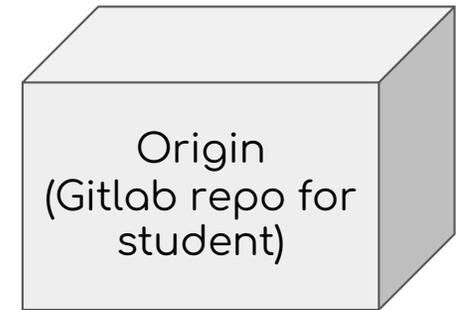


Git Workflow Basics

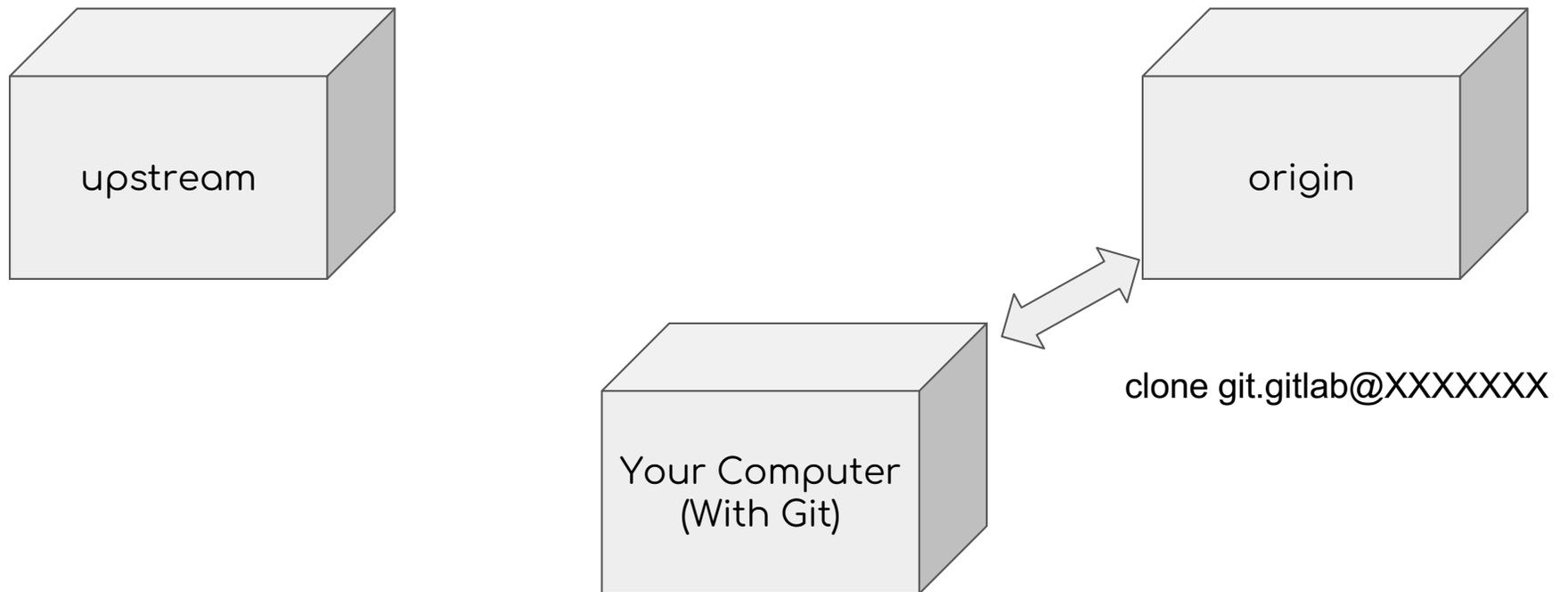
Setting Up Your Git Repo

```
// student repo link format:  
// https://gitlab.cs.umd.edu/cmssc436labsprivate/cmssc436-{YourDirID}.git  
// upstream repo link  
// https://gitlab.cs.umd.edu/cmssc436labsprivate/cmssc436f23students  
% git clone httpsLinkToStudentRepo (or sshLinkToStudentRepo)  
% cd cmssc436-DirectoryID  
% git remote add upstream  
https://gitlab.cs.umd.edu/cmssc436labsprivate/cmssc436f23students  
% git pull upstream main  
Or if "fatal: refusing to merge unrelated histories"  
% git pull upstream main --allow-unrelated-histories  
% git push origin main
```

