Lab1 Solutions

Practice with all the local repository commands from the slides:

1. `git init`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git init
Initialized empty Git repository in C:/Users/gfifi/Desktop/MSDJavaScript/CS455Async/lab1/.git/

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git status
On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)
```

2. `git status`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git status
On branch master

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)
```
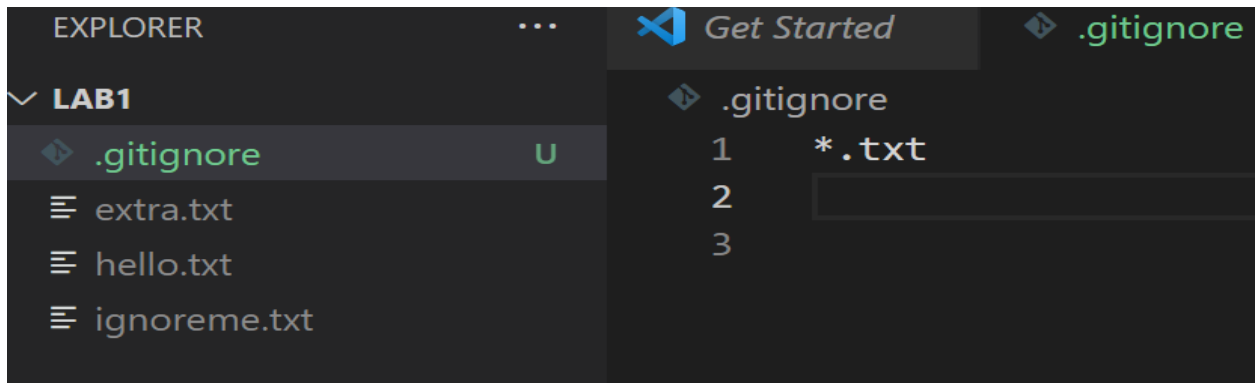
3. `git diff`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git diff .gitignore
diff --git a/.gitignore b/.gitignore
index 960fe79..f6a7bfd 100644
--- a/.gitignore
+++ b/.gitignore
@@ -1,2 +1,3 @@
 *.txt

+java
```

4. Create `.gitignore` file, and notice how it works

```
EXPLORER                        ...        Get Started        .gitignore

∨ LAB1                                       .gitignore
   .gitignore                   U      1      *.txt
   ☰ extra.txt                         2
   ☰ hello.txt                         3
   ☰ ignoreme.txt
```

5. `git add`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git add .

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git status
On branch master

No commits yet

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

6. `git commit`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git commit -m "file added"
[master (root-commit) 007819f] file added
 1 file changed, 2 insertions(+)
 create mode 100644 .gitignore
```

7. `git commit –amend` (updating the last commit)

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git commit --amend -m"amended gitignore init commit"
[master 2e71f88] amended gitignore init commit
 Date: Tue Apr 26 22:43:20 2022 -0500
 1 file changed, 2 insertions(+)
 create mode 100644 .gitignore
```

8. `git log`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git log
commit 007819f39385f6ec28d53f5ab6b26da806b244d1 (HEAD -> master)
Author: fikerte-b <fikirbenti@gmail.com>
Date:   Tue Apr 26 22:43:20 2022 -0500

    file added
```

9. `git tag`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1> git tag -a firstcommit -m"first" 72cb211

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git --oneline
unknown option: --oneline
usage: git [--version] [--help] [-C <path>] [-c <name>=<value>]
           [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
           [-p | --paginate | -P | --no-pager] [--no-replace-objects] [--bare]
           [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
           [--super-prefix=<path>] [--config-env=<name>=<envvar>]
           <command> [<args>]

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git log --oneline
fe1fb5d (HEAD -> master) another console log added to js
49ba04c hello js file
72cb211 (tag: firstcommit) ignore gava folder
2e71f88 amended gitignore init commit
```

10. `git branch`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git branch
  branchRepository
* master

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git branch branchRepository2

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git branch
  branchRepository
  branchRepository2
* master
```

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git add .

