

Assignment 1: Git Basics (Local Repository)

Problem Statement:

Create a local Git repository for *Student-Management-System*.

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

```
MINGW64:/c/Users/shakm/Desktop/student-management-system
shakm@shayk MINGW64 ~
$ cd desktop

shakm@shayk MINGW64 ~/desktop
$ mkdir student-management-system

shakm@shayk MINGW64 ~/desktop
$ cd student-management-system

shakm@shayk MINGW64 ~/desktop/student-management-system
$ git init
Initialized empty Git repository in C:/Users/shakm/Desktop/student-management-system/.git/

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ touch README.md

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git status
On branch main

No commits yet

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

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

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git add README.md

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git commit -m "Initial commit with README"
[main (root-commit) f8e5eb3] Initial commit with README
 1 file changed, 2 insertions(+)
 create mode 100644 README.md

shakm@shayk MINGW64 ~/desktop/student-management-system (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

```
shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git branch feature-login

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git checkout feature-login
Switched to branch 'feature-login'

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-login)
$ touch login.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-login)
$ git add login.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-login)
$ git commit -m "Added Login feature file"
[feature-login ea3b7d1] Added login feature file
 1 file changed, 1 insertion(+)
 create mode 100644 login.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-login)
$ git checkout main
Switched to branch 'main'

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git merge feature-login
Updating f8e5eb3..ea3b7d1
Fast-forward
  login.txt | 1 +
  1 file changed, 1 insertion(+)
  create mode 100644 login.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ |
```

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

```
shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git remote add origin https://github.com/mohamedshakmohaideenj/student-management-system.git

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git branch -M main

shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git push -u origin main
remote: Repository not found.
fatal: repository 'https://github.com/mohamedshakmohaideenj/student-management-s
ystem.git/' not found

shakm@shayk MINGW64 ~/desktop/student-management-system (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

```
shakm@shayk MINGW64 ~/desktop/student-management-system (main)
$ git checkout -b feature-update
Switched to a new branch 'feature-update'

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-update)
$ touch update.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-update)
$ git add update.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-update)
$ git commit -m "Added update file"
[feature-update 0b28b19] Added update file
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 update.txt

shakm@shayk MINGW64 ~/desktop/student-management-system (feature-update)
$ git push origin feature-update
```