Assignment 1

Name : Sanket Kele- SE-B-B2-34

Title : Git & GitHub Fundamentals

Aim of the Practical: To understand and apply the fundamental concepts of Git and GitHub by performing version control operations such as forking a repository, cloning it locally, modifying/creating files, and pushing changes back to the GitHub repository using terminal commands.

Objective:

1. To learn the basics of Git and GitHub.
2. To create and manage repositories.
3. To fork and clone repositories.
4. To create and commit files using Git.
5. To push changes to a remote GitHub repository.
6. To build familiarity with command-line operations for Git.

Explanation of Tasks Performed:

1. Created a GitHub Account:

Signed up at https://github.com with personal details and verified the email.

2. Forked the Instructor's Repository:

Navigated to the provided GitHub repository link shared by the instructor.
Clicked on the "Fork" button to create a copy of the repository under my GitHub account.

3. Cloned the Forked Repository:

Opened the terminal.
Used the command: git clone <URL of my forked repo> to clone the repository locally.

4. Created and Modified Files Locally:

Navigated to the cloned repository folder using terminal.
Created a new file (e.g., my_details.txt) and added relevant content.
Used git add, git commit -m "message" to stage and commit the changes.

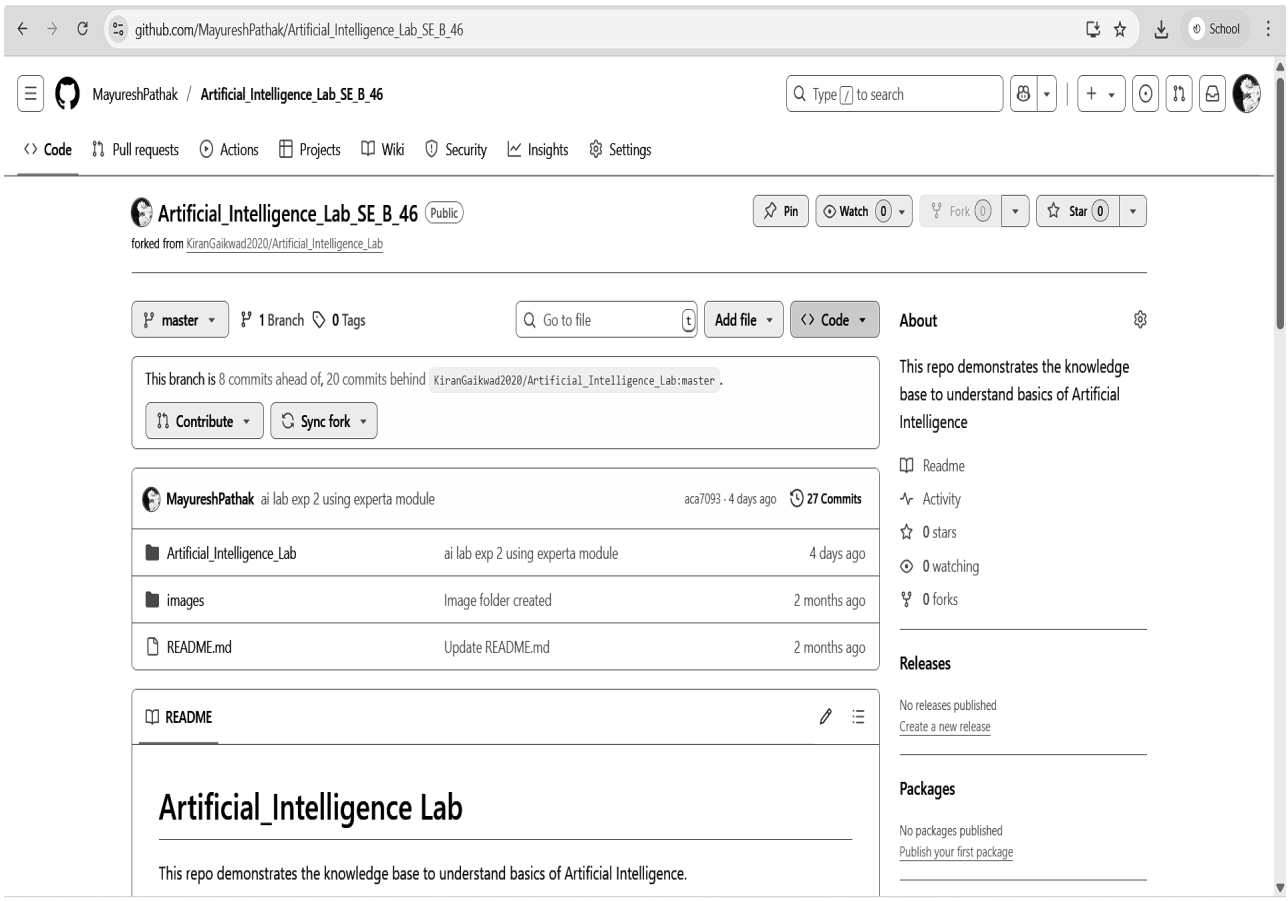
5. Pushed the Changes to GitHub:

