Experiment 1

1	**Setting Up and Basic Commands**
	Initialize a new Git repository in a directory. Create a new file and add it to the staging area and commit the changes with an appropriate commit message.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ mkdir git_lab_exp1

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd git_lab_exp1

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (main)
$ git init
Initialized empty Git repository in C:/Users/Dr.Sanjana Prasad/git_lab_exp1/.git
/

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ touch sample.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        sample.txt

nothing added to commit but untracked files present (use "git add" to track)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git add sample.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git commit -m "Initial commit : Added sample.txt file"
[master (root-commit) 51fdc31] Initial commit : Added sample.txt file
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 sample.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git log
commit 51fdc31ef80f8449253bcf5de88c0658b592e661 (HEAD -> master)
Author: Sanjana <sanjanaprasad2022@gmail.com>
Date:   Mon Dec 22 18:51:21 2025 +0530

    Initial commit : Added sample.txt file
```

Experiment 2

2	**Creating and Managing Branches**
	Create a new branch named "feature-branch." Switch to the "master" branch. Merge the "feature-branch" into "master."

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd git_lab_exp1

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git branch feature-branch

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git checkout feature-branch
Switched to branch 'feature-branch'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git switch feature-branch
Already on 'feature-branch'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ echo "This is a feature update" >>sample.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git add sample.txt
warning: in the working copy of 'sample.txt', LF will be replaced by CRLF the ne
xt time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git commit -m "Added feature update in feature-branch"
[feature-branch 651ac7b] Added feature update in feature-branch
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git checkout master
Switched to branch 'master'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git merge feature-branch
Updating 51fdc31..651ac7b
Fast-forward
 sample.txt | 1 +
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git branch
  feature-branch
* master

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git log --oneline
651ac7b (HEAD -> master, feature-branch) Added feature update in feature-branch
51fdc31 Initial commit : Added sample.txt file
```

Experiment 3

3	**Creating and Managing Branches**
	Write the commands to stash your changes, switch branches, and then apply the stashed changes.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd git_lab_exp1

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ echo "Temporary changes for stash" >>sample.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git status
On branch master
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:   sample.txt

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

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git stash
warning: in the working copy of 'sample.txt', LF will be replaced by CRLF the ne
xt time Git touches it
Saved working directory and index state WIP on master: 651ac7b Added feature upd
ate in feature-branch

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git stash list
stash@{0}: WIP on master: 651ac7b Added feature update in feature-branch

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git stash list
stash@{0}: WIP on master: 651ac7b Added feature update in feature-branch

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (master)
$ git checkout feature-branch
Switched to branch 'feature-branch'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git switch feature-branch
Already on 'feature-branch'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git stash apply
On branch feature-branch
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:   sample.txt

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

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git status
On branch feature-branch
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:   sample.txt

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

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git add sample.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git_lab_exp1 (feature-branch)
$ git commit -m "Applied stashed changes"
[feature-branch 44f97fd] Applied stashed changes
 1 file changed, 1 insertion(+)
```

Experiment 4

4	**Collaboration and Remote Repositories**
	Clone a remote Git repository to your local machine.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 /c/Users
$ cd /c/Users

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 /c/Users
$ cd Dr.Sanjana\ Prasad/

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git clone https://github.com/sanjanaarun2023/oranproject
fatal: destination path 'oranproject' already exists and is not an empty directo
ry.

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git clone https://github.com/sanjanaarun2023/oranproject.git
fatal: destination path 'oranproject' already exists and is not an empty directo
ry.

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git clone https://github.com/sanjanaarun2023/bds306c.git
Cloning into 'bds306c'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), 924.76 KiB | 8.89 MiB/s, done.
Resolving deltas: 100% (3/3), done.

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd bds306c

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git remote -v
origin  https://github.com/sanjanaarun2023/bds306c.git (fetch)
origin  https://github.com/sanjanaarun2023/bds306c.git (push)
```

Experiment 5

Collaboration and Remote Repositories: Fetch the latest changes from a remote repository and rebase your local branch onto the updated remote branch

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd /c/Users/Dr.Sanjana\ Prasad/bds306c

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git branch
* main

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git fetch origin

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git log origin/master --oneline
fatal: ambiguous argument 'origin/master': unknown revision or path not in the w
orking tree.
Use '--' to separate paths from revisions, like this:
'git <command> [<revision>...] -- [<file>...]'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git log origin/main --oneline
6a671f9 (HEAD -> main, origin/main, origin/HEAD) Add files via upload
21ade38 Add files via upload

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git rebase origin/main
Current branch main is up to date.

