Name:- Harshi·N·Shah
Roll NO:- 76
Year/Sem:- TE-V
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Experiment No. 3

Aim:- To perform various GIT operations on local and remote repositories using GIT cheatsheet.

Theory:-

Git is an open source distributed version control system. It is designed to handle minor to major projects with high speed and efficiency. It is developed to co-ordinate the work among the developers. The version control allow us to track and work together with our team members at the same workspace.
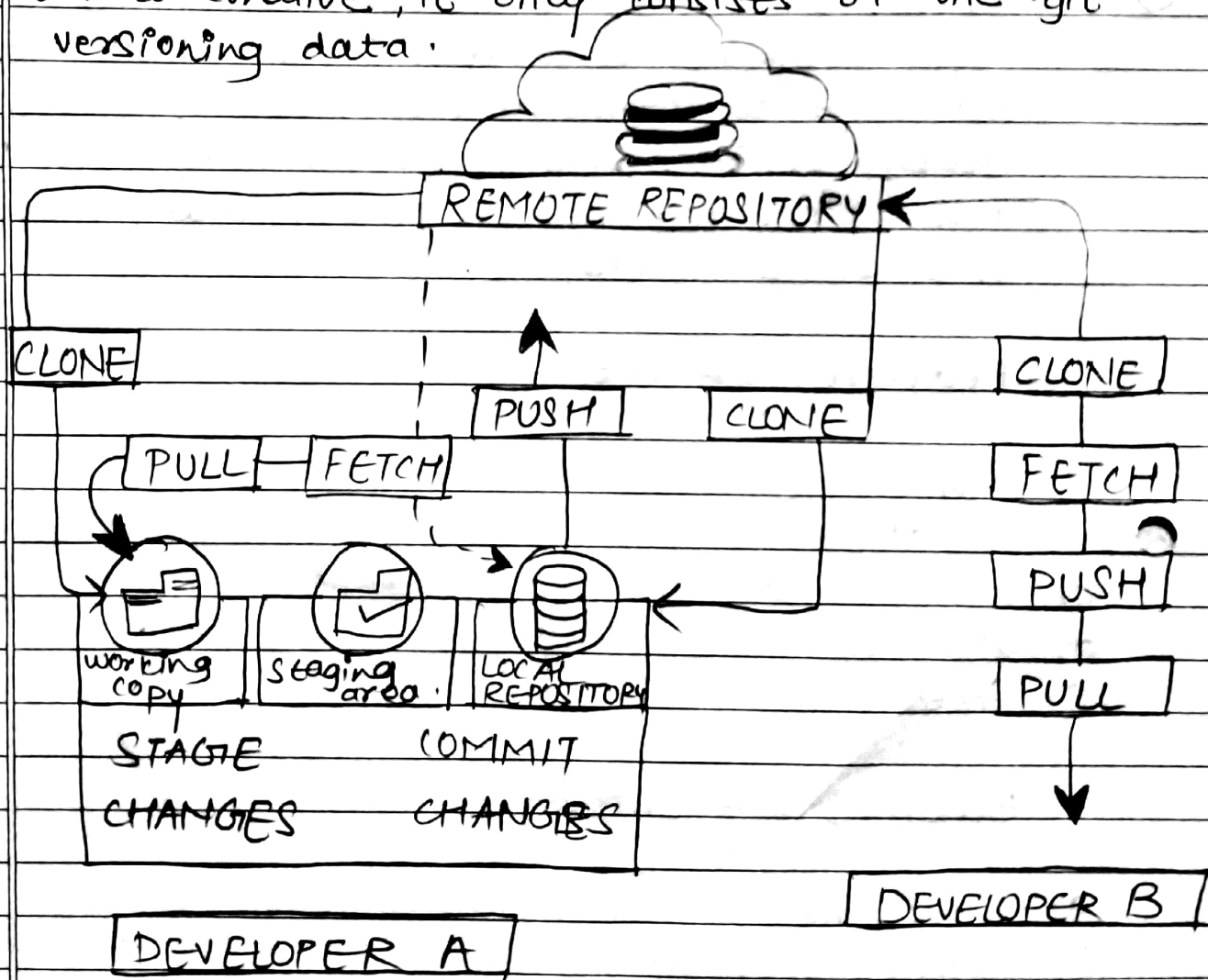
- **Features of Git :-**

a) Open Source.
b) Scalable.
c) Distributed.
d) Security.
e) Speed.

- **Benefits of Git :-**

a) Saves Time.
b) Offline working.
c) Undo mistakes.
d) Track the changes.

In Git, the term remote is concerned with the remote repository. It is a shared repository that all team members use to exchange their changes. A remote repository is stored on a code hosting service like an internal server, GitHub, Subversion, and more. In the case of a local repository, a remote typically does not provide a file tree of the project's current state; as an alternative, it only consists of the .git versioning data.

