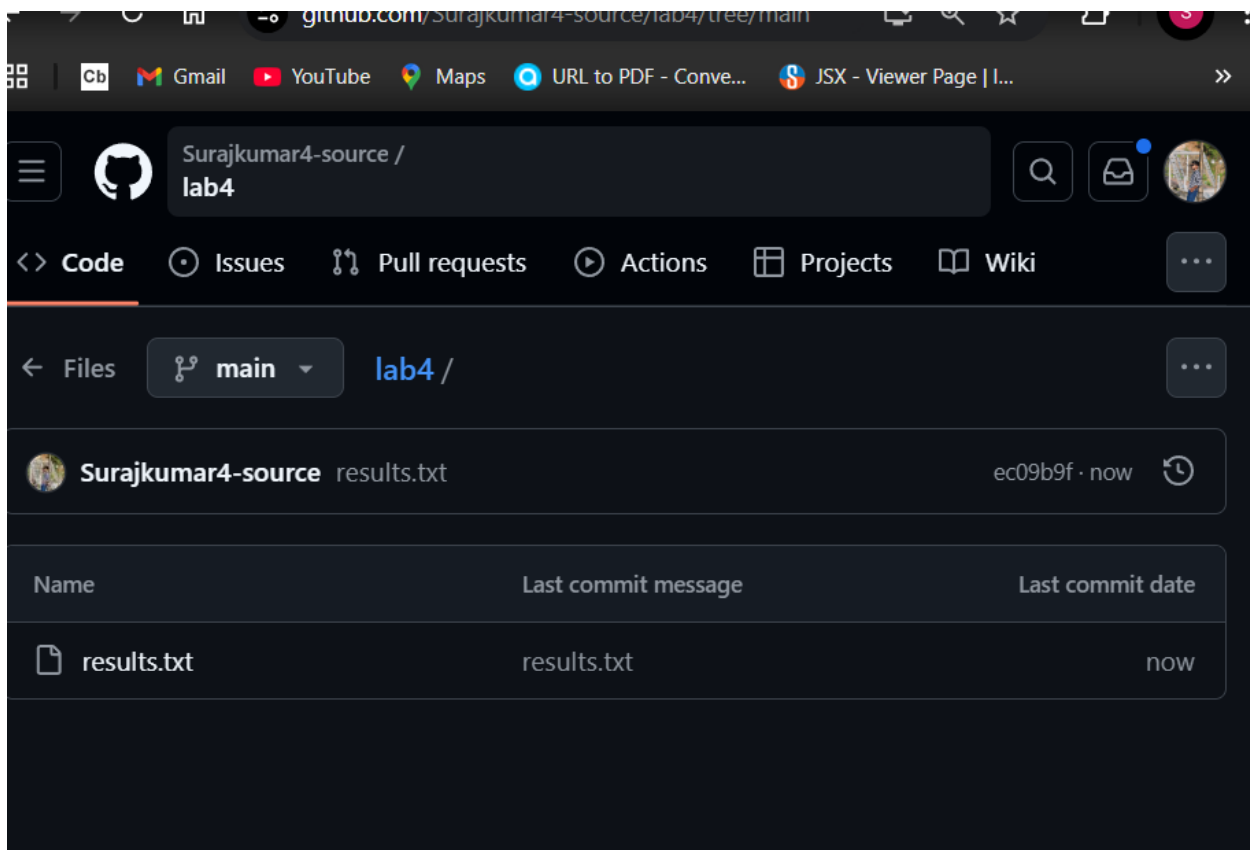


Q1. Create a repository by name lab4 on the Github. Create a file by name results.txt in it. Type some thing into it. Then clone this repository on the local machine. Modify the results.txt file locally. Then push the modifications to the remote repository.

Next modify the results.txt file on Github. Modify the results.txt file locally also. Make sure the contents are different. Then try git push. Perform git pull. Resolve if there is a conflict. Keep remote and local changes. Then push the local contents.