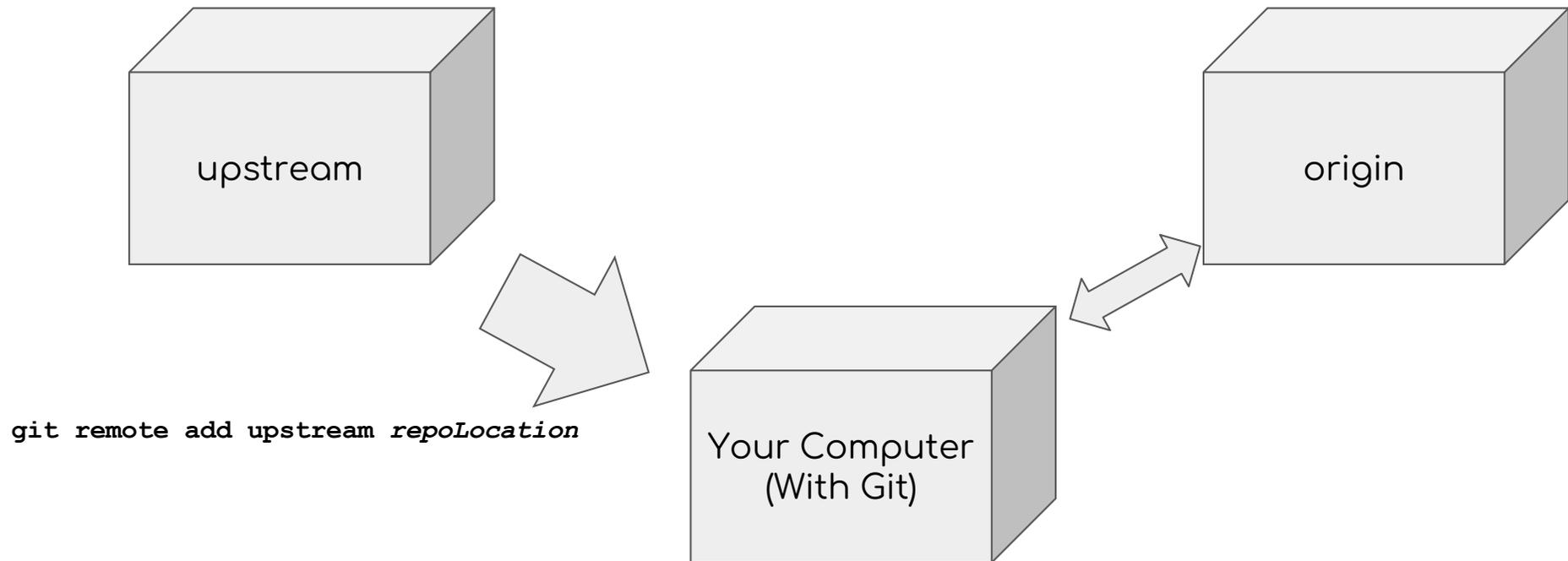
Repo Structure



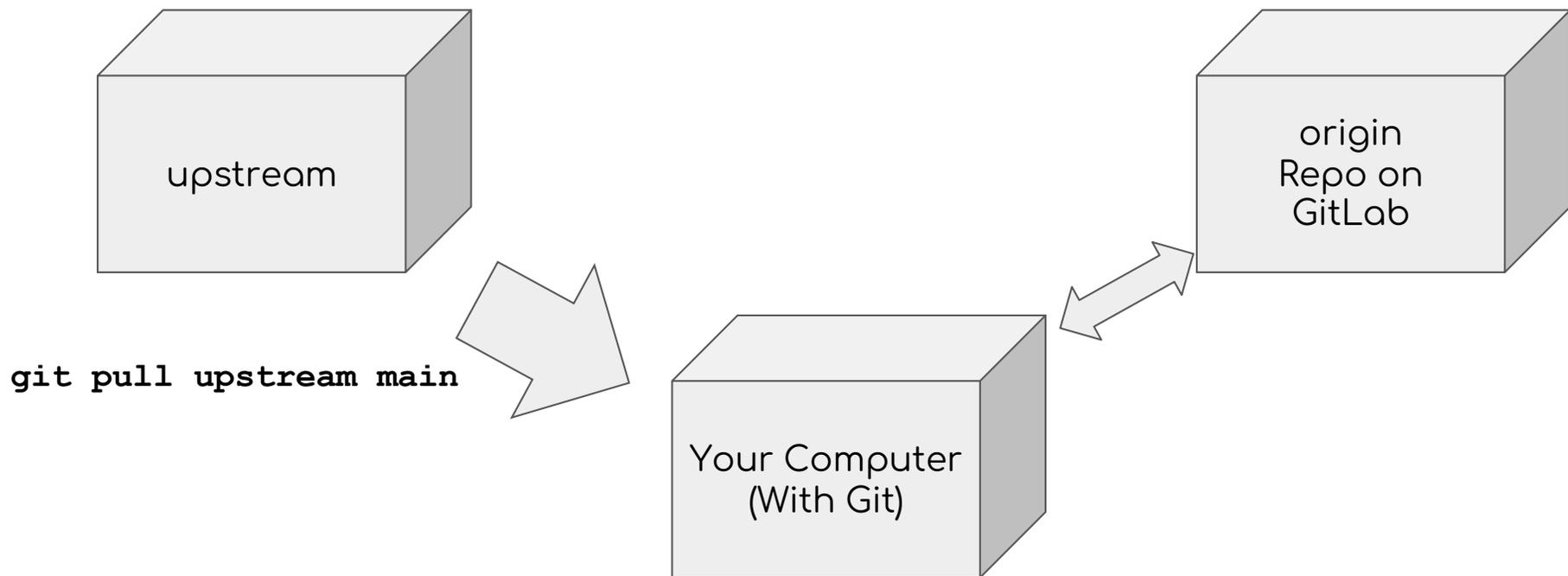
Create Your Personal Repo



Make Instructor Repo the Source of Starter Files



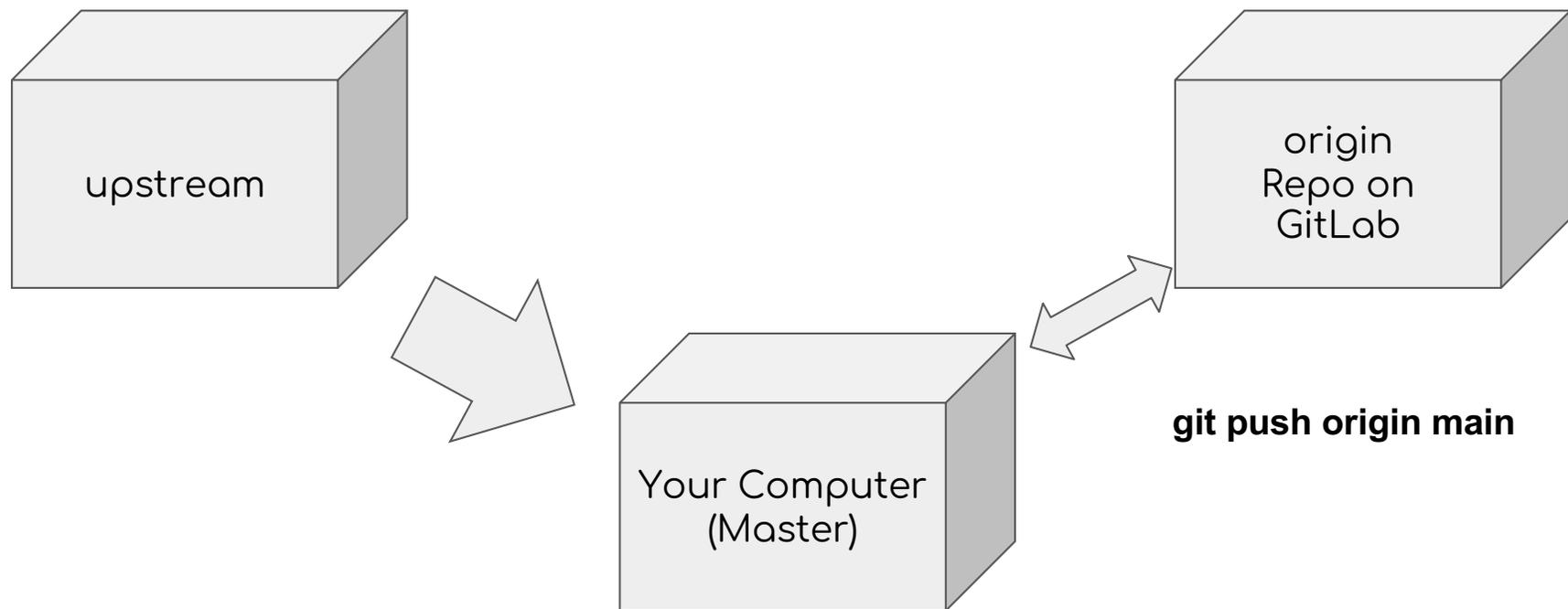
Pull Starter Files to Your Local Repo



Starter Files Flow to Student Local Repo

```
[saiyr@Sais-Macbook cm436-aporter % git pull upstream main
remote: Enumerating objects: 32, done.
remote: Counting objects: 100% (32/32), done.
remote: Compressing objects: 100% (25/25), done.
remote: Total 32 (delta 5), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (32/32), 61.35 KiB | 1.92 MiB/s, done.
From https://gitlab.cs.umd.edu/cm436labsprivate/cm436f23students
 * branch          main          -> FETCH_HEAD
 * [new branch]    main          -> upstream/main
fatal: refusing to merge unrelated histories
```

