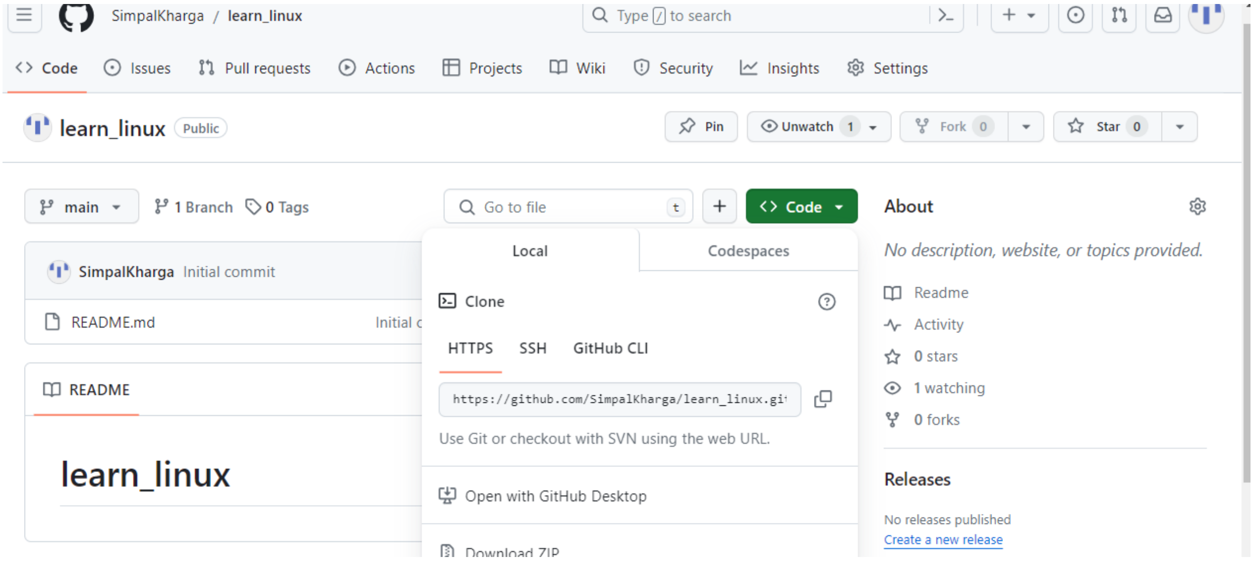
GIT Hands on Lab 01.

Deadline :- ***<u>03 Jan 2024 till 3:00 PM</u>***

1. Establish a local repository for your project with a descriptive name. Set up Git configurations by adding a username and email address. Display and modify the Git configurations, and verify if the changes are reflected in the .git/config file post-editing. Showcase the utilization of both Git Local and Global configurations.

Answer:-

Below is the local repository created on GIT hub:-



learn_linux

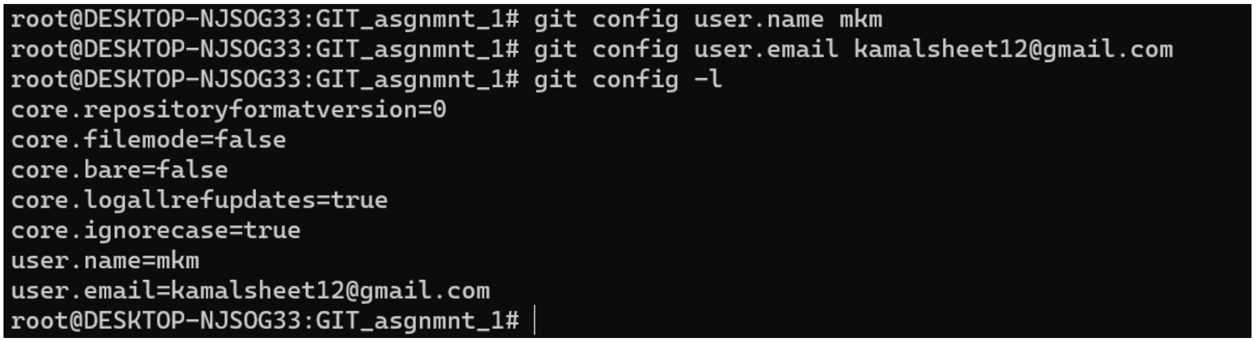
```
https://github.com/SimpalKharga/learn_linux.gi
```

Use Git or checkout with SVN using the web URL.

No description, website, or topics provided.