1. Create a Repository on GitHub.

2. Create a File named results.txt on GitHub.



3. Clone the Repository to Your Local Machine.

4. Modify the results.txt File Locally.

```
MINGW64:/c/Users/hp/Assig-3_suraj/lab4

hp@DESKTOP-D4JMQE9 MINGW64 ~ (master)
$ cd A
AppData/          Application Data/ Assig-3_suraj/      anaconda3/

hp@DESKTOP-D4JMQE9 MINGW64 ~ (master)
$ cd Assig-3_suraj/

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj (master)
$ git clone https://github.com/Surajkumar4-source/lab4
Cloning into 'lab4'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj (master)
$ ls
lab4/

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj (master)
$ cd lab4/

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ ls
results.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ nano results.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ ^[[200~git add results.txt
bash: $'\E[200~git': command not found

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git add results.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git commit -m "updated from git terminal"
[main 1b0212e] updated from git terminal
 1 file changed, 3 insertions(+), 1 deletion(-)

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$
```

5. Stage and Commit the Changes.

```
MINGW64:/c/Users/hp/Assig-3_suraj/lab4
$ git add results.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git commit -m "updated from git terminal"
[main 1b0212e] updated from git terminal
1 file changed, 3 insertions(+), 1 deletion(-)

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git push origion main
fatal: 'origion' does not appear to be a git repository
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git push origin main
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), 320 bytes | 160.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Surajkumar4-source/lab4
    ec09b9f..1b0212e  main -> main

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ cat results.txt
First line written from the Github UI.

Second line is written from the GIT terminal

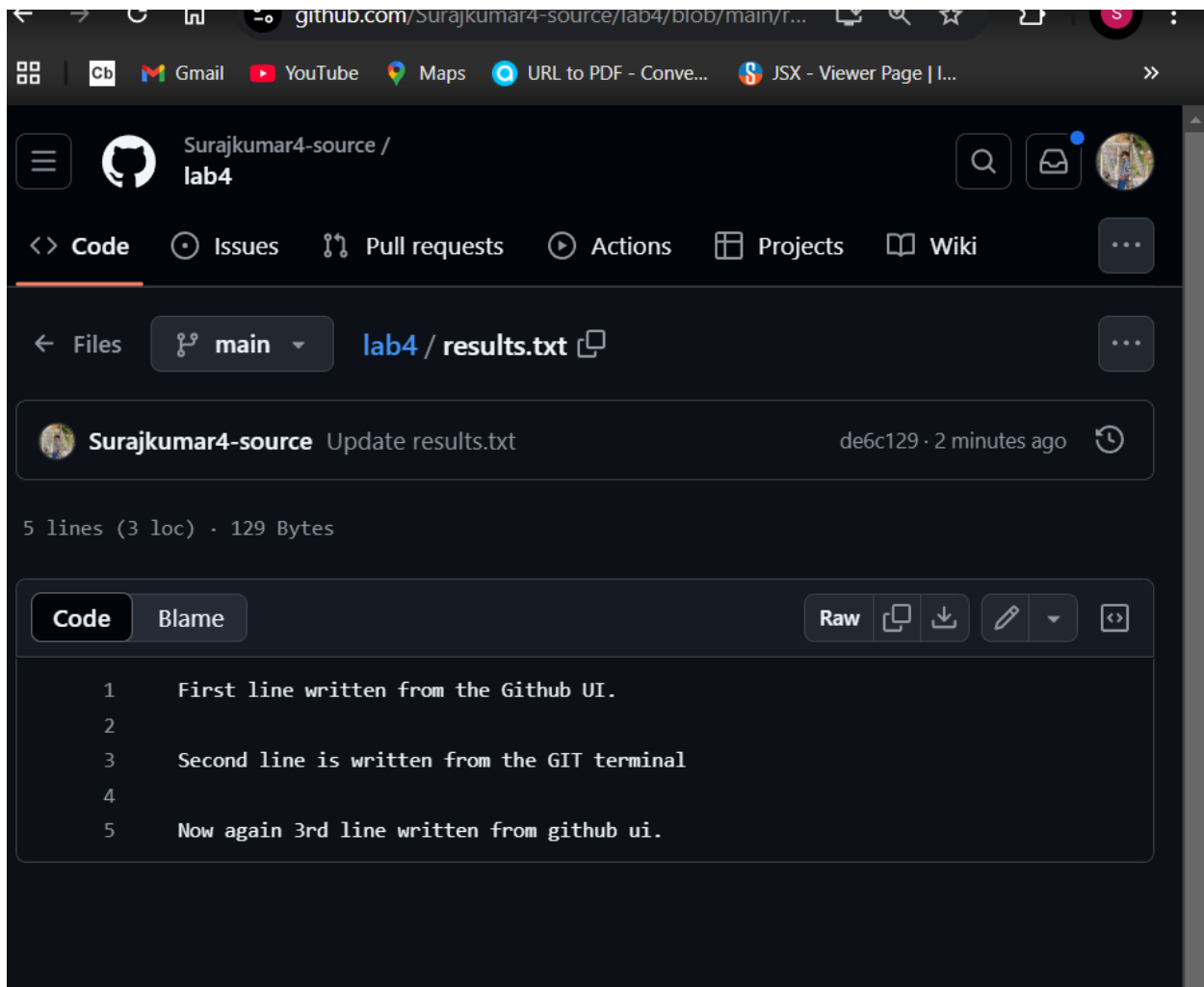
hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git pull origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 1000 bytes | 76.00 KiB/s, done.
From https://github.com/Surajkumar4-source/lab4
 * branch            main              -> FETCH_HEAD
  1b0212e..de6c129  main              -> origin/main
Updating 1b0212e..de6c129
Fast-forward
 results.txt | 2 ++
1 file changed, 2 insertions(+)

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
```