REMOTE REPOSITORY

CLONE

PUSH   CLONE

CLONE

PULL FETCH

FETCH

PUSH

working copy   staging area   LOCAL REPOSITORY

PULL

STAGE   COMMIT

CHANGES   CHANGES

DEVELOPER B

DEVELOPER A

- **Git cheatsheet :-**

1) Git configuration :
- Git config - Get and sent configuration variables that control all facets to how Git looks and operates.

2) Starting a project :
- Git init - create a local repository.
- Git clone - make a local copy.

3) Local changes :
- Git add - Add a file / files.
- Git commit - Record or snapshots the file permanently in the version history with the message.

4) Track changes :-
- Git diff - Track the changes that have been not staged.
- Git status - Display the state of the working directory and the staging area.

5) Commit History :-
- Git log :- Display the most recent commits and the status of the head.
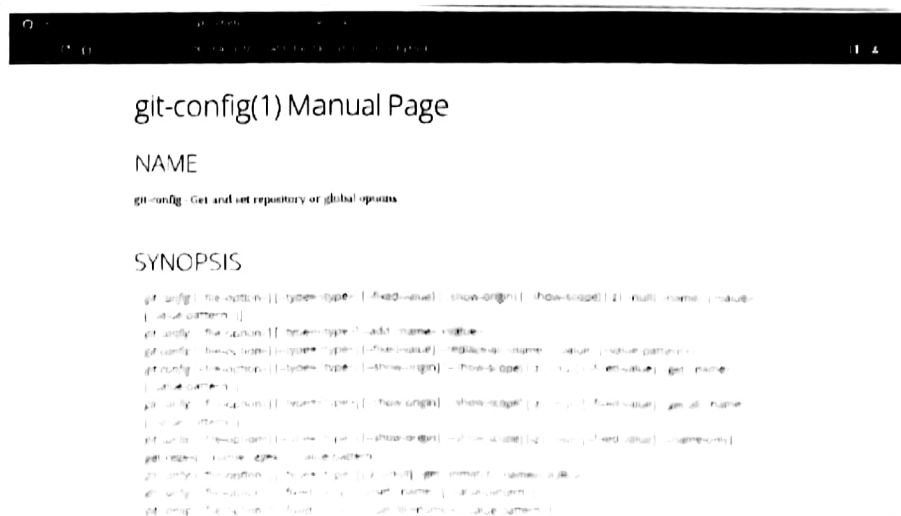
6) Pulling updates :-

- Git pull - Pull the data from the server.
- Git fetch - Download branches and tags from one or more repositories.

* Steps :-

- Step 1 :- commands to check the version.
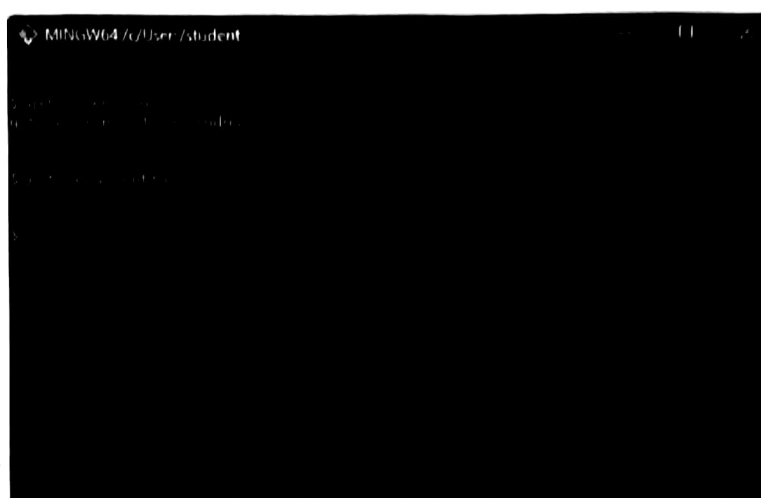
- Step 2 :- After checking the version, while executing the config command this will take you to the manual page.
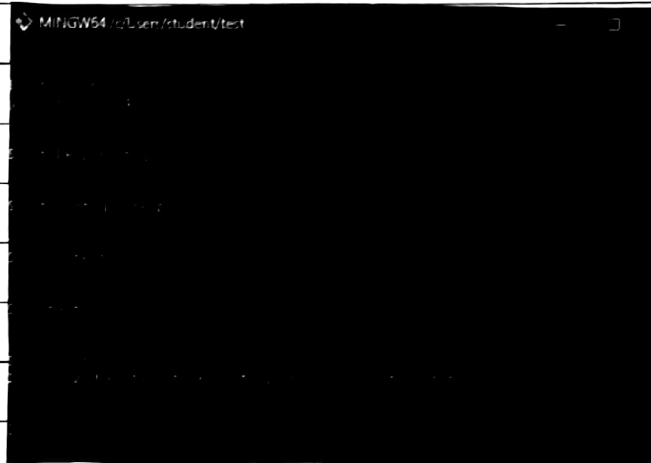

git-config(1) Manual Page

NAME

git-config - Get and set repository or global options

SYNOPSIS

- Step 3:- Make a new directory, change the directory.