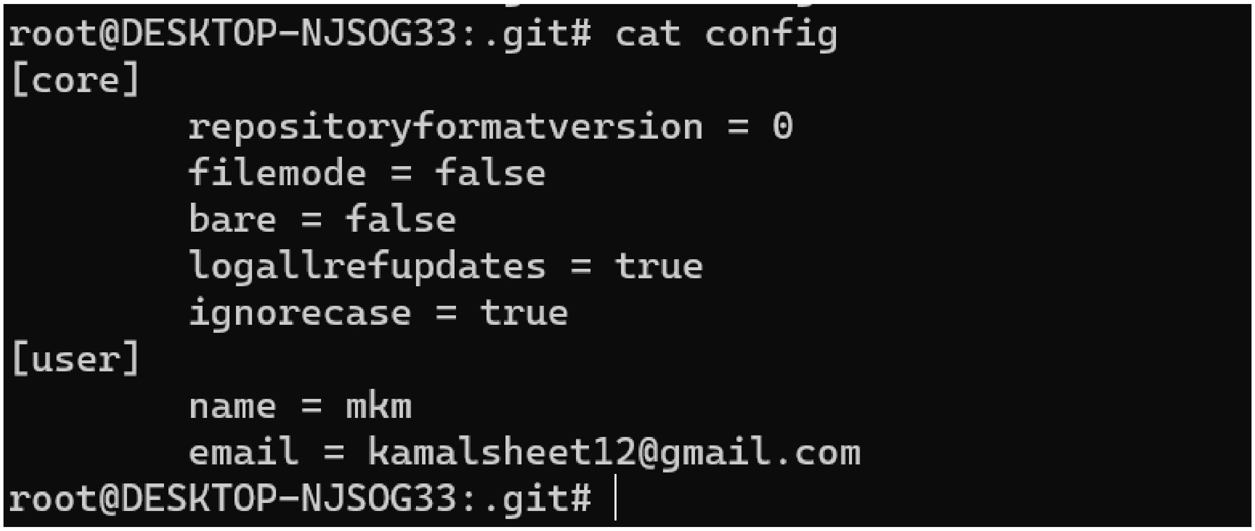
No releases published

Setting up GIT configuration by adding up user_name and email_address.:-



```
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git config user.name mkm
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git config user.email kamalsheet12@gmail.com
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git config -l
core.repositoryformatversion=0
core.filemode=false
core.bare=false
core.logallrefupdates=true
core.ignorecase=true
user.name=mkm
user.email=kamalsheet12@gmail.com
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# 
```

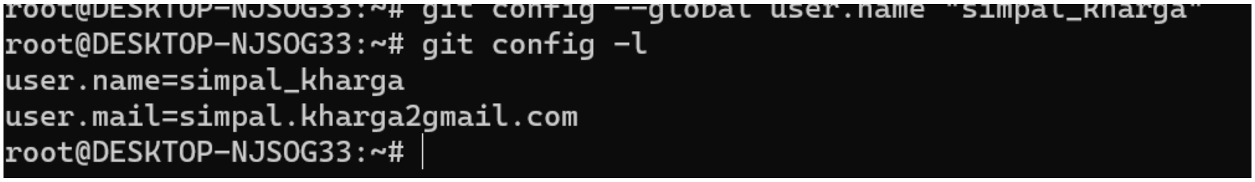
Below displaying and modifying the Git configurations, and verifying if the changes are reflected in the .git/config file post-editing.



```
root@DESKTOP-NJSOG33:.git# cat config
[core]
        repositoryformatversion = 0
        filemode = false
        bare = false
        logallrefupdates = true
        ignorecase = true
[user]
        name = mkm
        email = kamalsheet12@gmail.com
root@DESKTOP-NJSOG33:.git# 
```

Showcase the utilization of both Git Local and Global configurations.

Note:- for global configuration we need to do the changes under root i.e. “vim ~/.gitconfig”



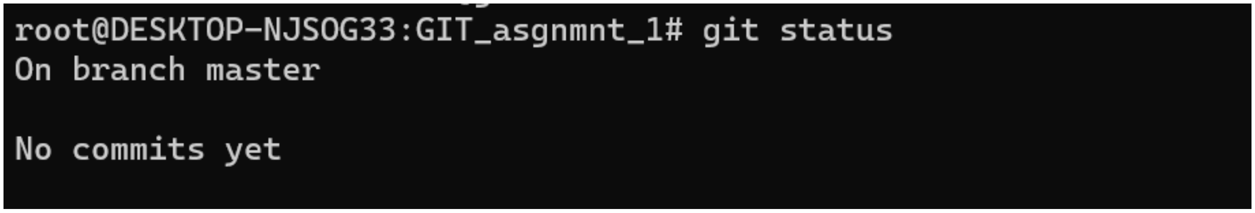
```
root@DESKTOP-NJSOG33:~# git config --global user.name "simpal_kharga"
root@DESKTOP-NJSOG33:~# git config -l
user.name=simpal_kharga
user.mail=simpal.kharga2gmail.com
root@DESKTOP-NJSOG33:~# 
```

2. Set up a local repository for your project with a meaningful name. Explore the default branch in the local Git repository. Sequentially create five files, committing each with informative messages. Share the Git log output through multiple methods once the process is complete.