Finance headline
US Fed rate cut...

Search

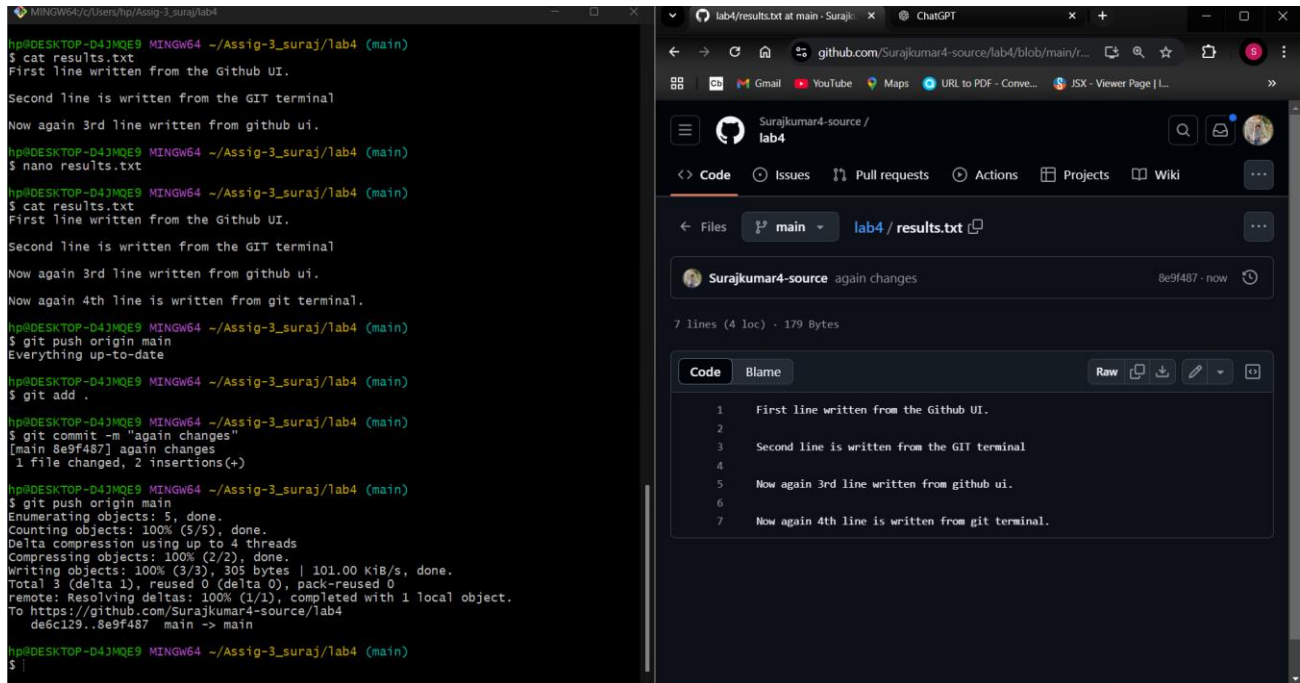
7. Push the Changes to GitHub



The screenshot shows a web browser displaying a GitHub repository page. The address bar shows the URL `github.com/Surajkumar4-source/lab4/blob/main/r...`. The page header includes the repository name `Surajkumar4-source / lab4` and navigation links for `Code`, `Issues`, `Pull requests`, `Actions`, `Projects`, and `Wiki`. The file path `lab4 / results.txt` is shown, along with a dropdown menu set to `main`. A commit by `Surajkumar4-source` is displayed, titled `Update results.txt`, with commit hash `de6c129` and a timestamp of `2 minutes ago`. Below the commit information, the file statistics are shown: `5 lines (3 loc) · 129 Bytes`. The file content is displayed in a code editor with two tabs: `Code` (selected) and `Blame`. The code content is as follows:

```
1 First line written from the Github UI.
2
3 Second line is written from the GIT terminal
4
5 Now again 3rd line written from github ui.
```

