Name - Parth Mahesh Madrewar
Reg No. - 241080036
Assignment No. 1

Theory -

. What is Open Source?

Open source means the software's code is open to everyone. You can look at how it works, change it, and even share your own version of it. It's free to use and improves over time because lots of people around the world contribute to it.

Example: Linux, Firefox, VLC media player.

---

2. What Tools and Technologies Are Used in Open Source?

People working with open source often use tools like:

- **Git** – to track changes in code.
- **GitHub/GitLab** – to store and share code online.
- **Linux** – an open source operating system.
- **Programming languages** – like Python, JavaScript, or C++.
- **VS Code or Vim** – for writing code.
- **Package managers** – like `apt`, `npm`, or `pip` to install software.

These tools help people collaborate, build, and improve open source projects easily.

3. What's the Difference Between Open Source and Closed Source?

Here's a simple breakdown:

Open Source	Closed Source
You can see and edit the code	Code is hidden and locked
Free to use and share	Often paid or licensed
Anyone can contribute	Only the company can make changes
Examples: Linux, GIMP	Examples: Windows, Photoshop

So, open source is more open and community-driven, while closed source is controlled by companies.

---

4. How Is the Internet Used in Open Source?

The internet is super important for open source. It lets people:

- **Work together** from anywhere in the world.
- **Share updates** or new versions of their software.
- **Learn and get help** through forums, YouTube, or documentation.
- **Report and fix bugs** quickly through online tools like GitHub.

Basically, without the internet, open source wouldn't be what it is today.

---

5. Which Operating System Did We Use in Experiment No. 1?

That depends on your lab or course, but if you used commands like `apt install`, then you were likely using a **Linux-based OS**, probably **Ubuntu** or **Debian**.

6. Why Is Git Called a Version Control System?

Git is called a version control system because it **keeps track of changes** in your files over time.

Imagine writing a big project – Git saves every version so you can:

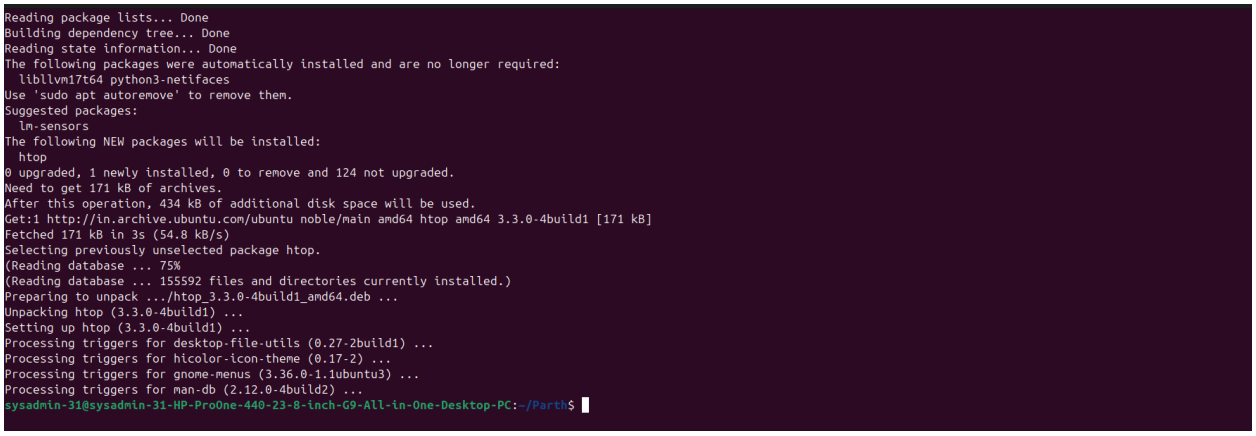
- Go back if something breaks
- See what changed, when, and by who
- Work with others without messing things up