ANSWER:-
Already I have created a local repository named learn_linux as mentioned in answer 1,

The default branch in the local Git repository :-

By default Git initializes branch typically named “master” and in some repositories as “main”.



```
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git status
On branch master

No commits yet
```

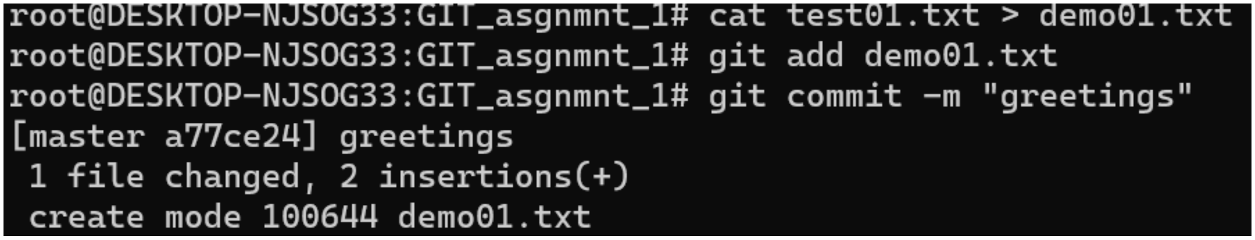
To check the branch you are currently in use:-
<git branch>

To list all branch :-
<git branch –a>

To switch to master :-
git checkout master.

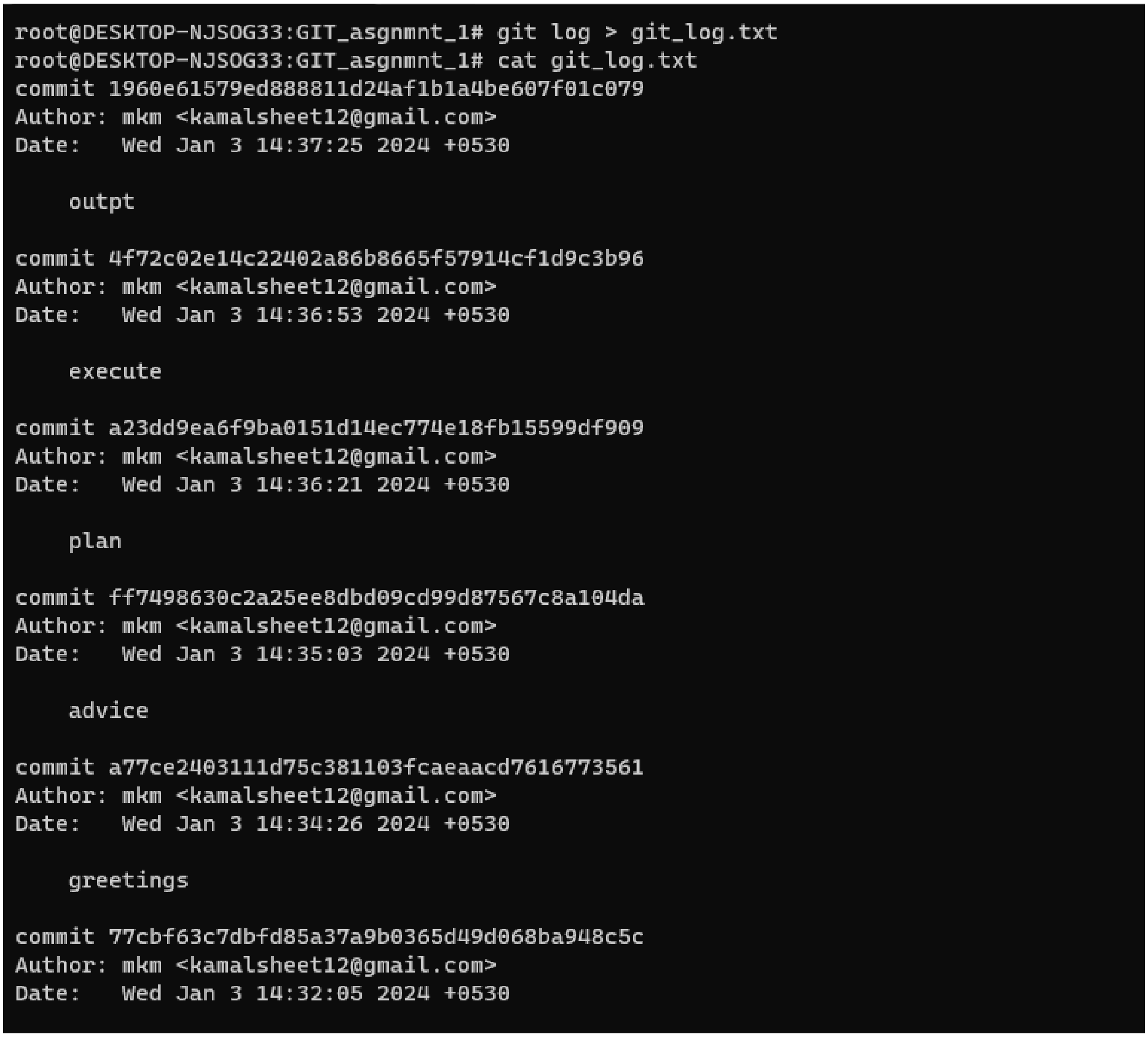
Sequentially create five files, committing each with informative messages.