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git rebase --continue
fatal: no rebase in progress

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/bds306c (main)
$ git log --oneline
6a671f9 (HEAD -> main, origin/main, origin/HEAD) Add files via upload
21ade38 Add files via upload
```

Experiment 6

6	**Collaboration and Remote Repositories**
	Write the command to merge "feature-branch" into "master" while providing a custom commit message for the merge.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git checkout main
M       example.txt
Already on 'main'
Your branch is up to date with 'origin/main'.

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git merge feature-branch -m "Merged feature-branch into main"
Already up to date.

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git log --oneline --graph
* 9ae0ef1 (HEAD -> main, origin/main, origin/HEAD) Initial commit
* beebd0e (target-branch, feature_branch) Added file_1.txt in git repository
* 500a1f5 (feature-branch1, feature-branch) Initial commit: add example.txt
```

Experiment 7

7	**Git Tags and Releases**
	Write the command to create a lightweight Git tag named "v1.0" for a commit in your local repository.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git tag v1.0

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git tag
v1.0
```

Experiment 8 :

Advanced Git Operations:

Write the command to cherry-pick a range of commits from "source-branch" to the current branch.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git checkout -b source-branch
Switched to a new branch 'source-branch'

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ echo "Line 1-commit1" >>example.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git add example.txt
warning: in the working copy of 'example.txt', LF will be replaced by CRLF the n
ext time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git commit -m "Commit 1: add line 1"
[source-branch 20ee65b] Commit 1: add line 1
 1 file changed, 2 insertions(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ echo "Line 2 - commit 2" >>example.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git add example.txt
warning: in the working copy of 'example.txt', LF will be replaced by CRLF the n
ext time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git commit -m "Commit 2: add line 2"
[source-branch e97490f] Commit 2: add line 2
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ echo "Line 3 - commit3" >>example.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git add example.txt
warning: in the working copy of 'example.txt', LF will be replaced by CRLF the n
ext time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git commit -m "Commit 3: add line 3"
[source-branch bc7dc75] Commit 3: add line 3
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (source-branch)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
```

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git log source-branch --oneline
bc7dc75 (source-branch) Commit 3: add line 3
e97490f Commit 2: add line 2
20ee65b Commit 1: add line 1
759944a (HEAD -> main, origin/main, origin/HEAD) Add files via upload
9ae0ef1 (tag: v1.0) Initial commit
beebd0e (target-branch, feature_branch) Added file_1.txt in git repository
500a1f5 (feature-branch1, feature-branch) Initial commit: add example.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git cherry-pick 20ee65b^..bc7dc75
[main 1861c69] Commit 1: add line 1
 Date: Fri Jan 2 10:25:08 2026 +0530
 1 file changed, 2 insertions(+)
[main 92dbc1a] Commit 2: add line 2
 Date: Fri Jan 2 10:25:47 2026 +0530
 1 file changed, 1 insertion(+)
[main 52fa91b] Commit 3: add line 3
 Date: Fri Jan 2 10:26:29 2026 +0530
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ git log --oneline
52fa91b (HEAD -> main) Commit 3: add line 3
92dbc1a Commit 2: add line 2
1861c69 Commit 1: add line 1
759944a (origin/main, origin/HEAD) Add files via upload
9ae0ef1 (tag: v1.0) Initial commit
beebd0e (target-branch, feature_branch) Added file_1.txt in git repository
500a1f5 (feature-branch1, feature-branch) Initial commit: add example.txt
```

Experiment 9 :

9	**Analysing and Changing Git History**
	Given a commit ID, how would you use Git to view the details of that specific commit, including the author, date, and commit message?

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ mkdir git-history-demo

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd git-history-demo

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-history-demo (main)
$ git init
Initialized empty Git repository in C:/Users/Dr.Sanjana Prasad/git-history-demo/
.git/

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-history-demo (master)
$ echo "This is my first file" >file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-history-demo (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-history-demo (master)
$ git commit -m "Initial commit : added file.txt"
[master (root-commit) ff30659] Initial commit : added file.txt
 1 file changed, 1 insertion(+)
 create mode 100644 file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-history-demo (master)
$ git log --oneline
ff30659 (HEAD -> master) Initial commit : added file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-history-demo (master)
$ git show ff30659
commit ff306594aea628ba6ea8f431d0b158ba784787ff (HEAD -> master)
Author: Sanjana <sanjanaprasad2022@gmail.com>
Date:   Fri Jan 2 10:34:14 2026 +0530

    Initial commit : added file.txt

diff --git a/file.txt b/file.txt
new file mode 100644
index 0000000..dba0775
--- /dev/null
+++ b/file.txt
@@ -0,0 +1 @@
+This is my first file
```

Experiment 10 :

10	**Analysing and Changing Git History**
	Write the command to list all commits made by the author "JohnDoe" between "2023-01-01" and "2023-12-31."

