later with 'git rebase --continue')
# d, drop <commit> = remove commit
# l, label <label> = label current HEAD with a name
# t, reset <label> = reset HEAD to a label
# m, merge [-C <commit> | -c <commit>] <label> [# <oneline>]
#     create a merge commit using the original merge commit's
#     message (or the oneline, if no original merge commit was
#     specified); use -c <commit> to reword the commit message
# u, update-ref <ref> = track a placeholder for the <ref> to be updated
#                       to this position in the new commits. The <ref> is
#                       updated at the end of the rebase
#
# These lines can be re-ordered; they are executed from top to bottom.
#
# If you remove a line here THAT COMMIT WILL BE LOST.
#
# However, if you remove everything, the rebase will be aborted.
#
```



```
sneha@LAPTOP-2GFSQH9Q MINGW64 ~/OneDrive/Desktop/exp10/exp10 (new|REBASE 2/4)
$ git log
commit bb076c533a3d0a9793cf20258e9c4ce033bbbc73 (HEAD)
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:07:05 2024 +0530

    2nd branch commit edit

commit f3e5bd3f6024457a77ea8a7356c6df4502110c3b
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:06:28 2024 +0530

    1st branch commit

commit 5b355179b1914264b75ff2ffc675f45456286728
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:59 2024 +0530

    3rd commit edit

commit 495207a1f73ed1ee483388ad0caedd5f09dea0b6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:01:20 2024 +0530

    2nd commit

commit 5ef7b7c59fe09db709d6d35eb38ae932128a25a6
Author: sneha <sneha.mehrotra1111@gmail.com>
Date: Tue Apr 9 22:00:44 2024 +0530

    1st commit

commit b91096f4308af18491c8e3fba32c30f44b53fda6 (origin/main, origin/HEAD)
Author: sneha mehrotra <120790893+Sneha2003m@users.noreply.github.com>
Date: Tue Apr 9 21:34:03 2024 +0530

    Initial commit
```

## 5. Result/Output/Writing Summary:

In this experiment we have learn about rebase and methods of rebase.

### Learning outcomes (What I have learnt):

1. Learnt the difference between reset and revert.
2. Learnt how to make the reset
3. Learnt about type of rebase.
4. Learnt about interactive rebase.
5. Also learnt about commands of rebase.

**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.			