a) Below is one of the 5 examples of how we've created a local Git repository,
b)added five files to it
c)and committed each file with informative messages.



```
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# cat test01.txt > demo01.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git add demo01.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git commit -m "greetings"
[master a77ce24] greetings
 1 file changed, 2 insertions(+)
 create mode 100644 demo01.txt
```

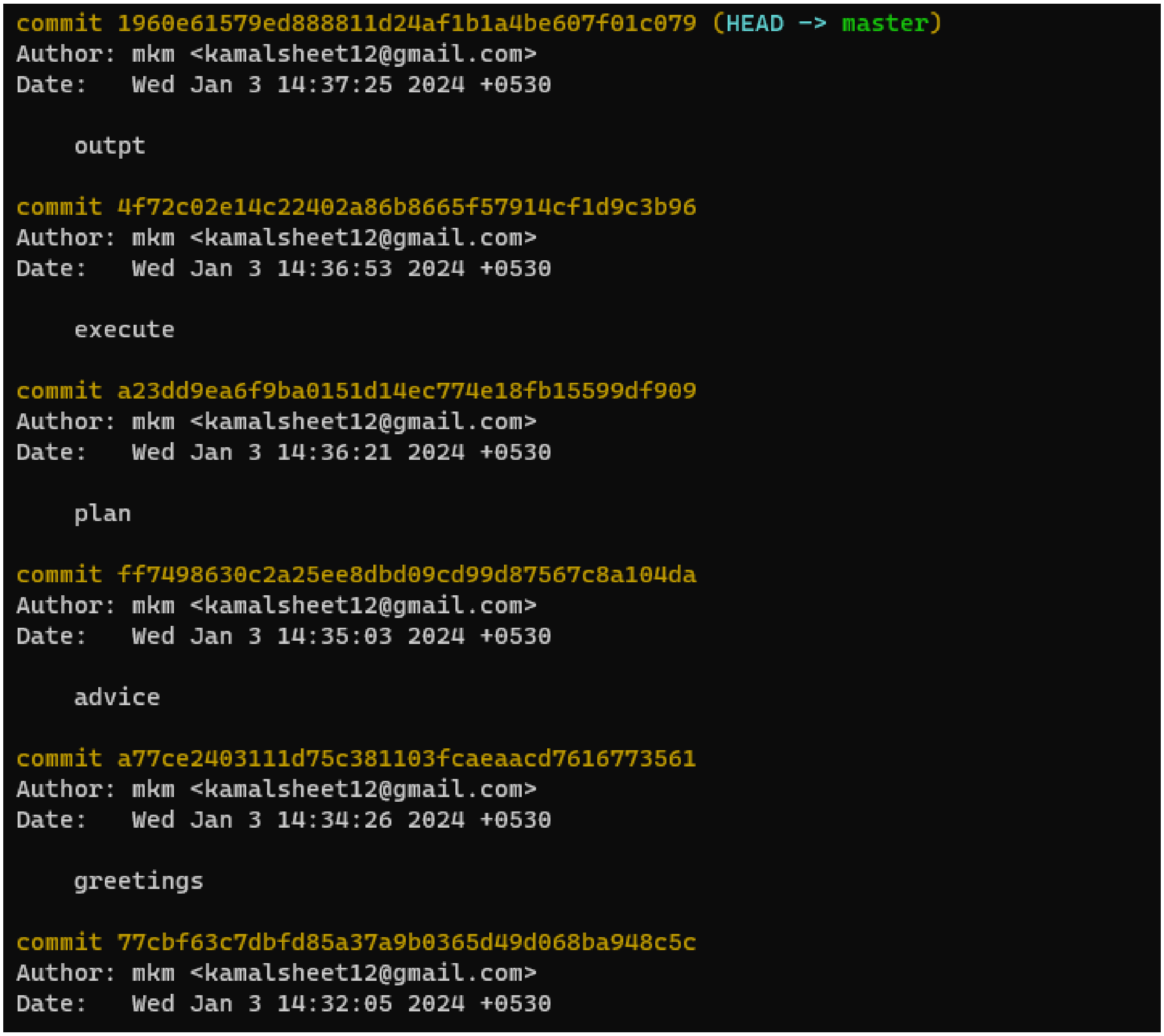
Share the Git log output through multiple methods once the process is complete:-



```
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git log > git_log.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# cat git_log.txt
commit 1960e61579ed888811d24af1b1a4be607f01c079
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:37:25 2024 +0530

    outpt

commit 4f72c02e14c22402a86b8665f57914cf1d9c3b96
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:36:53 2024 +0530

    execute

commit a23dd9ea6f9ba0151d14ec774e18fb15599df909
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:36:21 2024 +0530

    plan

commit ff7498630c2a25ee8dbd09cd99d87567c8a104da
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:35:03 2024 +0530

    advice

commit a77ce2403111d75c381103fcaeaacd7616773561
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:34:26 2024 +0530

    greetings

commit 77cbf63c7dbfd85a37a9b0365d49d068ba948c5c
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:32:05 2024 +0530
```