Modify the results.txt File on GitHub



The screenshot shows a terminal window on the left and a web browser on the right. The terminal window displays the following commands and output:

```
hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ cat results.txt
First line written from the Github UI.

Second line is written from the GIT terminal

Now again 3rd line written from github ui.

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ nano results.txt

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ cat results.txt
First line written from the Github UI.

Second line is written from the GIT terminal

Now again 3rd line written from github ui.

Now again 4th line is written from git terminal.

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git push origin main
Everything up-to-date

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git add .

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git commit -m "again changes"
[main 8e9f487] again changes
1 file changed, 2 insertions(+)

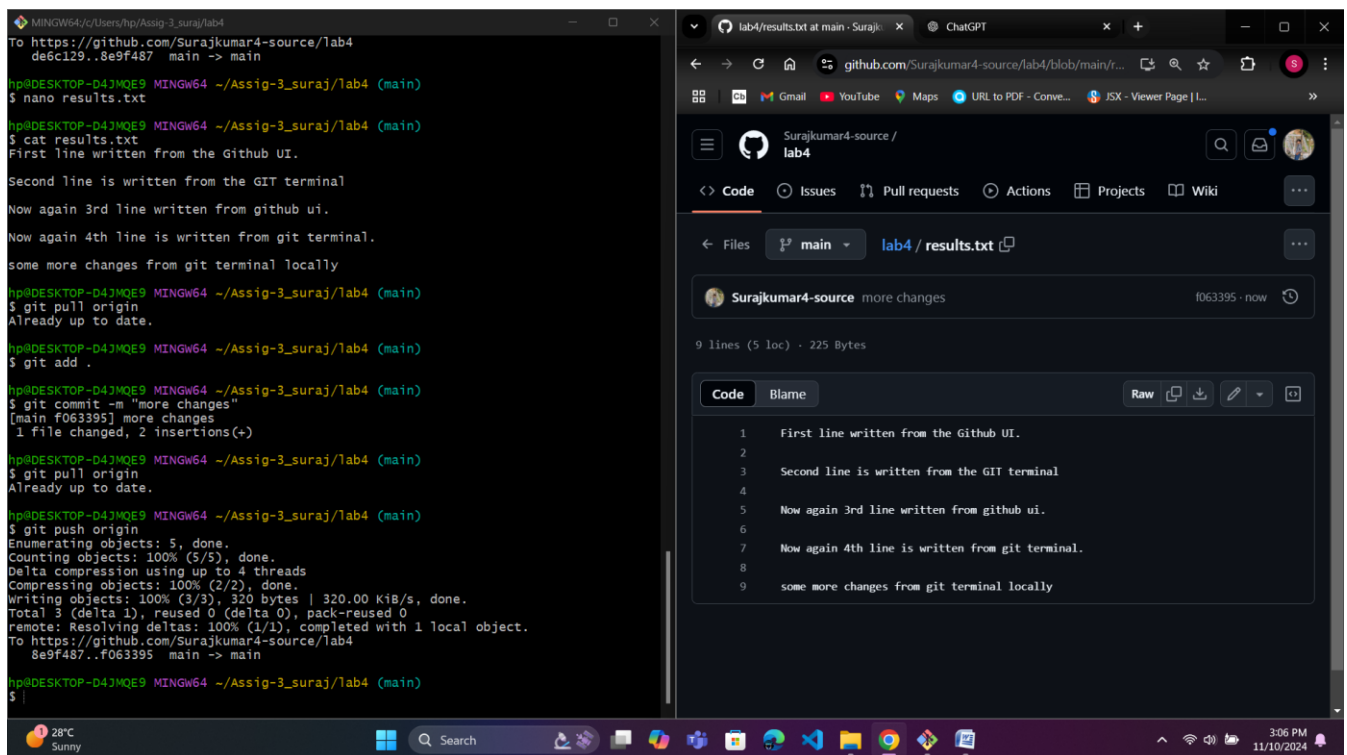
hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git push origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 305 bytes | 101.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/Surajkumar4-source/lab4
de6c129..8e9f487 main -> main

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$
```

The web browser shows the GitHub repository page for `Surajkumar4-source/lab4`. The file `lab4/results.txt` is selected, showing the commit `8e9f487` with the message `again changes`. The file content is displayed as follows:

```
1 First line written from the Github UI.
2
3 Second line is written from the GIT terminal
4
5 Now again 3rd line written from github ui.
6
7 Now again 4th line is written from git terminal.
```

Stage and Commit the Local Changes



The screenshot shows a terminal window on the left and a web browser on the right. The terminal window displays the following commands and output:

