CS445 - Lab 1 Solutions

1. `git init`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git init
Initialized empty Git repository in C:/Users/barni/Documents/GitHub/Asynchronous/Lab1/.git/
```

2. `git status`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git status
On branch master

No commits yet

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

nothing added to commit but untracked files present (use "git add" to track)
```
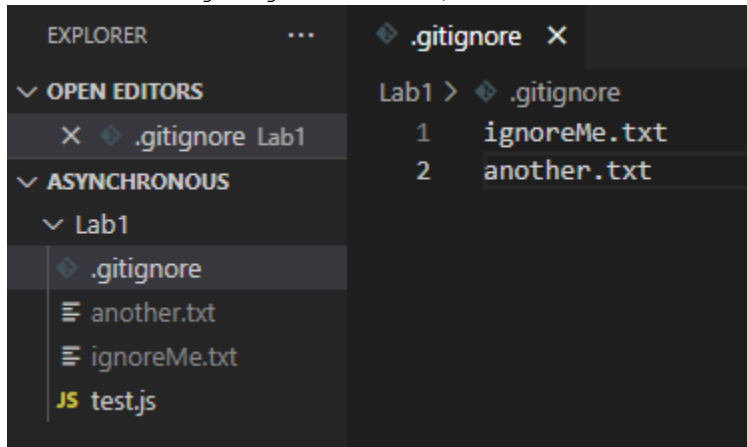
3. `git diff`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git diff
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1>
```

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git diff
diff --git a/test.js b/test.js
index e69de29..635625a 100644
--- a/test.js
+++ b/test.js
@@ -0,0 +1 @@
+console.log("Hello world!");
\ No newline at end of file
```

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

```
EXPLORER                    ...    ◆ .gitignore  ✕

∨ OPEN EDITORS                     Lab1 > ◆ .gitignore
   ✕  ◆ .gitignore Lab1            1    ignoreMe.txt
∨ ASYNCHRONOUS                     2    another.txt
   ∨ Lab1
      ◆ .gitignore
      ≡ another.txt
      ≡ ignoreMe.txt
      JS test.js
```

5. `git add`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git add .
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git status
On branch master

No commits yet

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

6. `git commit`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git commit -m "inner files"
[master (root-commit) 6b0dbae] inner files
 2 files changed, 2 insertions(+)
 create mode 100644 .gitignore
 create mode 100644 test.js
```

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

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git commit --amend -m "amended version"
[master ed5e64c] amended version
 Date: Mon Oct 25 20:33:37 2021 -0500
 2 files changed, 2 insertions(+)
 create mode 100644 .gitignore
 create mode 100644 test.js
```

8. `git log`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log
commit 6b0dbae82c8280aab4e9f2a931433df6d7b645cb (HEAD -> master)
Author: Barni_Classic <76923911+barniclassic@users.noreply.github.com>
Date:   Mon Oct 25 20:33:37 2021 -0500

    inner files
```

10. `git tag`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
713d711 (HEAD -> master) updated version
ed5e64c amended version
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git tag v1 ed5e64c
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
713d711 (HEAD -> master) updated version
ed5e64c (tag: v1) amended version
```

11. `git branch`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git branch user
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
713d711 (HEAD, user) updated version
ed5e64c (tag: v1) amended version
```

12. `git checkout`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git checkout 713d711
Previous HEAD position was ed5e64c amended version
HEAD is now at 713d711 updated version
```