Method 2:

using <git log>



```
commit 1960e61579ed888811d24af1b1a4be607f01c079 (HEAD -> master)
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:37:25 2024 +0530

    outpt

commit 4f72c02e14c22402a86b8665f57914cf1d9c3b96
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:36:53 2024 +0530

    execute

commit a23dd9ea6f9ba0151d14ec774e18fb15599df909
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:36:21 2024 +0530

    plan

commit ff7498630c2a25ee8dbd09cd99d87567c8a104da
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:35:03 2024 +0530

    advice

commit a77ce2403111d75c381103fcaeaacd7616773561
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:34:26 2024 +0530

    greetings

commit 77cbf63c7dbfd85a37a9b0365d49d068ba948c5c
Author: mkm <kamalsheet12@gmail.com>
Date:   Wed Jan 3 14:32:05 2024 +0530
```

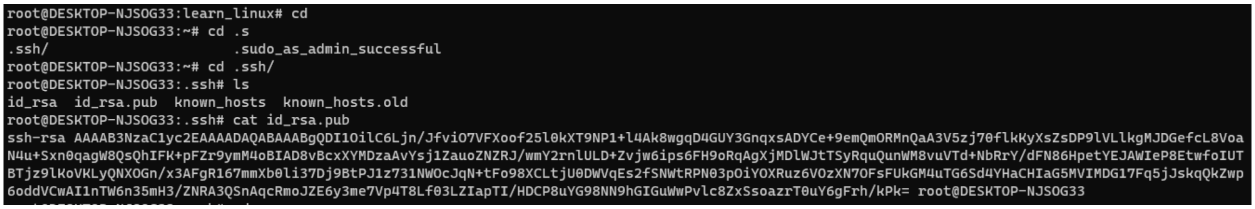
3. Open a GitHub account and initiate a remote Git repository. Examine the default branch in the remote repository. Create and commit the following files one by one with meaningful commit messages:

i. README.md
ii. send_disk_alert.sh
iii. create_users.sh
iv. check_service.sh.

ANSWER:-

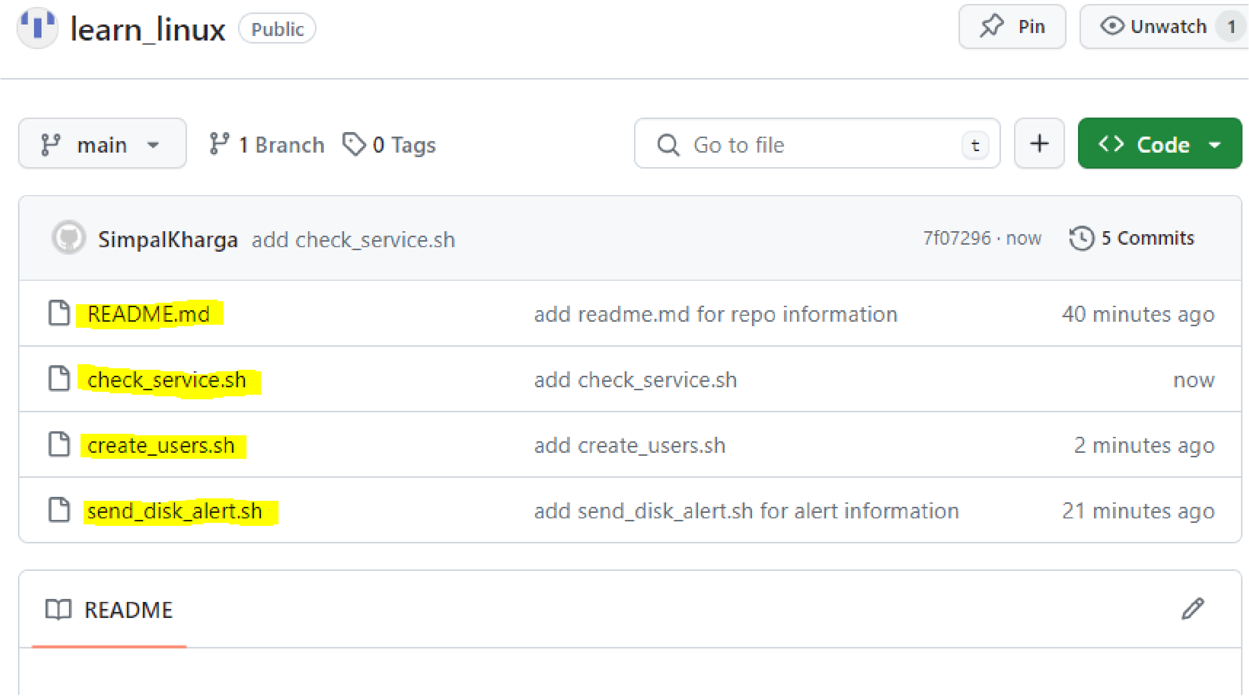
First we need to establish the relation between remote machine to git hub account:-