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git commit -m"branchRepository first commit"
[branchRepository a5922d4] branchRepository first commit
 2 files changed, 4 insertions(+), 1 deletion(-)
 create mode 100644 branchFile.js

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git log --oneline
a5922d4 (HEAD -> branchRepository) branchRepository first commit
fe1fb5d (master, branchRepository2) another console log added to js
49ba04c hello js file
72cb211 (tag: firstcommit) ignore gava folder
2e71f88 amended gitignore init commit
```

11. `git checkout`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git checkout branchRepository
Switched to branch 'branchRepository'
M       hello.js

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git status
On branch branchRepository
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:   hello.js

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

no changes added to commit (use "git add" and/or "git commit -a")
```

12. `git merge`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git merge branchRepository
Updating fe1fb5d..a5922d4
Fast-forward
 branchFile.js | 1 +
 hello.js      | 4 +++-
 2 files changed, 4 insertions(+), 1 deletion(-)
 create mode 100644 branchFile.js
```

   .
   i.   Create a conflict and solve the conflict

```
EXPLORER                    ···    JS branchFile.js 3, !  ✕

∨ OPEN EDITORS                      JS branchFile.js
   ✕ JS branchFile.js     3, !        1      console.log("Welcomeeeeeeeeeeee");
∨ LAB1                                       Accept Current Change | Accept Incoming Change | Accept Both Changes | Compare Changes
   > java                               2   | <<<<<<< HEAD (Current Change)
   ⬥ .gitignore                         3      console.log("new line added on main  - line2");
   JS branchFile.js       3, !          4      =======
   ≡ extra.txt                          5      console.log("Changes made in branchRepository-line2");
                                        6      >>>>>>> branchRepository (Incoming Change)
```

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git checkout master
Switched to branch 'master'

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git merge branchRepository
Auto-merging branchFile.js
CONFLICT (content): Merge conflict in branchFile.js
Automatic merge failed; fix conflicts and then commit the result.

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git add .

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git commit -m"merge commit from branchRepository"
[master 2aad706] merge commit from branchRepository

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git merge branchRepository
Already up to date.
```

13. Undo changes from a certain commit `git revert`

```
[master 9d8a82b] Revert "test revert has been done"
 1 file changed, 1 insertion(+), 2 deletions(-)
```

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git log --oneline
9d8a82b (HEAD -> master) Revert "test revert has been done"
c038c78 test revert to do
2aad706 merge commit from branchRepository
9f88fa3 new line on master
1821d60 (branchRepository) branchRepository change
a5922d4 branchRepository first commit
fe1fb5d (branchRepository2) another console log added to js
49ba04c hello js file
72cb211 (tag: firstcommit) ignore gava folder
2e71f88 amended gitignore init commit
```

13. Erase commits with `git reset`

```
C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git log --oneline
9d8a82b (HEAD -> master) Revert "test revert has been done"
c038c78 test revert to do
2aad706 merge commit from branchRepository
9f88fa3 new line on master
1821d60 (branchRepository) branchRepository change
a5922d4 branchRepository first commit
fe1fb5d (branchRepository2) another console log added to js
49ba04c hello js file
72cb211 (tag: firstcommit) ignore gava folder
2e71f88 amended gitignore init commit

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git reset c038c78
Unstaged changes after reset:
M       hello.js

C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\lab1>git log --oneline
c038c78 (HEAD -> master) test revert to do
2aad706 merge commit from branchRepository
9f88fa3 new line on master
1821d60 (branchRepository) branchRepository change
a5922d4 branchRepository first commit
fe1fb5d (branchRepository2) another console log added to js
49ba04c hello js file
```

Practice with all the remote repository commands from the slides:

1. Create a remote repository

2. git clone

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async> git clone https://github.com/fikerte-b/CS445-Lab.git
Cloning into 'CS445-Lab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (4/4), done.
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async> ▯
```

3. git remote

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git remote
origin
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> ▮
```

4. git push

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git add .
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git commit -m"second push"
[main 5df4708] second push
 1 file changed, 2 insertions(+), 1 deletion(-)
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
```