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git commit -m "for user"
[user a1560a8] for user
 1 file changed, 1 insertion(+)
 create mode 100644 test2.js
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
a1560a8 (HEAD -> user) for user
713d711 updated version
ed5e64c (tag: v1) amended version
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git status
On branch user
nothing to commit, working tree clean
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git checkout master
Switched to branch 'master'
```
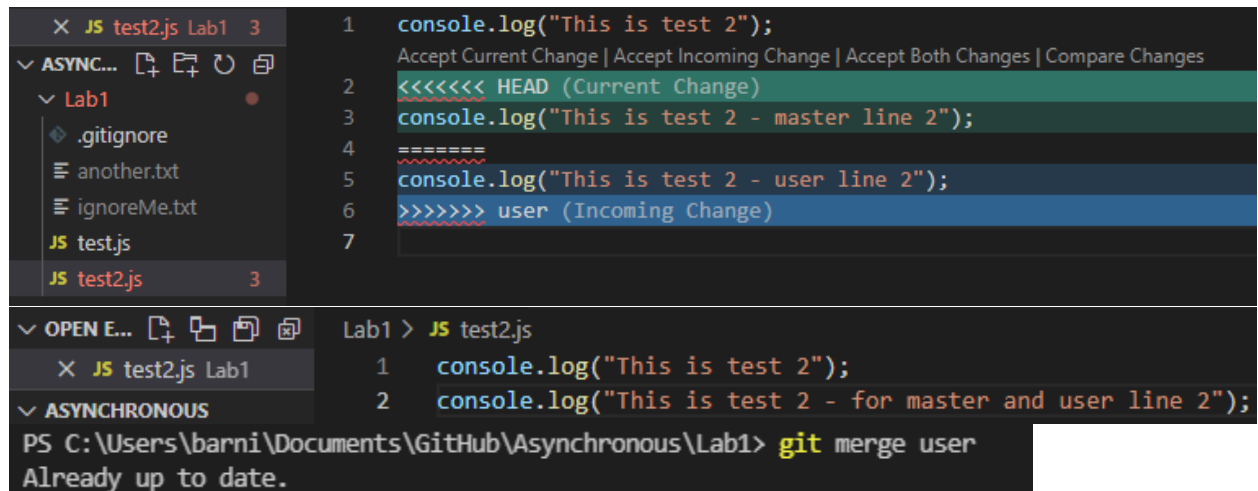
13. `git merge`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git merge user
Merge made by the 'recursive' strategy.
 test2.js | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 test2.js
```

I. Create a conflict and solve the conflict



```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git merge user
Already up to date.
```

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

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git add test2.js
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git commit -m "fixed"
 1 file changed, 1 insertion(+), 1 deletion(-)
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git revert HEAD
 1 file changed, 1 insertion(+), 1 deletion(-)
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git status
nothing to commit, working tree clean
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
7bee520 (HEAD -> master) Revert "fixed" This is after its fixed
bd8c56a fixed
8e7577d update update
018eedc (user) user version
```

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git revert 5c03a30
[master 9c1147b] Revert "third update" This is revert back
 1 file changed, 1 insertion(+), 2 deletions(-)
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git status
On branch master
nothing to commit, working tree clean
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
9c1147b (HEAD -> master) Revert "third update" This is revert back
7bee520 Revert "fixed" This is after its fixed
bd8c56a fixed
8e7577d update update
018eedc (user) user version
```

15.    Erase commits with `git reset`

```
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
8e7577d (HEAD -> master) update update
018eedc (user) user version
adcad4e master version
e4ecf34 Merge branch 'user'
a1560a8 for user
5c03a30 third update
713d711 updated version
ed5e64c (tag: v1) amended version
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git reset 5c03a30
Unstaged changes after reset:
M       test.js
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git add test.js
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git commit -m "thirs reset"
[master cc72c8b] thirs reset
 1 file changed, 1 insertion(+), 2 deletions(-)
PS C:\Users\barni\Documents\GitHub\Asynchronous\Lab1> git log --oneline
cc72c8b (HEAD -> master) thirs reset
5c03a30 third update
713d711 updated version
ed5e64c (tag: v1) amended version
```