Used the command: git push origin main (or master, depending on the default branch) to upload the committed changes to my GitHub repository.

Output Screenshots:

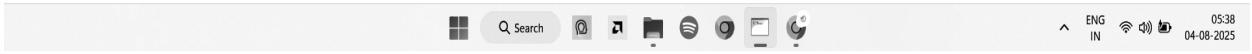
Note :

1. Screenshot of the forked repository on GitHub.



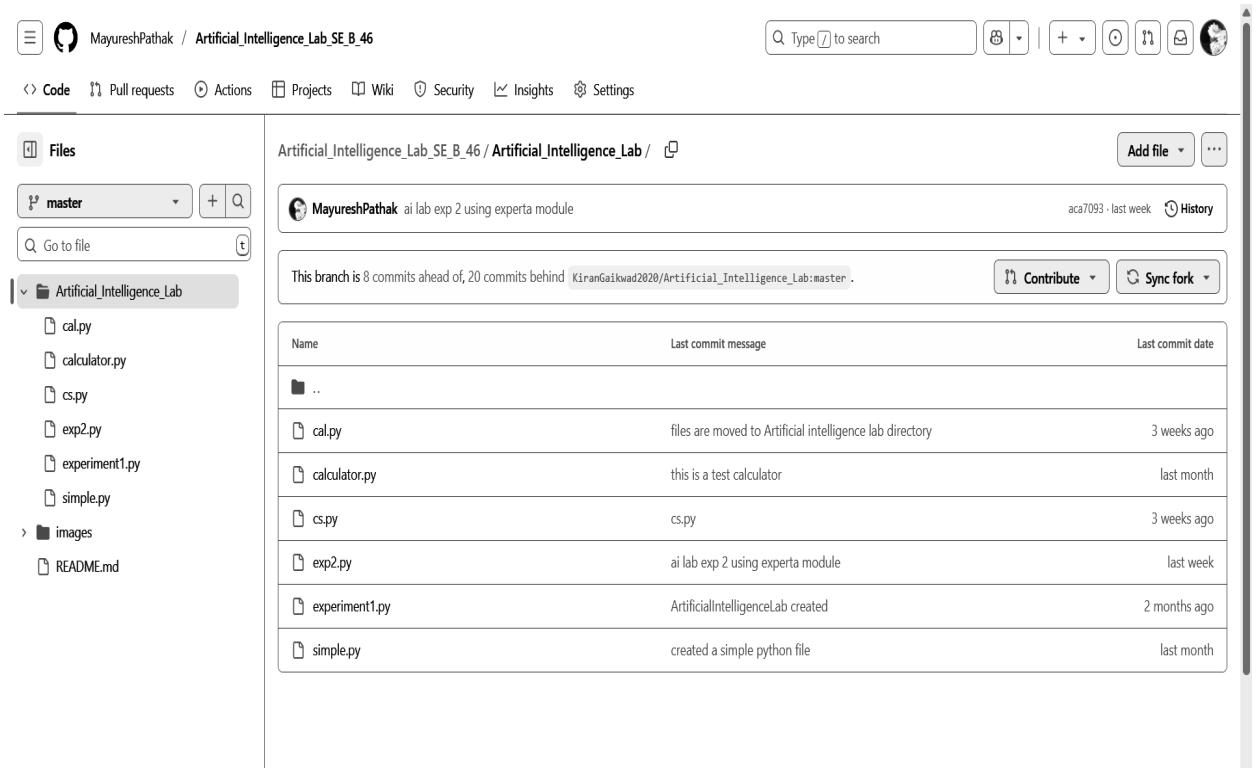
2. Screenshot of terminal cloning the repository.

```
Select C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.26100.4770]
(c) Microsoft Corporation. All rights reserved.

D:\GIT HUB>git clone https://github.com/MayureshPathak/Data-Science.git
Cloning into 'Data-Science'...
Username for 'https://github.com': mayureshpathak001@gmail.com
Password for 'https://mayureshpathak001%40gmail.com@github.com':
remote: Invalid username or token. Password authentication is not supported for Git operations.
fatal: Authentication failed for 'https://github.com/MayureshPathak/Data-Science.git/'

D:\GIT HUB>git clone https://github.com/MayureshPathak/Data-Science.git
Cloning into 'Data-Science'...
Username for 'https://github.com': mayureshpathak001@gmail.com
Password for 'https://%1B%5BA%1B%5BA%1B%5BB%1B%5BBmayureshpathak001%40gmail.com@github.com':
remote: Invalid username or token. Password authentication is not supported for Git operations.
fatal: Authentication failed for 'https://github.com/MayureshPathak/Data-Science.git/'

D:\GIT HUB>
D:\GIT HUB>
D:\GIT HUB>
D:\GIT HUB>
D:\GIT HUB>git clone https://github.com/MayureshPathak/Artificial_Intelligence_Lab_SE_B_46.git
Cloning into 'Artificial_Intelligence_Lab_SE_B_46'...
remote: Enumerating objects: 86, done.
remote: Counting objects: 100% (38/38), done.
remote: Compressing objects: 100% (30/30), done.
Rremote: Total 86 (delta 17), reused 11 (delta 8), pack-reused 48 (from 1)
Receiving objects: 100% (86/86), 111.34 KiB | 950.00 KiB/s, done.
Resolving deltas: 100% (27/27), done.

D:\GIT HUB>ls
Artificial_Intelligence_Lab_SE_B_46

D:\GIT HUB>cd Artificial_Intelligence_Lab_SE_B_46

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46>ls
Artificial_Intelligence_Lab  README.md  images

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46>cd Artificial_Intelligence_Lab

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>ls
cal.py  calculator.py  cs.py  exp2.py  experiment1.py  simple.py

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>
```