Use the ssh key from “code” section on github.com , but before that do copy yoir local terminal ssh key to the github account.



```
root@DESKTOP-NJSOG33:learn_linux# cd
root@DESKTOP-NJSOG33:~# cd .s
.ssh/                        .sudo_as_admin_successful
root@DESKTOP-NJSOG33:~# cd .ssh/
root@DESKTOP-NJSOG33:.ssh# ls
id_rsa  id_rsa.pub  known_hosts  known_hosts.old
root@DESKTOP-NJSOG33:.ssh# cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQDI1OilC6Ljn/JfviO7VFXoof25l0kXT9NP1+l4Ak8wgqD4GUY3GnqxsADYCe+9emQmORMnQaA3V5zj70flkKyXsZsDP9lVLlkgMJDGefcL8Voa
N4u+Sxn0qagW8QsQhIFK+pFZr9ymM4oBIAD8vBcxXYMDzaAvYsj1ZauoZNZRJ/wmY2rnlULD+Zvjw6ips6FH9oRqAgXjMDlWJtTSyRquQunWM8vuVTd+NbRrY/dFN86HpetYEJAWIeP8EtwfoIUT
BTjz9lKoVKLyQNXOGn/x3AFgR167mmXb0li37Dj9BtPJ1z731NWOcJqN+tFo98XCLtjU0DWVqEs2fSNWtRPN03pOiYOXRuz6VOzXN7OFsFUkGM4uTG6Sd4YHaCHIaG5MVIMDG17Fq5jJskqQkZwp
6oddVCwAI1nTW6n35mH3/ZNRA3QSnAqcRmoJZE6y3me7Vp4T8Lf03LZIapTI/HDCP8uYG98NN9hGIGuWwPvlc8ZxSsoazrT0uY6gFrh/kPk= root@DESKTOP-NJSOG33
```

Created and committed the following files one by one.



SimpalKharga add check_service.sh 7f07296 · now 5 Commits

README.md	add readme.md for repo information	40 minutes ago
check_service.sh	add check_service.sh	now
create_users.sh	add create_users.sh	2 minutes ago
send_disk_alert.sh	add send_disk_alert.sh for alert information	21 minutes ago

4. Establish a local repository for your project with a descriptive name. Illustrate the implementation of a Git-Ignore file by committing multiple files to the local repository.