- Step 4:- git init command.

- Step 5:- check whether the directory defined, exists properly.

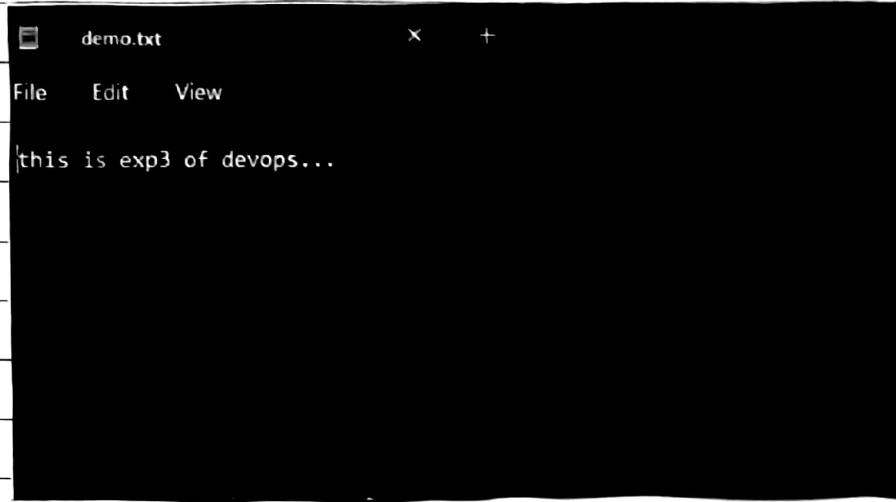This PC > Local Disk (C:) > Users > student > test

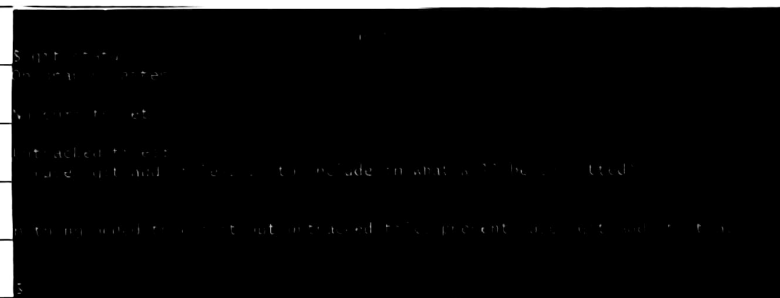- Step 6:- add a demo.txt file.
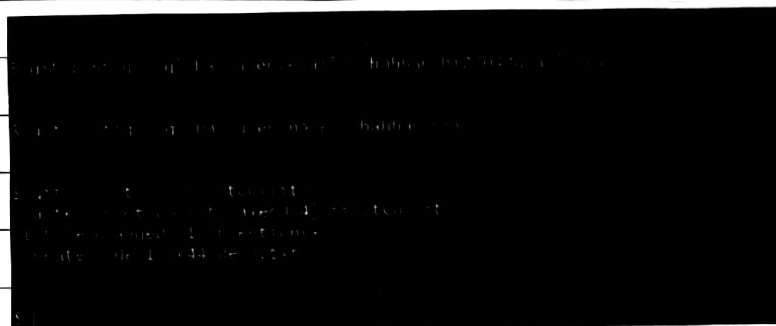
- Step 7 :- add text to the demo file and save it

```
demo.txt                    ×    +

File    Edit    View

this is exp3 of devops...
```

- Step 8 :- after that, check git status.