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ mkdir git-author-demo

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd git-author-demo

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (main)
$ git init
Initialized empty Git repository in C:/Users/Dr.Sanjana Prasad/git-author-demo/.
git/

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git config user.name "JohnDoe"

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git config user.email "johndoe@example.com"

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ echo "First commit content" >demo.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git add demo.txt
warning: in the working copy of 'demo.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git commit -m "Commit by JohnDoe in 2023"
[master (root-commit) dcf4691] Commit by JohnDoe in 2023
 1 file changed, 1 insertion(+)
 create mode 100644 demo.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git log --oneline
dcf4691 (HEAD -> master) Commit by JohnDoe in 2023

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git log --author="JohnDoe" --since="2023-01-01" --until="2023-12-31"

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/git-author-demo (master)
$ git log --author="JohnDoe" --since="2023-01-01" --until="2023-12-31" --oneline
```

11	**Analysing and Changing Git History**

Write the command to display the last five commits in the repository's history.

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ mkdir sanju

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd sanju

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (main)
$ git init
Initialized empty Git repository in C:/Users/Dr.Sanjana Prasad/sanju/.git/

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git config user.name "JohnDoe"

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git config user.email "johndoe@example.com"

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ echo "Commit 1" >file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git commit -m "First commit"
[master (root-commit) 4e963ed] First commit
 1 file changed, 1 insertion(+)
 create mode 100644 file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ ^C

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ echo "Commit 2" >file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git commit -m "Second commit"
[master 2893696] Second commit
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ echo "Commit 3" > file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git commit -m "Third commit"
[master af57c3a] Third commit
 1 file changed, 1 insertion(+), 1 deletion(-)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ echo "Commit 4" > file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git commit -m "Fourth commit"
[master 69a3c00] Fourth commit
 1 file changed, 1 insertion(+), 1 deletion(-)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ echo "Commit 5" >> file.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git commit -m "Fifth commit"
[master d64448b] Fifth commit
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/sanju (master)
$ git log -5
```

```
$ git log -5
commit d64448b4a9f89d0009b64fb3fe6c94bed3c08323 (HEAD -> master)
Author: JohnDoe <johndoe@example.com>
Date:   Fri Jan 2 12:57:57 2026 +0530

    Fifth commit

commit 69a3c002483fc952ae10af3980b8b530bc8edb32
Author: JohnDoe <johndoe@example.com>
Date:   Fri Jan 2 12:57:23 2026 +0530

    Fourth commit

commit af57c3a6ebd070c2ad329e513a402b9433a7ac36
Author: JohnDoe <johndoe@example.com>
Date:   Fri Jan 2 12:56:52 2026 +0530

    Third commit

commit 28936966b7c273fba60d7752319f47d49b2aebd8
Author: JohnDoe <johndoe@example.com>
Date:   Fri Jan 2 12:55:57 2026 +0530

    Second commit

commit 4e963edaffbfbbc657606fd0219d2f1d93af0895
Author: JohnDoe <johndoe@example.com>
Date:   Fri Jan 2 12:55:02 2026 +0530

    First commit
```

Experiment 12

12	**Analysing and Changing Git History**
	Write the command to undo the changes introduced by the commit with the ID "abc123".

```
Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ mkdir exp12

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~ (main)
$ cd exp12

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (main)
$ git init
Initialized empty Git repository in C:/Users/Dr.Sanjana Prasad/exp12/.git/

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ echo "Version 1" >>demo.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ git add demo.txt
warning: in the working copy of 'demo.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ git commit -m "Commit 1: add demo.txt"
[master (root-commit) 89515ca] Commit 1: add demo.txt
 1 file changed, 1 insertion(+)
 create mode 100644 demo.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ echo "Version 2" >>demo.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ git add demo.txt
warning: in the working copy of 'demo.txt', LF will be replaced by CRLF the next
 time Git touches it

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ git commit -m "Commit 2: bad change"
[master 1a7a881] Commit 2: bad change
 1 file changed, 1 insertion(+)

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ git log --oneline
1a7a881 (HEAD -> master) Commit 2: bad change
89515ca Commit 1: add demo.txt

Dr.Sanjana Prasad@DESKTOP-DI8SJ64 MINGW64 ~/exp12 (master)
$ git revert 1a7a881
```

```
Revert "Commit 2: bad change"

This reverts commit 1a7a8818e5a963a755d0cf9e769ce835f519a187.

# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# On branch master
# Changes to be committed:
#       modified:   demo.txt
#
~
~
~
~
```

Press Esc

Type :wq

git log –oneline

xxxxxxx Revert "Commit 2: bad change"

7dd2a50 Commit 2: bad change

...