ANSWER:-

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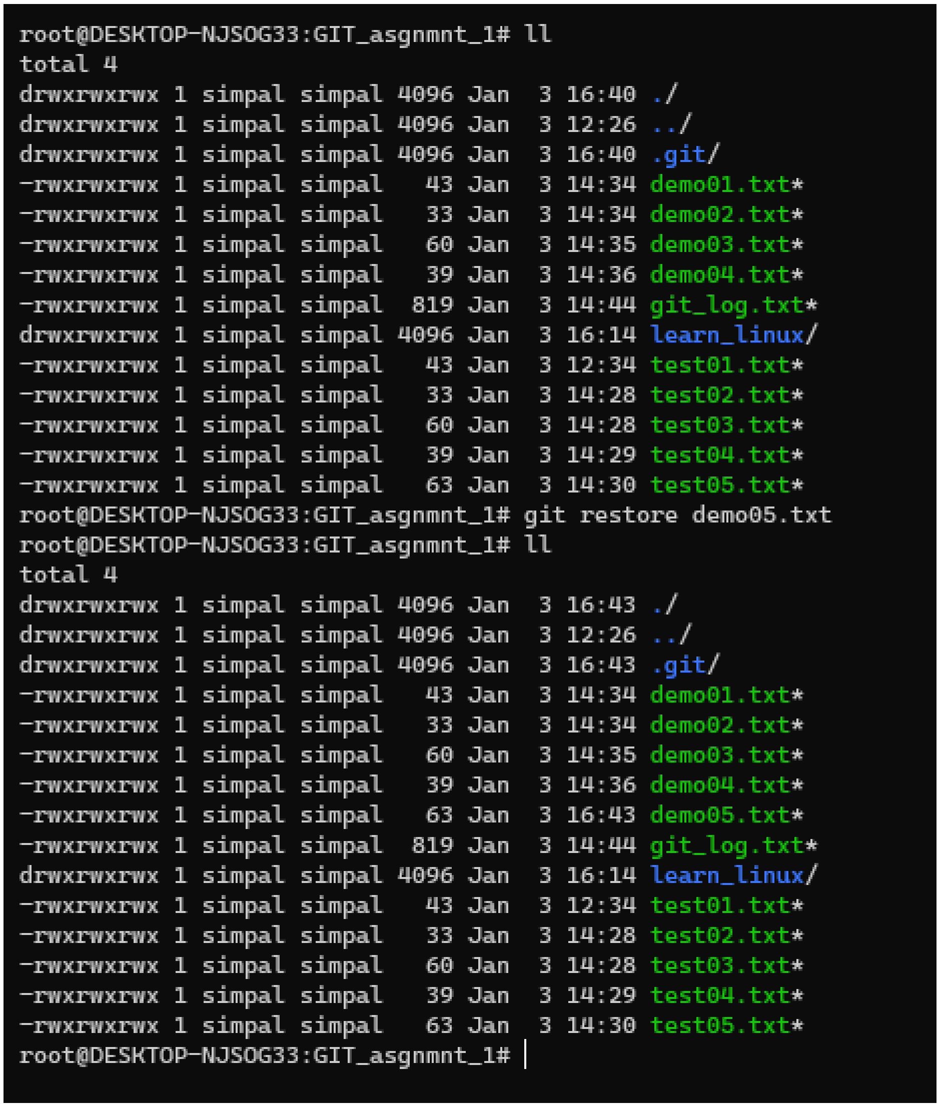
5. Create a local repository with a meaningful project name. Demonstrate the utilization of GIT working area, staging area, and commit area. Experiment with committing, deleting, and restoring files from the repository. Additionally, add files to the staging area and restore them from the staging area.