- Step 9 :- make your first commit

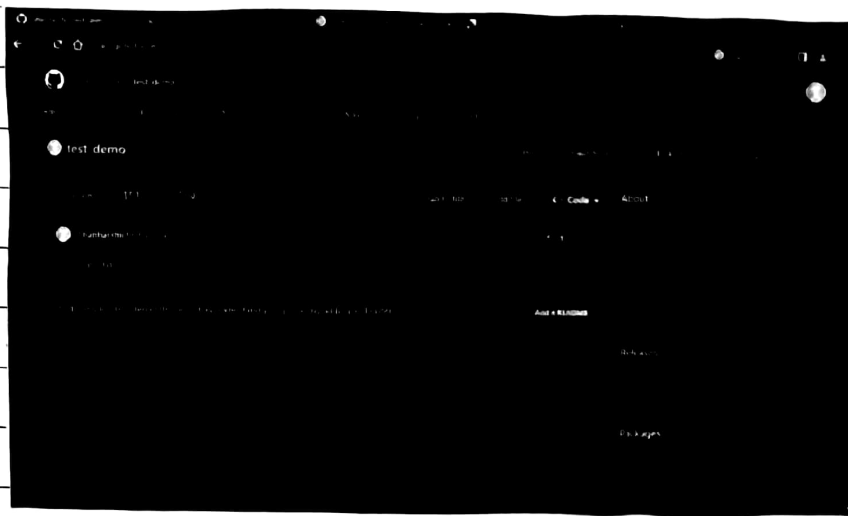- Step 10 :- create a new repository, to your Github account.

- Step 11 :- Fire the query, git remote origin.
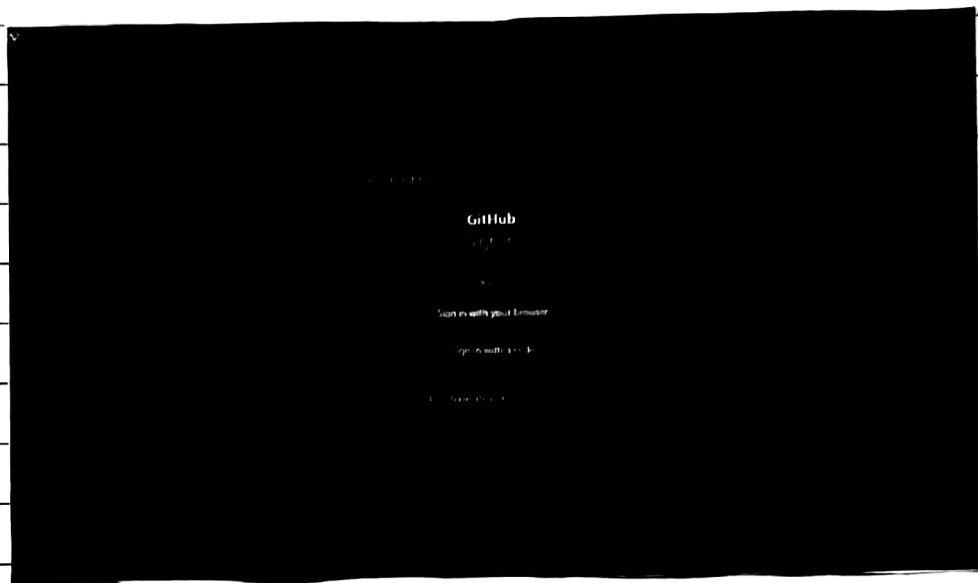
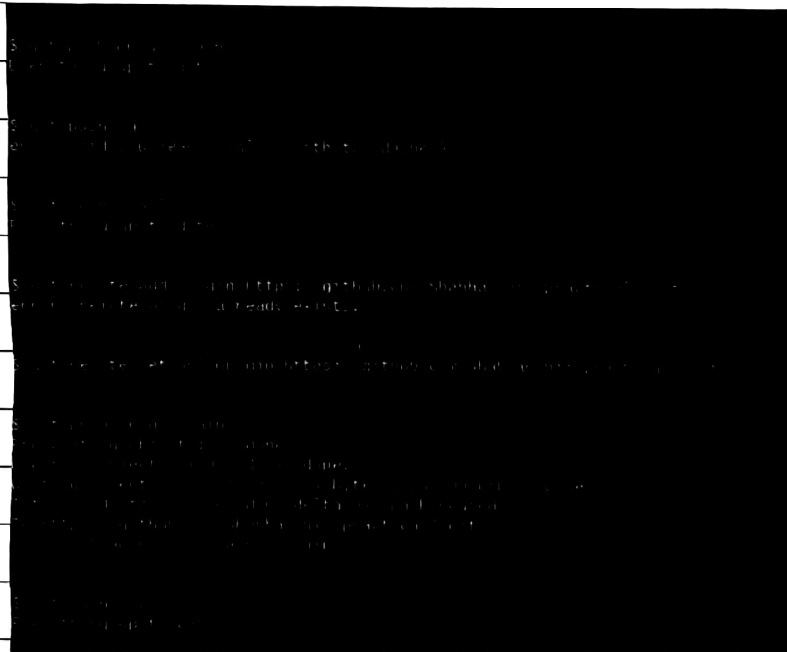- Step 12 :- The text file created should reflect here.

• Step 13: — commands to try, in any case where error occurs.

* Conclusion:— In this experiment, we have studied on various git operations it's features, benefits and worked with remote repositories using Git Cheatsheet.