

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.

```
yash@DESKTOP-M5UU5E8:~/Linux/Assignments$ mkdir my_repo
yash@DESKTOP-M5UU5E8:~/Linux/Assignments$ cd mu_repo
-bash: cd: mu_repo: No such file or directory
yash@DESKTOP-M5UU5E8:~/Linux/Assignments$ cd my_repo
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git init

yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ echo echo "Hello, this is my first file in the repository." > file.txt
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git status
On branch master

No commits yet

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

nothing added to commit but untracked files present (use "git add" to track)
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git add file.txt
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git commit -m "Initial commit with file.txt"
[master (root-commit) 3a31b53] Initial commit with file.txt
1 file changed, 1 insertion(+)
create mode 100644 file.txt
```

Assignment 2: Branch Creation and Switching

Create a new branch named 'feature' and switch to it. Make changes in the 'feature' branch and commit them.

```
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git checkout -b feature
Switched to a new branch 'feature'
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ echo "This is a new feature." >> file.txt
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git add file.txt
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git commit -m "Added new feature to file.txt"
[feature 16e94e1] Added new feature to file.txt

yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git checkout master
Switched to branch 'master'
```

Assignment 3: Feature Branches and Hotfixes

Create a 'hotfix' branch to fix an issue in the main code. Merge the 'hotfix' branch into 'main' ensuring that the issue is resolved.

```
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git checkout -b hotfix
Switched to a new branch 'hotfix'
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ echo "This is a hotfix." >> file.txt
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git add file.txt
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git commit -m "Implemented hotfixes to file.txt"
[hotfix b463b39] Implemented hotfixes to file.txt
1 file changed, 1 insertion(+)
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git checkout master
Switched to branch 'master'
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ git merge hotfix
Updating 3a31b53..b463b39
Fast-forward
 file.txt | 1 +
1 file changed, 1 insertion(+)
yash@DESKTOP-M5UU5E8:~/Linux/Assignments/my_repo$ cat file.txt
echo Hello, this is my first file in the repository.
This is a hotfix.
```