

Experiment - Learned how to use git
Setting up and Basic commands
Initialized 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.

```
git version  
git config --global user.name " "  
git config --global user.mail " "  
cd desktop  
cd filename > new_file.txt  
git init  
echo "#My project" > README.md  
git add README.md  
git commit -m "Initial commit"  
echo "Hello world" > file1.txt  
echo "Another file" > file2.txt  
git add file1.txt file2.txt  
git commit -m "Add two new files"
```

git push -u origin master

```
git status  
git add .  
git commit -m "First commit"  
git push -u origin master  
git log  
git checkout -b feature  
git add .  
git commit -m "New feature"  
git push -u origin feature
```

Experiment - 2

Create a new branch named "feature-branch", switch to master branch
Merge the feature branch into master

```
git version  
git config --global user.name " "  
git config --global user.mail " "  
cd desktop  
cd filename  
git init  
git branch feature-branch  
git checkout feature-branch  
echo "feature work" > feature.txt  
git add feature.txt  
git commit -m "Add feature file"  
git checkout master  
git merge feature-branch
```

Experiment - 3

Write the command to stash our changes
switch branches and then apply the stash changes

```
git version  
git config --global user.name " "  
git config --global user.mail " "  
git init cd desktop  
cd filename  
git init  
echo "Hello world" > file.txt
```

echo "Good Morning" > file2.txt

echo "New one" > file3.txt

git add file1.txt file2.txt file3.txt

git stash

git stash pop

'stash' command is used to temporarily save your changes in your working directory

Allows us to switch working something else without compiling

git stash command saves uncommitted changes for temporary purpose.

Experiment 4
Clone a remote git repository to your local machine

git version info -> tip

git config -> global user.name " " -> tip

git config -> global user.mail " " -> tip

cd desktop -> tip

cat filename -> tip

git init -> tip

git clone https://github.com/example/ one.git -> tip

cd one

git pull

git fetch

git merge

Git will clone the repository to our local machine once the process is completed.

We will have local copy of remote repository in our chosen directory.

To clone a remote git repository to our local machine, we can use the `git clone` command.

General syntax is as follows:
`git clone <repository url>`

Experiment - 5: Fetch the latest changes from a remote repository.

```
git version  
git config --global user.name " "  
git config --global user.mail " "  
cd desktop  
cd feature-branch  
git init  
git branch feature-branch  
git checkout feature-branch  
echo "feature changes" > feature.txt  
git add feature.txt  
git commit -m "Add feature changes"  
git push -u origin feature-branch
```

```
git checkout master
```

Experiment - 6

Write the command to merge feature branch into master while providing a custom commit message for the merge.

```
git version  
git config --global user.name " "  
git config --global user.mail " "  
cd desktop  
cd filename  
git init  
git add .  
git checkout master  
git merge nature-branch -m  
"Add nature branch changes"
```

git log
"Hello world" commit
"Hello world" commit
"Hello world" commit
"Hello world" commit

Experiment - 7

Write a command to create flight weight git tag name called v1.0 for a commit in a local repository

```
git version  
git config --global user.name " "  
git config --global user.mail " "  
cd desktop  
cd filename  
git init  
echo "Hello world" > file1.txt  
git add file1.txt  
git commit -m "New commit"  
git tag v1.0 file1.txt
```

git push origin v1.0

-tags are used to mark specific points in the git history

to create tag we use command

git tag "tagname" *commit*

from this, help - p for tip

to push the tag into the remote repository

git push origin v1.0:tip

or - add -s sign -s from tip

Experiment - 8 (using JPA)

Write the command to cherry-pick a range of commits from "Source branch" to commit branch

git version 1.8.3.1

git config --global user.name "-"

git config --global user.mail "-"

cd desktop

cat filename

git init desktop

touch file1.txt

touch file2.txt

touch file3.txt

git add .

git commit -m "Initial commit"

git log 1ef15f1784f8f8f

+ touch file4.txt

git add file4.txt

git commit -m "second commit"

touch file5.txt + git add tip

git add file5.txt + git commit

git commit -m "third commit"

git reflog + git tip

git reset [ID] + git work tip

git reflog

git revert [ID]

git reflog

git log -all + decorate + oneline

git cherry-pick [ID] + H

Be the best of programmers but avoid

never write soft code-cherry pick

Experiment - 9

Given a commit ID how would you use git to view the details of that specific commit including author date and commit message

git version

git config --global user.name "—"

git config --global user.mail "—"

git cd desktop + bba tip

cd filename + bba tip

git init + bba tip

touch file1.txt + bba tip

touch file2.txt + bba tip

git add . + bba tip

git commit -m "first commit"

touch file3.txt + bba tip

git add file3.txt + bba tip

git commit -m "Second commit"

"touch file4.txt
git add file4.txt
git commit -m "third commit"
git log --oneline
git reflog
git show [id] git log tip
git log --since=2024-12-23

Ex-10 Analysing and changing git history

Write the command to list all commands by the author from today.

git version
git config --global user.name "A" git config tip
git config --global user.email "A" git config tip
cd desktop cd desktop tip
cd filename
git init git init tip
touch file1.txt git add tip
touch file2.txt git add tip
git add . git add tip
git commit -m "first commit" git commit tip
touch file3.txt git add tip
git add file3.txt git add tip
git commit -m "Second Commit" git commit tip
touch file4.txt git add tip
git add file4.txt git add tip
git commit -m "Third commit" git commit tip
git log --author="A" git log tip
git log --since="2024-12-23" git log tip

--until = "2025-01-02"
git log -t author="Abhishek" --
since="2024-12-28" --until=
"2025-01-02" file

Explain Local python file
Write the command to display
last 5 commits in repository history

git version
git config --global user.name=" "
git config --global user.mail=" "
cd desktop
cd filename
git init " " .
touch file1.txt
touch file2.txt
git add .
git commit -m "first commit"
touch file3.txt
git add file3.txt
git commit -m "second commit"
touch file4.txt
git add file4.txt
git commit -m "third commit"
git log -n5

Exp-12
Write the command to undo the changes introduced by the commit with **ED**

git version

git config --global user.name " "

git config --global user.email " "

cd desktop/ tip

ed filename

git init

touch file1.txt tip

touch file2.txt tip

touch file3.txt tip

git add .

git commit -m "first commit"

touch file4.txt tip

git add file4.txt tip

git commit -m "Second commit"

touch file5.txt tip

git add file5.txt tip

git commit -m "third commit"

git log tip

git relog tip

git revert [id] tip

"commit (id)" tip

git reset --hard tip