```
To https://github.com/Surajkumar4-source/lab4
de6c129..8e9f487 main -> main

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ nano results.txt

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ cat results.txt
First line written from the Github UI.

Second line is written from the GIT terminal

Now again 3rd line written from github ui.

Now again 4th line is written from git terminal.

some more changes from git terminal locally

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git pull origin
Already up to date.

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git add .

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git commit -m "more changes"
[main f063395] more changes
1 file changed, 2 insertions(+)

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git pull origin
Already up to date.

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$ git push origin
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), 320 bytes | 320.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/Surajkumar4-source/lab4
8e9f487..f063395 main -> main

hp@DESKTOP-D43MQE9 MINGW64 ~/Assig-3_suraj/lab4 (main)
$
```

The web browser shows the GitHub repository page for `Surajkumar4-source/lab4`. The file `lab4/results.txt` is selected, showing the commit `f063395` with the message `more changes`. The file content is displayed as follows:

```
1 First line written from the Github UI.
2
3 Second line is written from the GIT terminal
4
5 Now again 3rd line written from github ui.
6
7 Now again 4th line is written from git terminal.
8
9 some more changes from git terminal locally
```

Q3. Create a local repository in a directory named hpcsas. Create a file and commit. Create a new repository on Github by name demo1. Link the local repository to the remote repository. Perform git pull. Create a new file by name index.html on local repository and then push it to the remote demo1 repository.

