1. Build a branching model to help your team understand the Git workflow for faster integration of work.

Configure Git user
Set global Git username and email
```
git config --global user.name
git config --global user.email
```

Create and initialize a new Git repository
Create directory 'practical', navigate to it, and initialize a Git repository
```
mkdir practical
cd practical
git init
```

```
F:\sem 7\Devops\practical1>git config --global user.name
Jay-Dalsaniya

F:\sem 7\Devops\practical1>
F:\sem 7\Devops\practical1>git config --global user.email
dalsaniyajay111@gmail.com

F:\sem 7\Devops\practical1>mkdir practical

F:\sem 7\Devops\practical1>cd practical

F:\sem 7\Devops\practical1\practical>git init
Initialized empty Git repository in F:/sem 7/Devops/practical1/practical/.git/
```

Add files and commit
```
git add welcome.html
```

Add welcome.html to staging area and check status
```
git status
git add .
```

Add all files to staging area and check status
```
git status
```

```
F:\sem 7\Devops\practical1\practical>git add welcome.html

F:\sem 7\Devops\practical1\practical>git status
On branch main

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   welcome.html


F:\sem 7\Devops\practical1\practical>git add .

F:\sem 7\Devops\practical1\practical>git status
On branch main

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   welcome.html
```

Commit changes with a message
```
git commit -m "This Is First Commit"
```

```
F:\sem 7\Devops\practical1\practical>git commit -m "This Is First Commit"
[main (root-commit) 380316e] This Is First Commit
 1 file changed, 1 insertion(+)
 create mode 100644 welcome.html
```

View logs and manage branches
View commit logs
```
git log
```

```
F:\sem 7\Devops\practical1\practical>git commit -m "This Is First Commit"
[main (root-commit) 380316e] This Is First Commit
 1 file changed, 1 insertion(+)
 create mode 100644 welcome.html

F:\sem 7\Devops\practical1\practical>git log
commit 380316e128e66c36ad2d64d6dda12a28d42635c5 (HEAD -> main)
Author: Jay-Dalsaniya <dalsaniyajay111@gmail.com>
Date:   Thu Jul 18 22:11:29 2024 +0530

    This Is First Commit
```

List branches
```
git branch
```

Create a new branch named 'jay_dalsaniya'
```
git branch jay_dalsaniya
```

Create and switch to 'jayu'
```
git checkout -b jayu
```

List branches
```
git branch
```

```
F:\sem 7\Devops\practical1\practical>git branch
* main

F:\sem 7\Devops\practical1\practical>git branch jay_dalsaniya

F:\sem 7\Devops\practical1\practical>git checkout -b jayu
Switched to a new branch 'jayu'

F:\sem 7\Devops\practical1\practical>git branch
  jay_dalsaniya
* jayu
  main
```

Check the status of the working directory
```
git status
```

```
F:\sem 7\Devops\practical1\practical>git status
On branch jayu
nothing to commit, working tree clean
```

Checkout to jay_dalsaniya branch and merge branches
Switch to 'jay_dalsaniya' branch
```
git checkout jay_dalsaniya
```

Merge 'jayu' into 'jay_dalsaniya'
```
git merge jayu
```

```
F:\sem 7\Devops\practical1\practical>git status
On branch jayu
nothing to commit, working tree clean

F:\sem 7\Devops\practical1\practical>git add .

F:\sem 7\Devops\practical1\practical>git commit -m"add new file "
[jayu 6d90a80] add new file
 1 file changed, 1 insertion(+)
 create mode 100644 hello.html

F:\sem 7\Devops\practical1\practical>git checkout jay_dalsaniya
Switched to branch 'jay_dalsaniya'

F:\sem 7\Devops\practical1\practical>git merge jayu
Updating 380316e..6d90a80
Fast-forward
 hello.html | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 hello.html
```

Delete 'jayu'
```
git branch -d jayu
```

```
F:\sem 7\Devops\practical1\practical>git branch -d jayu
Deleted branch jayu (was 6d90a80).
```

Add remote repository and push to GitHub
Add remote GitHub repository
```
git remote add origin https://github.com/Jay-Dalsaniya/github_practices-
.git
```

Push changes to the 'master' branch on GitHub
```
git push -u origin main
```

```
F:\sem 7\Devops\practical1\practical>git remote add origin https://github.com/Jay
-Dalsaniya/github_practices-.git

F:\sem 7\Devops\practical1\practical>git push -u origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 243 bytes | 243.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Jay-Dalsaniya/github_practices-.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```