like 3

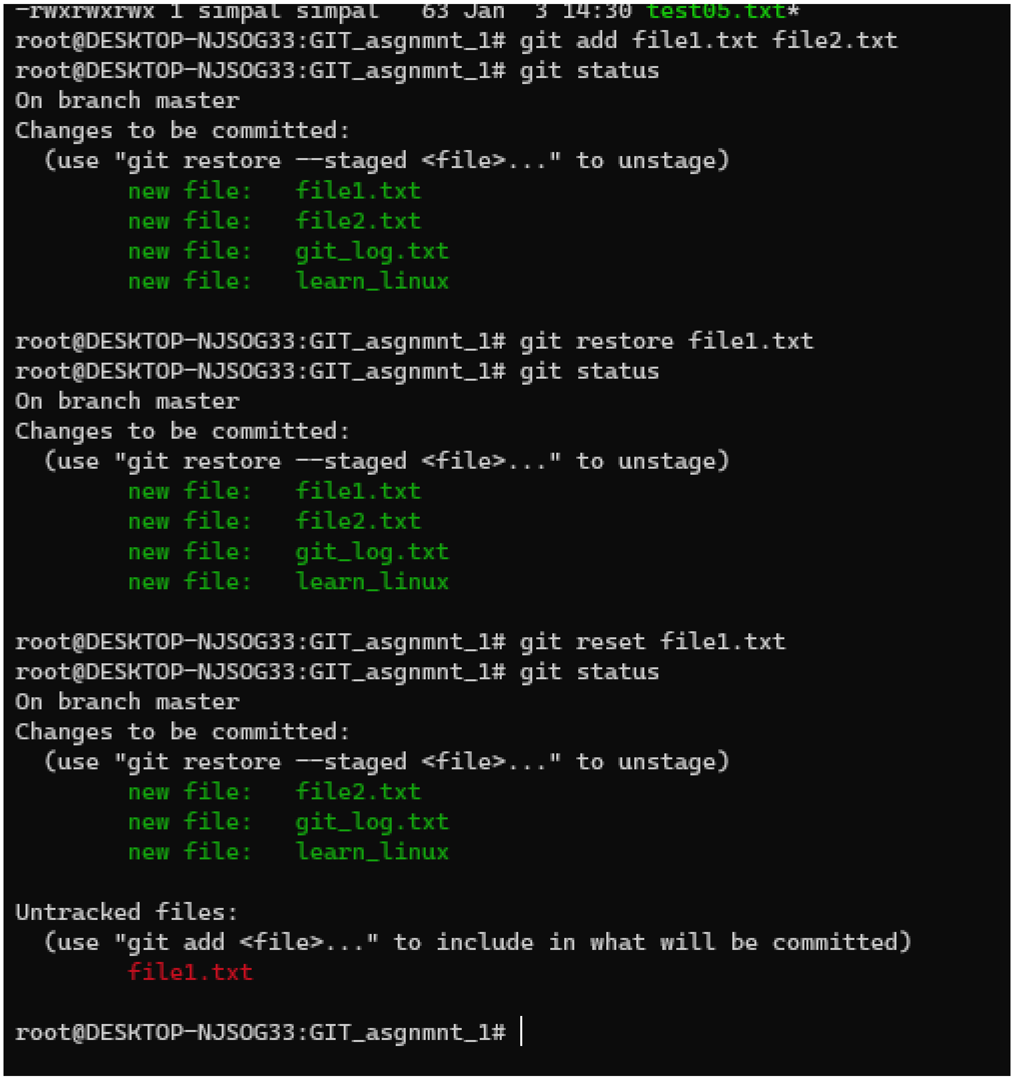
ANSWER:-

Experiment with committing, deleting, and restoring files from the repository:-



```
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# ll
total 4
drwxrwxrwx 1 simpal simpal 4096 Jan  3 16:40 ./
drwxrwxrwx 1 simpal simpal 4096 Jan  3 12:26 ../
drwxrwxrwx 1 simpal simpal 4096 Jan  3 16:40 .git/
-rwxrwxrwx 1 simpal simpal   43 Jan  3 14:34 demo01.txt*
-rwxrwxrwx 1 simpal simpal   33 Jan  3 14:34 demo02.txt*
-rwxrwxrwx 1 simpal simpal   60 Jan  3 14:35 demo03.txt*
-rwxrwxrwx 1 simpal simpal   39 Jan  3 14:36 demo04.txt*
-rwxrwxrwx 1 simpal simpal  819 Jan  3 14:44 git_log.txt*
drwxrwxrwx 1 simpal simpal 4096 Jan  3 16:14 learn_linux/
-rwxrwxrwx 1 simpal simpal   43 Jan  3 12:34 test01.txt*
-rwxrwxrwx 1 simpal simpal   33 Jan  3 14:28 test02.txt*
-rwxrwxrwx 1 simpal simpal   60 Jan  3 14:28 test03.txt*
-rwxrwxrwx 1 simpal simpal   39 Jan  3 14:29 test04.txt*
-rwxrwxrwx 1 simpal simpal   63 Jan  3 14:30 test05.txt*
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git restore demo05.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# ll
total 4
drwxrwxrwx 1 simpal simpal 4096 Jan  3 16:43 ./
drwxrwxrwx 1 simpal simpal 4096 Jan  3 12:26 ../
drwxrwxrwx 1 simpal simpal 4096 Jan  3 16:43 .git/
-rwxrwxrwx 1 simpal simpal   43 Jan  3 14:34 demo01.txt*
-rwxrwxrwx 1 simpal simpal   33 Jan  3 14:34 demo02.txt*
-rwxrwxrwx 1 simpal simpal   60 Jan  3 14:35 demo03.txt*
-rwxrwxrwx 1 simpal simpal   39 Jan  3 14:36 demo04.txt*
-rwxrwxrwx 1 simpal simpal   63 Jan  3 16:43 demo05.txt*
-rwxrwxrwx 1 simpal simpal  819 Jan  3 14:44 git_log.txt*
drwxrwxrwx 1 simpal simpal 4096 Jan  3 16:14 learn_linux/
-rwxrwxrwx 1 simpal simpal   43 Jan  3 12:34 test01.txt*
-rwxrwxrwx 1 simpal simpal   33 Jan  3 14:28 test02.txt*
-rwxrwxrwx 1 simpal simpal   60 Jan  3 14:28 test03.txt*
-rwxrwxrwx 1 simpal simpal   39 Jan  3 14:29 test04.txt*
-rwxrwxrwx 1 simpal simpal   63 Jan  3 14:30 test05.txt*
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# 
```

Additionally, add files to the staging area and restore them from the staging area:-



```
-rwxrwxrwx 1 simpal simpal   63 Jan  3 14:30 test05.txt*
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git add file1.txt file2.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   file1.txt
        new file:   file2.txt
        new file:   git_log.txt
        new file:   learn_linux

root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git restore file1.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   file1.txt
        new file:   file2.txt
        new file:   git_log.txt
        new file:   learn_linux

root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git reset file1.txt
root@DESKTOP-NJSOG33:GIT_asgnmnt_1# git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   file2.txt
        new file:   git_log.txt
        new file:   learn_linux

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        file1.txt

root@DESKTOP-NJSOG33:GIT_asgnmnt_1# 
```