

## Assignment 1:

Initialize a new Git repository in a directory of your choice. Add a simple text file to the repository and make the first commit.

Sol:

### Step 1: Create a Directory

First, choose or create a directory where you want to initialize the Git repository. This directory will contain all your project files and the Git metadata.

#### Commands:

- To create a new directory named `my_project`:

```
mkdir my_project
```

- Navigate into the newly created directory:

```
cd my_project
```

#### Explanation:

- **mkdir my\_project:** This command creates a new directory named `my_project`.
- **cd my\_project:** This command changes the current working directory to `my_project`, allowing you to work within this directory.

### Step 2: Initialize the Git Repository

Next, initialize an empty Git repository in the directory. This sets up the necessary Git metadata to track changes to your files.

#### Command:

```
git init
```

#### Explanation:

- **git init:** This command initializes a new Git repository. It creates a hidden `.git` directory that contains all the repository metadata, including configuration settings, commit history, and staging area.

### Step 3: Add a Simple Text File

Create a simple text file in the repository. This file will be added to the repository and committed as the initial commit.

#### Command:

```
echo "Hello, this is my first commit." > file.txt
```

#### **Explanation:**

- **echo "Hello, this is my first commit." > file.txt:** This command creates a new file named `file.txt` and writes the text "Hello, this is my first commit." to it. The `>` operator redirects the output of the `echo` command into the file.

#### **Step 4: Add the File to the Staging Area**

Before committing changes, you need to add the file to the staging area. The staging area is where you prepare changes before committing them to the repository.

#### **Command:**

```
git add file.txt
```

#### **Explanation:**

- **git add file.txt:** This command adds `file.txt` to the staging area, marking it for inclusion in the next commit. You can also add multiple files or use `git add .` to add all changes in the directory.

#### **Step 5: Commit the File**

Make the first commit in the repository. A commit is a snapshot of the repository at a specific point in time, including all staged changes.

#### **Command:**

```
git commit -m "Initial commit with file.txt"
```

#### **Explanation:**

- **git commit -m "Initial commit with file.txt":** This command creates a new commit with a message describing the changes. The `-m` option specifies the commit message, which should be concise and descriptive. In this case, the message is "Initial commit with file.txt".