

Lab 1 Solutions

1. git init

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git init
Initialized empty Git repository in /Users/rasikkunwar/Desktop/Assignments/MSA/Lab1/.git/
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

2. git status

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git status
On branch main

No commits yet

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

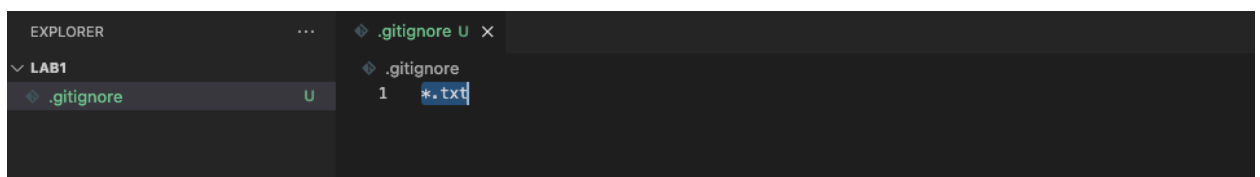
nothing added to commit but untracked files present (use "git add" to track)
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

3. git diff

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   .gitignore

no changes added to commit (use "git add" and/or "git commit -a")
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git diff
diff --git a/.gitignore b/.gitignore
index e058e9d..6a86f9f 100644
--- a/.gitignore
+++ b/.gitignore
@@ -1,3 +1,2 @@
 *.txt
-*.DS_Store
-*.java
\ No newline at end of file
+*.DS_Store
\ No newline at end of file
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

4. create .gitignore file, and notice how it works



5. git add

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git add .
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git status
On branch main

No commits yet

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

○ rasikkunwar@Rasiks-MacBook-Air Lab1 % █
```

6. git commit

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git commit -m "added gitignore file and included some extension to ignore"
[main (root-commit) 7e4b507] added gitignore file and included some extension to ignore
 1 file changed, 3 insertions(+)
 create mode 100644 .gitignore
○ rasikkunwar@Rasiks-MacBook-Air Lab1 % █
```

7. git commit -amend (updating the last commit)

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git commit --amend -m "amended gitignore file added and included ignored file extension"
[main dac2992] amended gitignore file added and included ignored file extension
Date: Tue Nov 1 18:30:48 2022 -0500
 1 file changed, 3 insertions(+)
 create mode 100644 .gitignore
○ rasikkunwar@Rasiks-MacBook-Air Lab1 % █
```

8. git log

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git log
commit dac29928454e493dffbdd993687047aa3065b249 (HEAD -> main)
Author: rasikkunwar <rasikkunwar31@gmail.com>
Date: Tue Nov 1 18:30:48 2022 -0500

    amended gitignore file added and included ignored file extension
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git log --oneline
dac2992 (HEAD -> main) amended gitignore file added and included ignored file extension
○ rasikkunwar@Rasiks-MacBook-Air Lab1 % █
```