Following are the steps to implement:-

1. Create a Local Repository in a Directory name hpcsas
2. Initialize the Local Repository.
3. Create a File and Commit.

```
MINGW64:/c/Users/hp/Assig-3/hpcsas
hp@DESKTOP-D4JMQE9 MINGW64 ~ (master)
$ mkdir Assig-3

hp@DESKTOP-D4JMQE9 MINGW64 ~ (master)
$ cd Assig-3/

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3 (master)
$ mkdir hpcsas

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3 (master)
$ cd hpcsas/

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git init
Initialized empty Git repository in C:/Users/hp/Assig-3/hpcsas/.git/

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ echo "This is the first line of a file from git terminal" > suraj.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ ls
suraj.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git add .
warning: in the working copy of 'suraj.txt', LF will be replaced by CRLF the next time Git touches it

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git commit -m "first commit"
[master (root-commit) 382beed] first commit
1 file changed, 1 insertion(+)
create mode 100644 suraj.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git remote add origin https://github.com/Surajkumar4-source/demo1.git
```

4. Create a New Repository on GitHub Named demo1
5. Link the Local Repository to the Remote Repository
6. Perform a git pull (to Fetch Changes from GitHub)
7. Create a New File Named index.html Locally
8. Stage and Commit index.html

```
MINGW64:/c/Users/hp/Assig-3/hpcsasuraj.txt
1 file changed, 1 insertion(+)
create mode 100644 suraj.txt

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git remote add origin https://github.com/Surajkumar4-source/demo1.git

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git pull origin main
fatal: couldn't find remote ref main

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ git pull origin master
fatal: couldn't find remote ref master

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ echo "<!DOCTYPE html><html><body><h1>Hello, From Suraj </h1></body></html>" > index.html
bash: !DOCTYPE: event not found

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ cat index.html
cat: index.html: No such file or directory

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ echo "<html><body><h1>Hello, From Suraj </h1></body></html>" > index.html

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcsas (master)
$ cat index.html
<html><body><h1>Hello, From Suraj </h1></body></html>
```

9. Push index.html to the Remote demo1 Repository on GitHub

```
hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ git add index.html
warning: in the working copy of 'index.html', LF will be replaced by CRLF the next time Git touches it

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ git commit -m "Added index.html to the repository"
[master f655164] Added index.html to the repository
1 file changed, 1 insertion(+)
create mode 100644 index.html

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ git push origin main
error: src refspec main does not match any
error: failed to push some refs to 'https://github.com/Surajkumar4-source/demo1.git'

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ ^C

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ git branch
* master

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ git push origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 574 bytes | 114.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Surajkumar4-source/demo1.git
 * [new branch]      master -> master

hp@DESKTOP-D4JMQE9 MINGW64 ~/Assig-3/hpcs (master)
$ |
```


Final Output

The screenshot shows a GitHub repository page for 'Surajkumar4-source / demo1'. The browser's address bar shows the repository URL. The repository is a public repository with 0 stars, 0 forks, 1 watching, 1 branch, and 0 tags. The repository is currently on the 'master' branch. The commit history shows two commits: 'index.html' added 1 minute ago and 'suraj.txt' added 10 minutes ago. The repository has a README file, which is currently empty, and a button to 'Add a README' is visible at the bottom.

Surajkumar4-source / demo1

Code Issues Pull requests Actions Projects Wiki Security

0 stars 0 forks 1 watching 1 Branch 0 Tags Activity

Public repository

master Go to file + <> Code

Surajkumar4-source Added index.html to the repository f655164 · 1 minute ago

index.html	Added index.html to the repository	1 minute ago
suraj.txt	first commit	10 minutes ago

README

Add a README

Help people interested in this repository understand your project by adding a README.

