Lab1

1. git init

```
macbooks-MacBook-Pro:Lab1 macbook$ git init
Initialized empty Git repository in /Users/macbook/Desktop/CS445Assignments/Lab1/.git/
macbooks-MacBook-Pro:Lab1 macbook$
```

2. git status

```
macbooks-MacBook-Pro:Lab1 macbook$ git status
On branch master

No commits yet

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

3.git diff

```
macbooks-MacBook-Pro:Lab1 macbook$ git diff
diff --git a/index.html b/index.html
index 6805510..e69de29 100644
--- a/index.html
+++ b/index.html
@@ -1,12 +0,0 @@
-<!DOCTYPE html>
-<html lang="en">
-<head>
-    <meta charset="UTF-8">
-    <meta http-equiv="X-UA-Compatible" content="IE=edge">
-    <meta name="viewport" content="width=device-width, initial-scale=1.0">
-    <title>Document</title>
-</head>
-<body>
-    <p>Hello there</p>
-</body>
-</html>
```

4. .gitignore

```
macbooks-MacBook-Pro:Lab1 macbook$ git status
On branch master

No commits yet

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

        new file:   .gitignore
        new file:   index.html
        new file:   index.txt

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   .gitignore
```

5. git add

```
macbooks-MacBook-Pro:Lab1 macbook$ git add index.html
macbooks-MacBook-Pro:Lab1 macbook$ git status
On branch master

No commits yet

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

        new file:   index.html
```

6.git commit

```
macbooks-MacBook-Pro:Lab1 macbook$ git commit -m 'second commit'
[master 5295338] second commit
 2 files changed, 12 insertions(+)
 rename index.txt => index.css (100%)
```

7. git commit --amend

```
second commit

# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# Date:      Tue Nov 1 16:50:57 2022 -0500
#
# On branch master
# Changes to be committed:
#       renamed:    index.txt -> index.css
#       modified:   index.html
#
# Changes not staged for commit:
#       modified:   index.html
#
```

8. git log

```
macbooks-MacBook-Pro:Lab1 macbook$ git log
commit 5295338c85037cdd344ec3d13f471ec9f9821f0c (HEAD -> master)
Author: Paul Amani <67480521+pacis32@users.noreply.github.com>
Date:   Tue Nov 1 16:50:57 2022 -0500

    second commit

commit 2bdae2f2f11969dc78e680b15f9cb5272f0ef239
Author: Paul Amani <67480521+pacis32@users.noreply.github.com>
Date:   Tue Nov 1 16:39:34 2022 -0500

    first commit
```

9. git tag

```
macbooks-MacBook-Pro:Lab1 macbook$ git tag -a v1.1 -m "my version 1.1"
macbooks-MacBook-Pro:Lab1 macbook$ git tag -a v1.2 -m "my version 1.2"

macbooks-MacBook-Pro:Lab1 macbook$ git tag
v1.1
v1.2
```

10. git branch

```
macbooks-MacBook-Pro:Lab1 macbook$ git branch
   frontend
 * master
macbooks-MacBook-Pro:Lab1 macbook$ git switch frontend
git: 'switch' is not a git command. See 'git --help'.
macbooks-MacBook-Pro:Lab1 macbook$ git checkout frontend
Switched to branch 'frontend'
```

11. git chechout

```
macbooks-MacBook-Pro:Lab1 macbook$ git checkout 2bdae2f
Note: checking out '2bdae2f'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:

  git checkout -b <new-branch-name>

HEAD is now at 2bdae2f first commit
```

12. i) conflict

```
You, 1 second ago | 1 author (You)
<<<<<<< HEAD
this is the merge conflit testthis is main
=======
this is a conflict creation
>>>>>>> newbranch-merge
```

ii)

```
merge-test >  ≡ test.txt
          You, now | 1 author (You)
   1
   2      this is the merge conflit test
   3      this is a conflict creation
   4
   5
```

```
macbooks-MacBook-Pro:merge-test macbook$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   test.txt

no changes added to commit (use "git add" and/or "git commit -a")
macbooks-MacBook-Pro:merge-test macbook$ git add .
macbooks-MacBook-Pro:merge-test macbook$ git commit -m 'conflict corrected'
[master 26ca05b] conflict corrected
 1 file changed, 1 insertion(+), 2 deletions(-)
```

13. git revert

```
Revert "adding index.js file"

This reverts commit 70bba0bb01314cfe709cfa2eabebbcf548576103.

# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# On branch master
# Changes to be committed:
#       deleted:    index.js
#       modified:   test.txt
#
~
"~/Desktop/CS445Assignments/Lab1/merge-test/.git/COMMIT_EDITMSG" 12L, 325C
```

14. git reset

```
macbooks-MacBook-Pro:Lab1 macbook$ git log
commit 0c6e4f4c7591c9cc4863afce9c7314b5b39a94e8 (HEAD -> master)
Author: Paul Amani <67480521+pacis32@users.noreply.github.com>
Date:   Tue Nov 1 18:39:34 2022 -0500

    last one

commit e196befb667492520f8036ce6586d01cb35fd3c7
Author: Paul Amani <67480521+pacis32@users.noreply.github.com>
Date:   Tue Nov 1 17:24:55 2022 -0500

    modified index.html

commit 5295338c85037cdd344ec3d13f471ec9f9821f0c (tag: v1.2, tag: v1.1, frontend)
Author: Paul Amani <67480521+pacis32@users.noreply.github.com>
Date:   Tue Nov 1 16:50:57 2022 -0500

    second commit

commit 2bdae2f2f11969dc78e680b15f9cb5272f0ef239
Author: Paul Amani <67480521+pacis32@users.noreply.github.com>
Date:   Tue Nov 1 16:39:34 2022 -0500

    first commit
macbooks-MacBook-Pro:Lab1 macbook$ git reset --hard e196bef
warning: unable to rmdir 'merge-test': Directory not empty
HEAD is now at e196bef modified index.html
macbooks-MacBook-Pro:Lab1 macbook$ git reset --hard 5295338
HEAD is now at 5295338 second commit
```
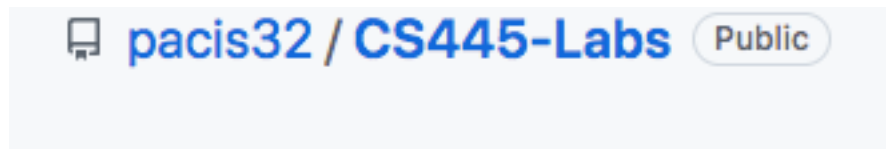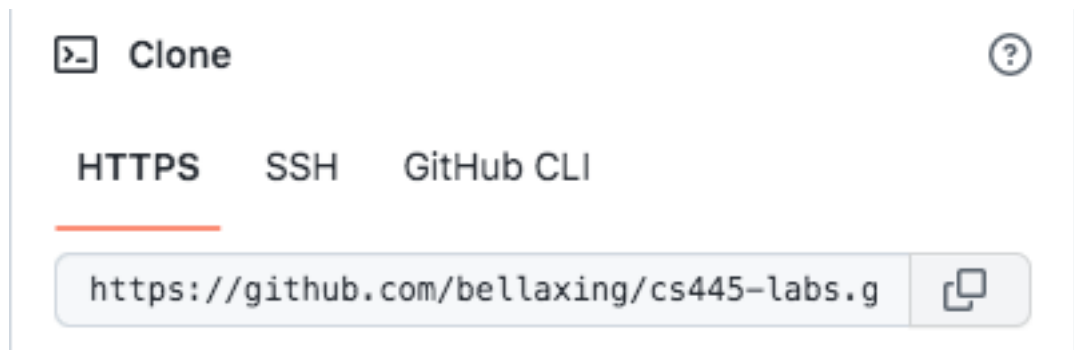
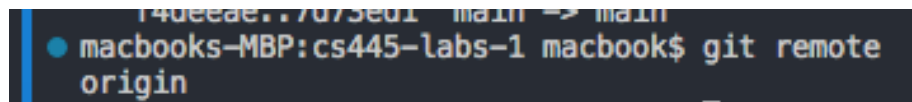# Practice with all the remote repository commands from the slides:
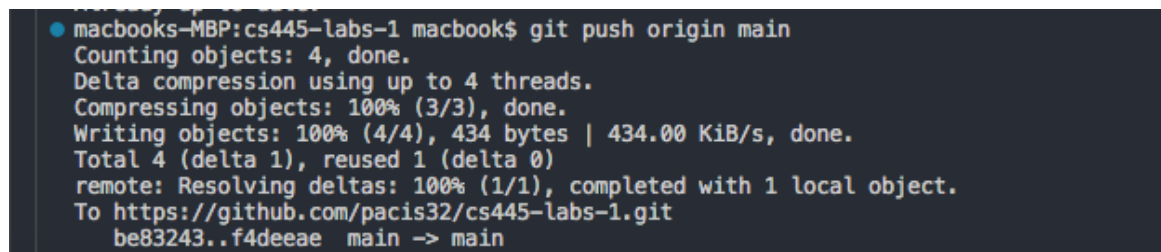
1. Create a remote repository

2. `git clone`
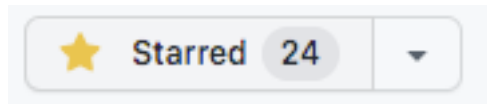

3. `git remote`

4. `git push`

5. `git fetch`