1. Create a remote repository
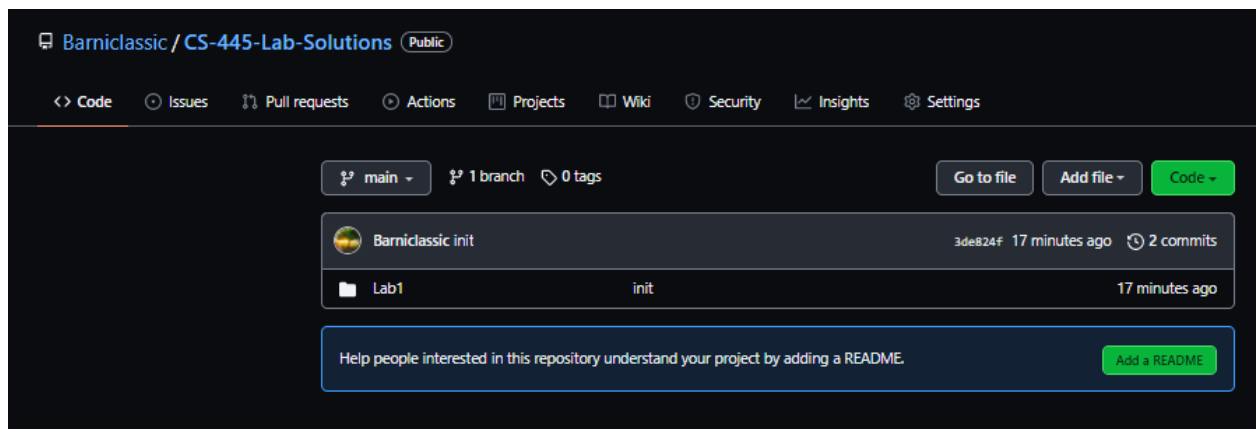
2. git clone

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git clone https://github.com/
Barniclassic/CS-445-Lab-Solutions.git
Cloning into 'CS-445-Lab-Solutions'...
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 10 (delta 1), reused 6 (delta 0), pack-reused 0
Receiving objects: 100% (10/10), done.
Resolving deltas: 100% (1/1), done.
```

3. git remote

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git remote
origin
```

4. git push

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git push
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 555 bytes | 111.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Barniclassic/CS-445-Lab-Solutions.git
   3de824f..058dccf  main -> main
```

5. git fetch

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> 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), 684 bytes | 19.00 KiB/s, done.
From https://github.com/Barniclassic/CS-445-Lab-Solutions
   9442058..aa426d0  main        -> origin/main
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git merge
Updating 9442058..aa426d0
Fast-forward
 README.md | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)
```
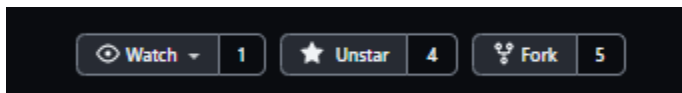
6. git pull

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git pull
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (4/4), 768 bytes | 28.00 KiB/s, done.
From https://github.com/Barniclassic/CS-445-Lab-Solutions
   aa426d0..6c1f878  main          -> origin/main
Updating aa426d0..6c1f878
Fast-forward
 Lab1/test2.js | 6 +++---
 1 file changed, 3 insertions(+), 3 deletions(-)
```
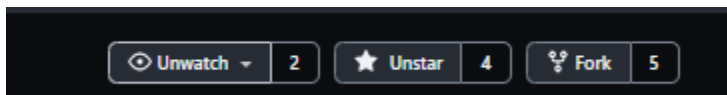
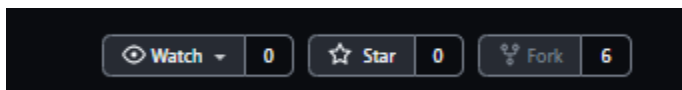upstream: https://github.com/bellaxing/cs445-labs

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\barni\Documents\GitHub\CS-445-Lab-Solutions> git clone https://github.com/Barniclassic/cs445-labs.git
Cloning into 'cs445-labs'...
remote: Enumerating objects: 188, done.
remote: Counting objects: 100% (188/188), done.
remote: Compressing objects: 100% (116/116), done.
remote: Total 188 (delta 72), reused 115 (delta 30), pack-reused 0 eceiving objects:  45% (85/188)
Receiving objects: 100% (188/188), 95.73 KiB | 507.00 KiB/s, done.
Resolving deltas: 100% (72/72), done.
```

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

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git branch 4100-BarniClassic
```

6. Checkout your new branch

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions> git checkout 4100-BarniClassic
Switched to branch '4100-BarniClassic'
```

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

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions\cs445-labs\Lab1> git add barnabas.js
```

8. Commit the changes

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions\cs445-labs\Lab1> git commit -m "from local branch repo"
[main 9906c56] from local branch repo
 1 file changed, 1 insertion(+)
 create mode 100644 Lab1/barnabas.js
```

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

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions\cs445-labs> git merge  112172-BarnabasBerhanu
Updating fc075c5..f7872a4
Fast-forward
 Lab1/barnabas.js | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 Lab1/barnabas.js
```

10.   Push your changes to the remote repo

```
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions\cs445-labs> git add .
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions\cs445-labs> git commit -m "change from branch"
[112172-BarniClassic e0a8093] change from branch
 1 file changed, 1 insertion(+), 1 deletion(-)
PS C:\Users\barni\Documents\GitHub\CS-445-Lab-Solutions\cs445-labs> git push origin 112172-BarniClassic
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 400 bytes | 200.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/Barniclassic/cs445-labs.git
   0cd49ef..e0a8093  112172-BarniClassic -> 112172-BarniClassic
```

11.   Create a new Pull Request to the upstream repo