3. Screenshot showing file creation/modification.

```
C:\Windows\System32\cmd.exe
remote: Compressing objects: 100% (30/30), done.
Rremote: Total 86 (delta 17), reused 11 (delta 8), pack-reused 48 (from 1)
Receiving objects: 100% (86/86), 111.34 KiB | 950.00 KiB/s, done.
Resolving deltas: 100% (27/27), done.

D:\GIT HUB>ls
Artificial_Intelligence_Lab_SE_B_46

D:\GIT HUB>cd Artificial_Intelligence_Lab_SE_B_46

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46>ls
Artificial_Intelligence_Lab  README.md  images

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46>cd Artificial_Intelligence_Lab

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>ls
cal.py  calculator.py  cs.py  exp2.py  experiment1.py  simple.py

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>git status
On branch master
Your branch is up to date with 'origin/master'.

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

nothing added to commit but untracked files present (use "git add" to track)

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>git add hvl.cpp

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>git commit -m "This program checks highest salary vs lowest salary"
[master dcd253a] This program checks highest salary vs lowest salary
 1 file changed, 60 insertions(+)
 create mode 100644 Artificial_Intelligence_Lab/hvl.cpp

D:\GIT HUB\Artificial_Intelligence_Lab_SE_B_46\Artificial_Intelligence_Lab>git status
On branch master
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
```



Conclusion : Through this practical, I learned the core functionalities of Git and GitHub including repository management, forking, cloning, staging, committing, and pushing code. It gave me hands-on experience with version control using the terminal and provided insights into how collaborative development works in real-world software projects.