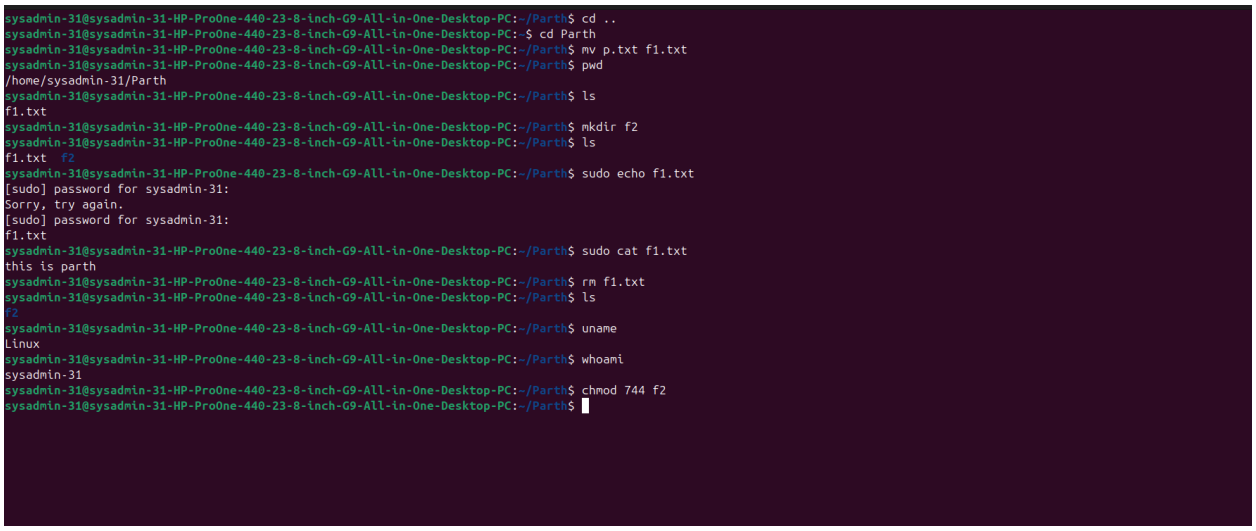
It's like Google Docs for code – with history, teamwork, and backups built in.

Code & Explanation -

1. **mv** – Moves or renames files and directories.
2. **cd** – Changes the current directory.
3. **pwd** – Prints the current working directory (where you are).
4. **ls** or **dir** – Lists files and folders in the current directory.
5. **mkdir** – Creates a new directory (folder).
6. **sudo** – Runs a command with superuser (admin) privileges.
7. **rm -rf** – Forcefully deletes files and directories recursively (use carefully).
8. **cat** – Displays the contents of a file.
9. **uname** – Shows system information (like OS name).
10. **whoami** – Displays the username of the current user.

11. **chmod** – Changes file or directory permissions.
12. **apt install** – Installs software packages on Debian-based systems.
13. **apt-get remove** – Removes installed software (but keeps config files).
14. **sudo apt-get install git** – Installs Git using admin privileges.
15. **git --version** – Shows the installed version of Git.





B) Installing GIT

1. What is Git?

Git is a free and open-source version control system that helps you manage and track changes to files, especially in software development.

- It lets multiple people work on the same project without messing up each other’s work.
- Every change is saved in a timeline, so you can go back to any previous version if needed.

2. What is the Usage of Git?

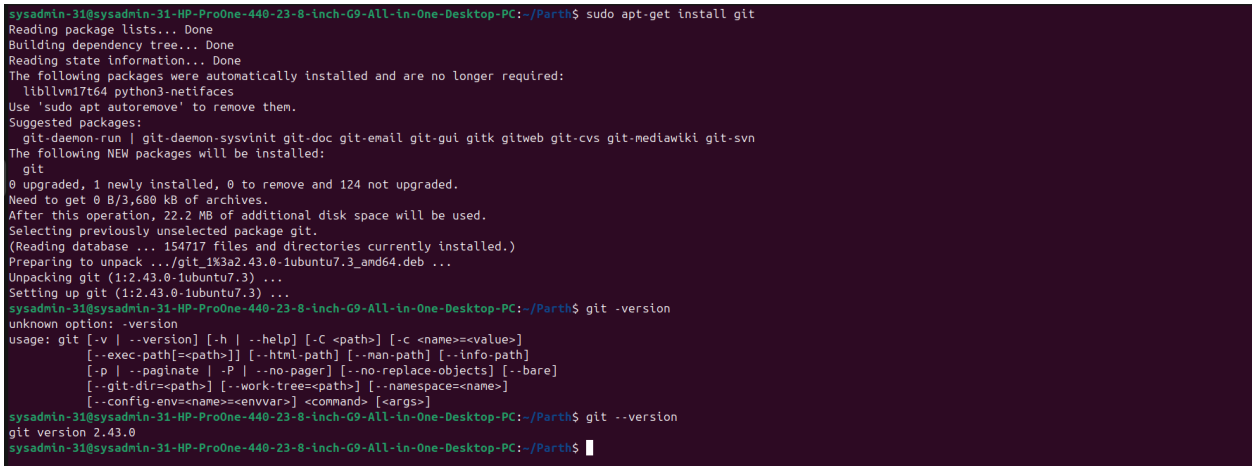
Git is used for:

- ✅ Tracking changes in your project files over time.
- ✅ Collaborating with others without overwriting each other's work.
- ✅ Undoing mistakes by reverting to previous versions.
- ✅ Branching to try out new features or fix bugs without affecting the main project.
- ✅ Syncing projects with remote repositories like GitHub or GitLab.

In short, Git keeps your project organized, safe, and easy to manage—especially when working with teams.

3. What are the commads required to install Git ?

1. sudo apt install git
2. git --version



Conclusion - From this experiment we learnt how to use some of the basic command of linux we also learned how to install git on linux.