5. git fetch

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git fetch
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 1.37 KiB | 28.00 KiB/s, done.
From https://github.com/fikerte-b/CS445-Lab
   5df4708..ce71673  main         -> origin/main
```

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git merge
Updating 5df4708..ce71673
Fast-forward
 README.md | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)
```
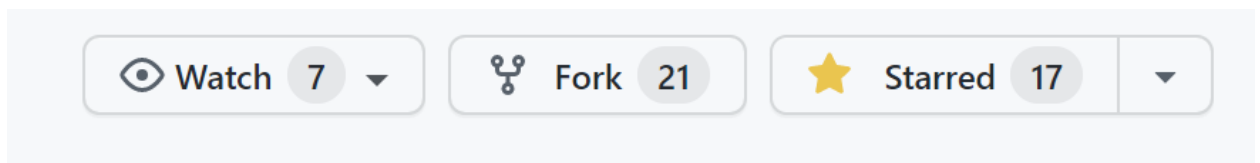
6. git pull

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\CS445-Lab> git pull
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), 717 bytes | 44.00 KiB/s, done.
From https://github.com/fikerte-b/CS445-Lab
   ce71673..f347c06  main         -> origin/main
Updating ce71673..f347c06
Fast-forward
 README.md | 1 +
 1 file changed, 1 insertion(+)
```

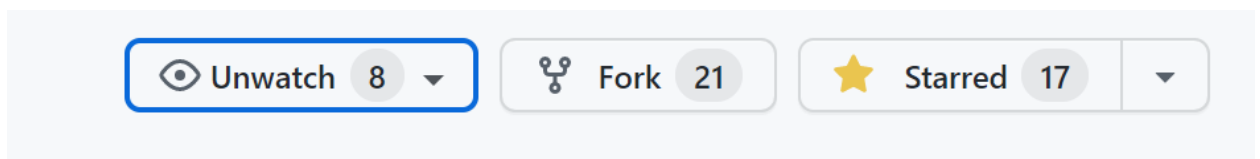# Practice with all the third party repositories commands from the slides:

Assume we are working with the following
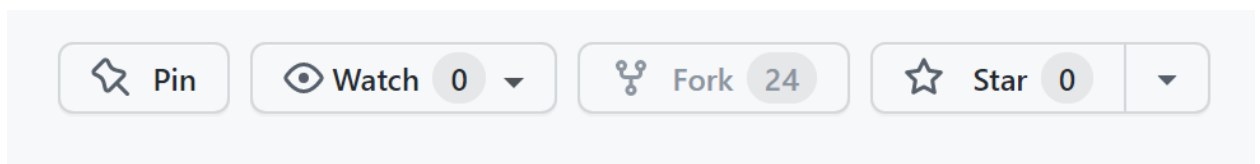upstream: https://github.com/bellaxing/cs445-labs

1. Star the repository

2. Watch the repository for any changes

3. Fork the repository

4. Clone your forked repository into your local machine

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async> git clone https://github.com/fikerte-b/CS445-Lab.git
Cloning into 'CS445-Lab'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (4/4), done.
```

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

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git branch 610001-FikerteBenti
```

6. Checkout your new branch

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git checkout 610001-FikerteBenti
Switched to branch '610001-FikerteBenti'
```

7. Add a new file with your name, example: `hello.js`
8. Commit the changes

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git add .
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git commit -m"changes on branch"
[610001-FikerteBenti a25d2db] changes on branch
 1 file changed, 1 insertion(+)
 create mode 100644 hello.js
```

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

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git merge 610001-FikerteBenti
Updating 1c32ce1..a25d2db
Fast-forward
 hello.js | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 hello.js
```

10. Push your changes to the remote repo

```
PS C:\Users\gfifi\Desktop\MSDJavaScript\CS455Async\ForkedProfRepo\cs445-labs> git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 296 bytes | 296.00 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 https://github.com/fikerte-b/cs445-labs.git
   1c32ce1..a25d2db  main -> main
```

11. Create a new Pull Request to the upstream repo

changes on branch #21

💬 Conversation 0 | ⟋ Commits 1 | ☑ Checks 0 | ⊟ Files changed 1

fikerte-b commented 1 minute ago   😊 ⋯

This a file that is added by Fikerte

⟋ 🟢 changes on branch   a25d2db

⚌ 🟢 **fikerte-b** closed this 1 minute ago

Pull request closed
If you wish, you can delete this fork of **bellaxing/cs445-labs** in the settings.