```
macbooks-MBP:cs445-labs-1 macbook$ git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From https://github.com/pacis32/cs445-labs-1
   7d73ed1..c76a841  main         -> origin/main
```
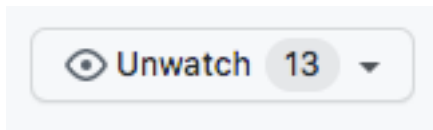
6. `git pull`

```
macbooks-MBP:cs445-labs-1 macbook$ git pull origin main
From https://github.com/pacis32/cs445-labs-1
 * branch            main        -> FETCH_HEAD
Updating 7d73ed1..c76a841
Fast-forward
 README.md | 1 +
 1 file changed, 1 insertion(+)
```

Practice with all the third party repositories commands from the slides:
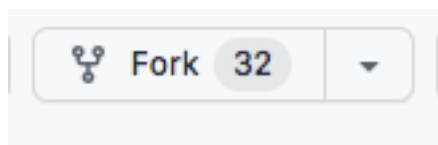
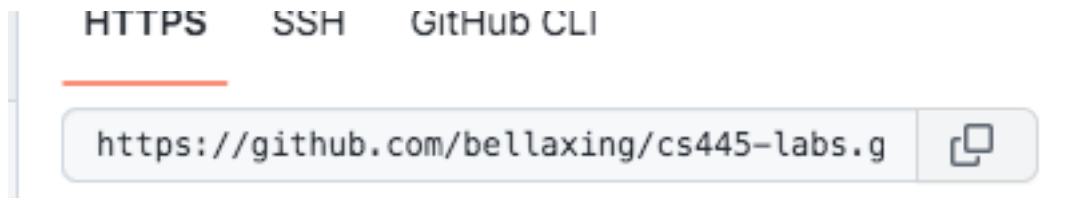1. Star the repository

2. Watch the repository for any changes

3. Fork the repository

4. Clone your forked repository into your local machine

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

```
● macbooks-MBP:cs445-labs-1 macbook$ git branch 0025-JohnMarira
● macbooks-MBP:cs445-labs-1 macbook$ git branch
    0023-ZoumaKurt
    0025-JohnMarira
  * main
```

6. Checkout your new branch

```
  * main
● macbooks-MBP:cs445-labs-1 macbook$ git checkout 0025-JohnMarira
    Switched to branch '0025-JohnMarira'
```

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

```
macbooks-MBP:cs445-labs-1 macbook$ git add .
macbooks-MBP:cs445-labs-1 macbook$ git status
On branch 0025-JohnMarira
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        new file:   greetings.js
```

8. Commit the changes

```
macbooks-MBP:cs445-labs-1 macbook$ git commit -m 'adding greetings to JohnMarira branch'
[0025-JohnMarira 7d73ed1] adding greetings to JohnMarira branch
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 greetings.js
```

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

```
macbooks-MBP:cs445-labs-1 macbook$ git merge 0025-JohnMarira
Updating f4deeae..7d73ed1
Fast-forward
 greetings.js | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 greetings.js
```

10. Push your changes to the remote repo

```
macbooks-MBP:cs445-labs-1 macbook$ git push origin main
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 313 bytes | 313.00 KiB/s, done.
Total 3 (delta 1), reused 1 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/pacis32/cs445-labs-1.git
   f4deeae..7d73ed1  main -> main
```

11. Create a new Pull Request to the upstream repo

Pull request #29

🔀 Open   pacis32 wants to merge 4 commits into `bellaxing:main` from `pacis32:main`