9. git tag

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git tag -a gitignorecommit -m "gitignore" dac2992
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git log --oneline
dac2992 (HEAD -> main, tag: gitignorecommit) amended gitignore file added and included ignored file extension
○ rasikkunwar@Rasiks-MacBook-Air Lab1 % █
```

10. git branch

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git branch
  login-feature
* main
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git branch signup-feature
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git branch
  login-feature
* main
  signup-feature
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

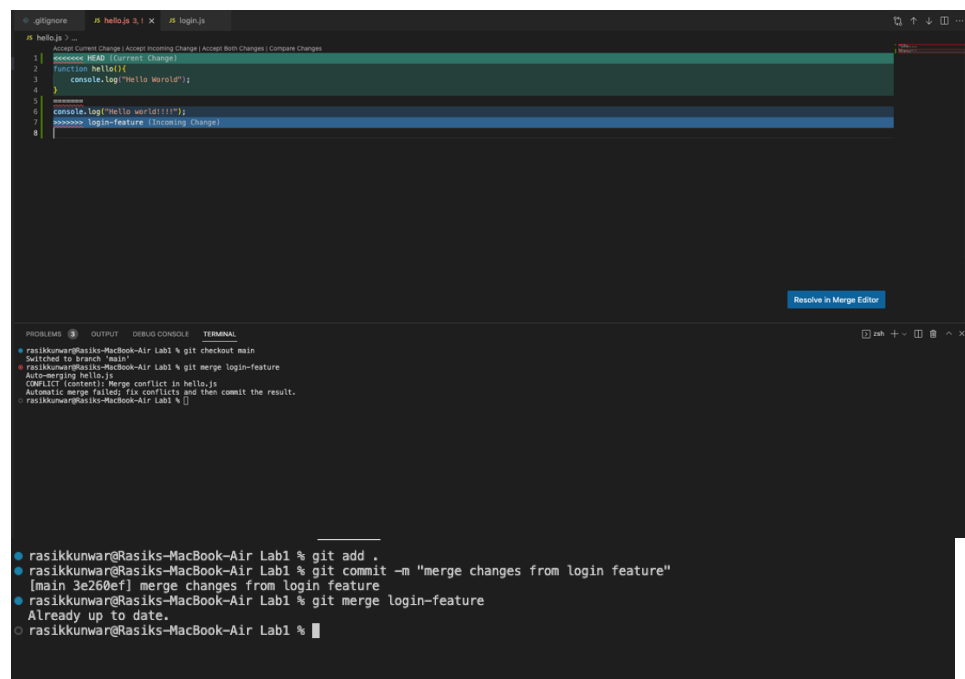
11. git checkout

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git checkout main
Switched to branch 'main'
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

12. git merge

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git merge login-feature
Auto-merging hello.js
Merge made by the 'ort' strategy.
.gitignore | 3 +--
login.js    | 3 +++
2 files changed, 4 insertions(+), 2 deletions(-)
create mode 100644 login.js
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

i. Create a conflict and solve the conflict



13. Undo changes from certain commit git revert

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git revert HEAD
[main a3b6e1c] Revert "hello js changes"
 1 file changed, 1 deletion(-)
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git log --oneline
a3b6e1c (HEAD -> main) Revert "hello js changes"
854e4a9 hello js changes
3e260ef merge changes from login feature
7827ab6 (login-feature) hello js changes
eb949f0 hello js file
3ec3c6f Merge branch 'login-feature'
a9d062f changes in hello js file
1e76f48 Merge branch 'login-feature'
7a699c2 login function
7dc3717 hello function added in hello js file
0328692 hello js file
dac2992 (tag: gitignorecommit, signup-feature) amended gitignore file added and included ignored file extension
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

14. Erase commits with git reset

```
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git log --oneline
a3b6e1c (HEAD -> main) Revert "hello js changes"
854e4a9 hello js changes
3e260ef merge changes from login feature
7827ab6 (login-feature) hello js changes
eb949f0 hello js file
3ec3c6f Merge branch 'login-feature'
a9d062f changes in hello js file
1e76f48 Merge branch 'login-feature'
7a699c2 login function
7dc3717 hello function added in hello js file
0328692 hello js file
dac2992 (tag: gitignorecommit, signup-feature) amended gitignore file added and included ignored file extension
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git reset eb949f0
Unstaged changes after reset:
M   hello.js
● rasikkunwar@Rasiks-MacBook-Air Lab1 % git log --oneline
eb949f0 (HEAD -> main) hello js file
3ec3c6f Merge branch 'login-feature'
a9d062f changes in hello js file
1e76f48 Merge branch 'login-feature'
7a699c2 login function
7dc3717 hello function added in hello js file
0328692 hello js file
dac2992 (tag: gitignorecommit, signup-feature) amended gitignore file added and included ignored file extension
○ rasikkunwar@Rasiks-MacBook-Air Lab1 %
```

Practice with all the remote repository commands from the slides:


1. Create a remote repository

Create a new repository


A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#).

Owner *

Repository name *


 rasikkunwar

 /


MsaLabAssignments 

Great repository names are short and memorable. Need inspiration? How about [potential-octo-telegram](#)?

Description (optional)

☐  Public

Anyone on the internet can see this repository. You choose who can commit.

☒  Private

You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ Add a README file

This is where you can write a long description for your project. [Learn more](#).

Add .gitignore


Choose which files not to track from a list of templates. [Learn more](#).

.gitignore template: None

Choose a license

A license tells others what they can and can't do with your code. [Learn more](#).

License: None

 You are creating a private repository in your personal account.

Create repository

2. git clone

```
[rasikkunwar@Rasiks-MacBook-Air MSA % git clone git@github.com:rasikkunwar/MsaLabAssignments.git
Cloning into 'MsaLabAssignments'...
warning: You appear to have cloned an empty repository.
rasikkunwar@Rasiks-MacBook-Air MSA %
```

3. git remote

```
[rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments % git remote
origin
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments %
```

4. git push

```
[rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments % git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 261 bytes | 261.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:rasikkunwar/MsaLabAssignments.git
 * [new branch]      main -> main
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments %
```

5. git fetch

```
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments % git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 672 bytes | 224.00 KiB/s, done.
From github.com:rasikkunwar/MsaLabAssignments
 58431e7..449a9c7  main      -> origin/main
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments %
```

6. git merge

