Assignment 1: Git Basics (Local Repository)

Problem Statement

You are starting a new project called **Student-Management-System** and want to track code changes using Git.

Tasks

1. Create a new folder named student-management-system

2. Initialize Git repository

3. Create a file README.md and add project description

4. Check Git status

5. Stage and commit the file

```
91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ git init
Reinitialized existing Git repository in C:/Users/91637/OneDrive/Desktop/UST_assignments/.git/

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ mkdir Github_assignment

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ cd Github_assignment

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment (main)
$ mkdir Student_management_system

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment (main)
$ cd Student_management_system

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Student_management_system (main)
$ cat >README.md
This project is used to manage student records such as registration, attendance, and performance.

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Student_management_system (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    ../../folder_1/dei.txt
        deleted:    ../../folder_1/sub_fol/sub_mod.txt

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

no changes added to commit (use "git add" and/or "git commit -a")

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Student_management_system (main)
$ cd ..

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment (main)
$ cd ..

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ git add .

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ git commit -m "Github assignment -> Student_manag_system project is initiated"
[main b3684bf] Github assignment -> Student_manag_system project is initiated
 3 files changed, 1 insertion(+)
 create mode 100644 Github_assignment/Student_management_system/README.md
 delete mode 100644 folder_1/dei.txt
 delete mode 100644 folder_1/sub_fol/sub_mod.txt

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ git push origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 560 bytes | 280.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/VisaganR/UST_assignments.git
   0749734..b3684bf  main -> main
```

Assignment 2: Working with Branches

Problem Statement

You need to add a new feature without affecting the main code.

Tasks

1. Create a branch named feature-login

2. Switch to the branch

3. Add file login.txt

4. Commit changes

5. Merge branch into main

```
91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (main)
$ git checkout -b feature_login
Switched to a new branch 'feature_login'

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ cat >login.txt
This is a Login file

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ git add .

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ git commit -m "Login file is added in feature_login branch"
[feature_login ec7e2ba] Login file is added in feature_login branch
 1 file changed, 1 insertion(+)
 create mode 100644 Github_assignment/Assignment_2/login.txt

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ git checkout main
Switched to branch 'main'
D       Github_assignment/login.txt
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (main)
$ git merger feature_login
git: 'merger' is not a git command. See 'git --help'.

The most similar command is
        merge

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (main)
$ git merge feature_login
Updating e8e3fcf..ec7e2ba
Fast-forward
 Github_assignment/Assignment_2/login.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 Github_assignment/Assignment_2/login.txt
```

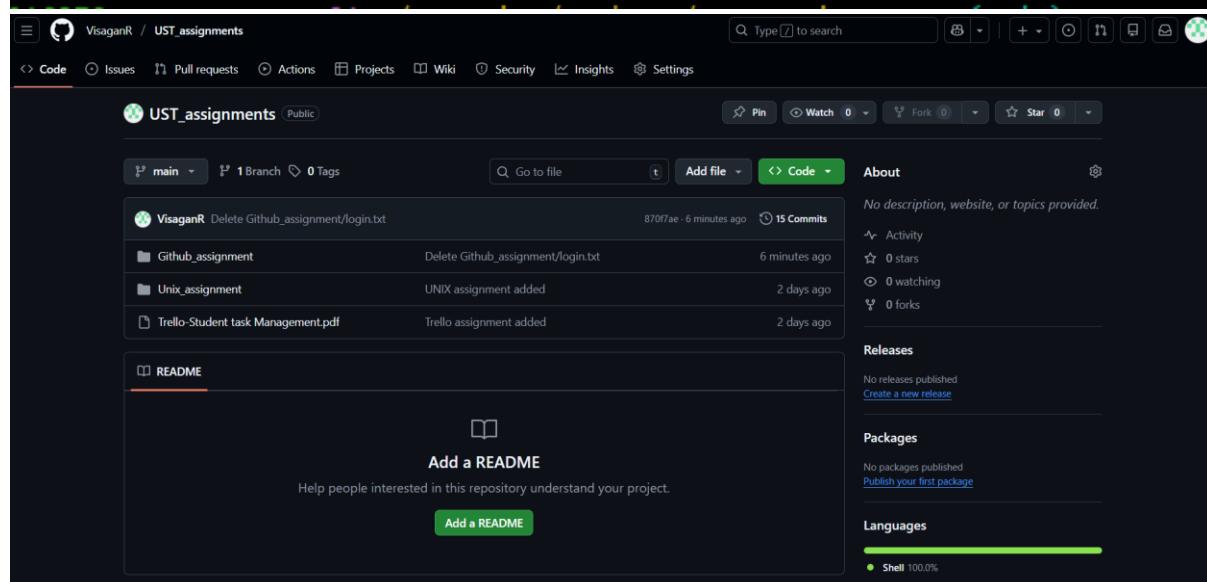# Assignment 3: GitHub Integration

Problem Statement

Your project must be stored in GitHub for collaboration.

Tasks

1. Create a GitHub repository

2. Connect local repo to GitHub

3. Push code to GitHub

4. Verify files online

```
91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (feature_login)
$ git remote --v
origin  https://github.com/VisaganR/UST_assignments.git (fetch)
origin  https://github.com/VisaganR/UST_assignments.git (push)
```

```
91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments (main)
$ git push -u origin main
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 12 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (8/8), 805 bytes | 268.00 KiB/s, done.
Total 8 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To https://github.com/VisaganR/UST_assignments.git
   b3684bf..ec7e2ba  main -> main
branch 'main' set up to track 'origin/main'.
```

Assignment 4: GitHub Pull Request (PR)

Problem Statement

Changes must be reviewed before merging.

Tasks

1. Create a branch

2. Push branch to GitHub

3. Create Pull Request

4. Merge PR

```
91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (main)
$ git checkout -b feature_login
Switched to a new branch 'feature_login'

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ cat >login.txt
This is a Login file

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ git add .

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ git commit -m "Login file is added in feature_login branch"
[feature_login ec7e2ba] Login file is added in feature_login branch
 1 file changed, 1 insertion(+)
 create mode 100644 Github_assignment/Assignment_2/login.txt

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (feature_login)
$ git checkout main
Switched to branch 'main'
D       Github_assignment/login.txt
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (main)
$ git merger feature_login
git: 'merger' is not a git command. See 'git --help'.

The most similar command is
        merge

91637@VISAGAN MINGW64 ~/OneDrive/Desktop/UST_assignments/Github_assignment/Assignment_2 (main)
$ git merge feature_login
Updating e8e3fcf..ec7e2ba
Fast-forward
 Github_assignment/Assignment_2/login.txt | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 Github_assignment/Assignment_2/login.txt
```