Add a README

Q3. Create a container using ubuntu image. Install python in it. Save the container as a image. Delete earlier container. Create a new container and run python in it.

1. Create a container using the Ubuntu image
2. Install Python inside the container
3. Save the container as an image
4. Delete the earlier container
5. Create a new container using the saved image
6. Run Python inside the new container

Final Output

```
root@c1da85ed05e5: /
b300dbdc4140  httpd          "httpd-foreground"      38 hours ago
  Exited (255) 7 minutes ago  0.0.0.0:6500->80/tcp, :::6500->80/t
cp  suraj_container
hduser@suraj:~$ sudo docker rm fe76f2aa5571 110fd41b0015 b300dbdc4
140
fe76f2aa5571
110fd41b0015
b300dbdc4140
hduser@suraj:~$
hduser@suraj:~$ sudo docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
Digest: sha256:99c35190e22d294cdace2783ac55effc69d32896daaa265f0bbe
dbcde4fbe3e5
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest
hduser@suraj:~$ sudo docker run -it --name python-container ubuntu
root@c1da85ed05e5:/# apt-get update
apt-get install -y python3
python3 --version
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [1
26 kB]
```

```
Running hooks in /etc/ca-certificates/update.d...
done.
Python 3.12.3
root@c1da85ed05e5:/# sudo docker commit python-container python-with-
h-python3
bash: sudo: command not found
root@c1da85ed05e5:/# exit
exit
hduser@suraj:~$ sudo docker commit python-container python-with-pyt
hon3
sha256:5c058a339d2a43228a30b0cea155a1bc1cd7b5641b402ddb021a918be28c
15f5
hduser@suraj:~$ sudo docker rm -f python-container
python-container
hduser@suraj:~$ sudo docker run -it python-with-python3
root@calb726bf324:/# python3
Python 3.12.3 (main, Sep 11 2024, 14:17:37) [GCC 13.2.0] on linux
Type "help", "copyright", "credits" or "license" for more informati
on.
>>> print("Hello from Suraj")
Hello from Suraj
>>> 
```

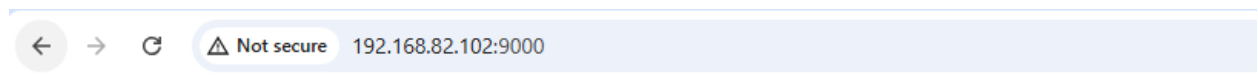
4. Create a container using httpd image. Map outside port 9000. open localhost:9000 on your docker machine. It should display It Works message.

1. Pull the httpd image
2. Run a container using the httpd image
3. Access the web server on localhost:9000
4. Access the web server on localhost:9000

```
hduser@suraj: ~  
hduser@suraj:~$ sudo docker pull httpd  
Using default tag: latest  
latest: Pulling from library/httpd  
a480a496ba95: Pull complete  
3a2663e66670: Pull complete  
4f4fb700ef54: Pull complete  
dbde712f81fb: Pull complete  
867b2ea3628d: Pull complete  
6bd9d3710aae: Pull complete  
Digest: sha256:bbea29057f25d9543e6a96a8e3cc7c7c937206d20eab2323f478fdb  
2469d536d  
Status: Downloaded newer image for httpd:latest  
docker.io/library/httpd:latest  
hduser@suraj:~$
```

```
hduser@suraj:~$ docker run --name webserver -d -p 9000:80 httpd
12431dbc0a81a844992b339051f0b8bef28f25d688d6ff72894c1d30b506a960
hduser@suraj:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
12431dbc0a81   httpd     "httpd-foreground"      3 seconds ago Up 2 seconds  0.0.0.0:9000->80/tcp, :::9000->80/tcp  webserver
hduser@suraj:~$ curl http://webserver:9000
curl: (6) Could not resolve host: webserver
hduser@suraj:~$ curl http://localhost:9000
<html><body><h1>It works!</h1></body></html>
hduser@suraj:~$
```

Final output



It works!