```
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments % git merge
Updating 58431e7..449a9c7
Fast-forward
 hello.js | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments %
```

7. git pull

```
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments % git pull origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 704 bytes | 234.00 KiB/s, done.
From github.com:rasikkunwar/MsaLabAssignments
 * branch          main      -> FETCH_HEAD
    449a9c7..0668985  main    -> origin/main
Updating 449a9c7..0668985
Fast-forward
 hello.js | 1 +
 1 file changed, 1 insertion(+)
rasikkunwar@Rasiks-MacBook-Air MsaLabAssignments %
```

Practice with all the third-party repositories commands from the slides:

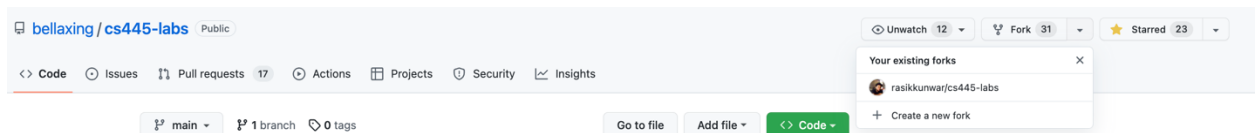
1. Star the repository



2. Watch the repository for any changes



3. Fork the repository



4. Cloned your fork repository into your local machine

```
[rasikkunwar@Rasiks-MacBook-Air MSA % git clone git@github.com:rasikkunwar/cs445-labs.git
Cloning into 'cs445-labs'...
remote: Enumerating objects: 231, done.
remote: Counting objects: 100% (73/73), done.
remote: Compressing objects: 100% (40/40), done.
remote: Total 231 (delta 40), reused 26 (delta 25), pack-reused 158
Receiving objects: 100% (231/231), 108.18 KiB | 1.10 MiB/s, done.
Resolving deltas: 100% (84/84), done.
rasikkunwar@Rasiks-MacBook-Air MSA %
```

5. Create a new topic branch using studentId-studentName format, For example: 610001-JohnSmith

```
rasikkunwar@Rasiks-MacBook-Air cs445-labs % git branch
* main
rasikkunwar@Rasiks-MacBook-Air cs445-labs % git branch 615230-rasikkunwar
rasikkunwar@Rasiks-MacBook-Air cs445-labs % git branch
615230-rasikkunwar
* main
rasikkunwar@Rasiks-MacBook-Air cs445-labs %
```

6. Checkout your new branch

```
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git checkout 615230-rasikkunwar
Switched to branch '615230-rasikkunwar'
○ rasikkunwar@Rasiks-MacBook-Air cs445-labs %
```

7. Add a new file with your name, example: hello.js

8. Commit the changes

```
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git add .
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git commit -m "changes in hello js file in 615230-rasikkunwar branch"
[615230-rasikkunwar 7fd6e98] changes in hello js file in 615230-rasikkunwar branch
1 file changed, 3 insertions(+)
create mode 100644 hello.js
○ rasikkunwar@Rasiks-MacBook-Air cs445-labs %
```


9. Merge your studentId-studentName branch with the main branch

```
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git merge 615230-rasikkunwar
Updating 1c32ce1..7fd6e98
Fast-forward
 hello.js | 3 +++
 1 file changed, 3 insertions(+)
 create mode 100644 hello.js
○ rasikkunwar@Rasiks-MacBook-Air cs445-labs %
```

10. Push your changes to the remote repo

```
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git merge 615230-rasikkunwar
Updating 1c32ce1..7fd6e98
Fast-forward
 hello.js | 3 +++
 1 file changed, 3 insertions(+)
 create mode 100644 hello.js
● rasikkunwar@Rasiks-MacBook-Air cs445-labs % git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 339 bytes | 339.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:rasikkunwar/cs445-labs.git
 1c32ce1..7fd6e98  main -> main
○ rasikkunwar@Rasiks-MacBook-Air cs445-labs %
```

11. Create a new Pull Request to the upstream repo

The screenshot displays a GitHub Pull Request (PR) interface for the repository 'bellaxing/cs445-labs'. The PR is titled 'changes in hello.js file in 615230-rasikkunwar branch #28' and is created by 'rasikkunwar'. The interface shows a conversation with a comment from 'rasikkunwar' stating 'changes in hello.js file with greetings function'. A green checkmark indicates 'This branch has no conflicts with the base branch'. The right sidebar shows 'No reviews', 'No assignees', 'No labels', 'No projects', 'No milestones', and 'No development'.