Push Your Updated Files to Your Gitlab Repo



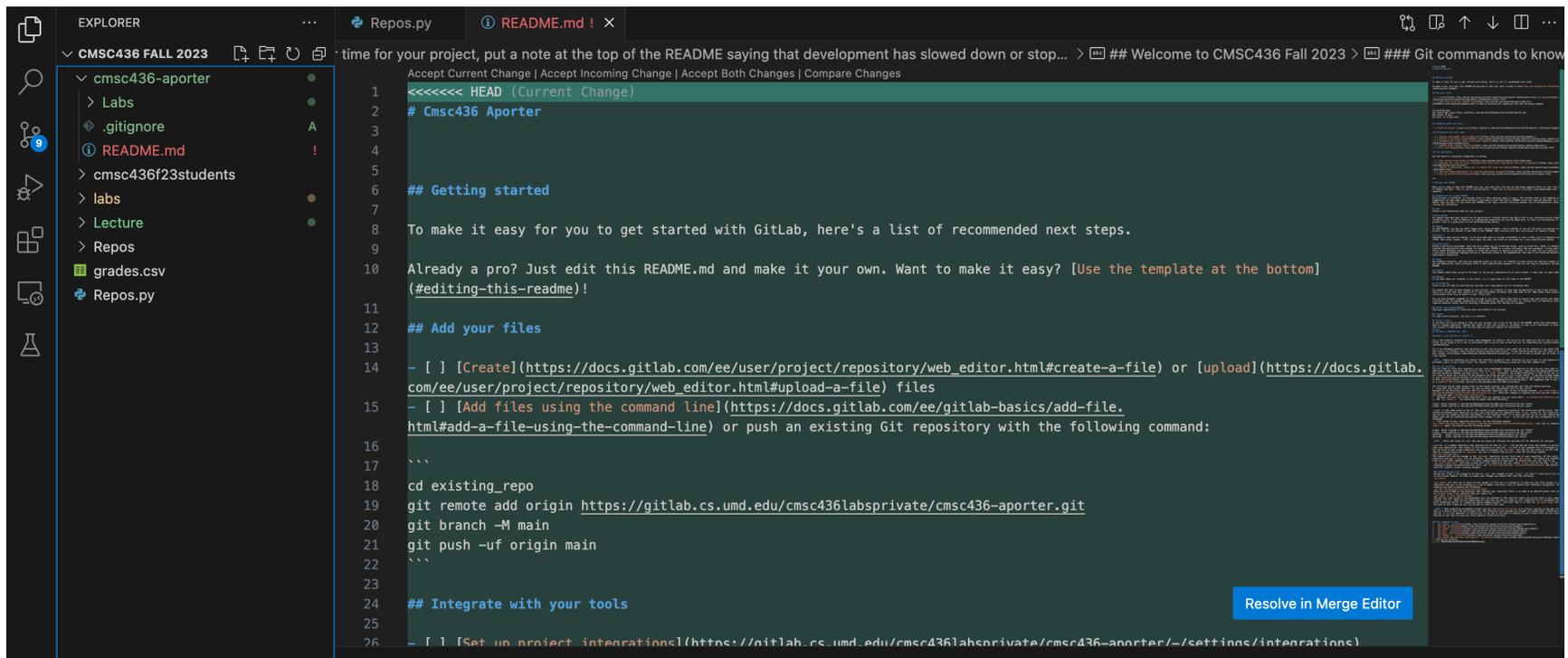
Important: Merge Errors

- Possibility of encountering one at some point is high
- Don't panic
 - Save a copy of your work elsewhere for safety

```
[saiyr@Sais-Macbook cm436-aporter % git pull upstream main --allow-unrelated-hi]
stories
From https://gitlab.cs.umd.edu/cm436labsprivate/cm436f23students
 * branch          main          -> FETCH_HEAD
Auto-merging README.md
CONFLICT (add/add): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.
saiyr@Sais-Macbook cm436-aporter % █
```

Important: Merge Errors

- Resolve the merge conflict in an IDE



The screenshot shows an IDE window with a file explorer on the left and a code editor on the right. The file explorer shows a project named 'CMSC436 FALL 2023' with a sub-project 'cmsc436-aporter'. The code editor displays the content of 'README.md', which is in a merge conflict state. The conflict is highlighted in green, and a 'Resolve in Merge Editor' button is visible at the bottom right.

```
time for your project, put a note at the top of the README saying that development has slowed down or stop... > ## Welcome to CMSC436 Fall 2023 > ### Git commands to know
Accept Current Change | Accept Incoming Change | Accept Both Changes | Compare Changes
1 <<<<<< HEAD (Current Change)
2 # Cmssc436 Aporter
3
4
5
6 ## Getting started
7
8 To make it easy for you to get started with GitLab, here's a list of recommended next steps.
9
10 Already a pro? Just edit this README.md and make it your own. Want to make it easy? [Use the template at the bottom]
11 (#editing-this-readme)!
12
13 ## Add your files
14 - [ ] [Create](https://docs.gitlab.com/ee/user/project/repository/web_editor.html#create-a-file) or [upload](https://docs.gitlab.
15 com/ee/user/project/repository/web_editor.html#upload-a-file) files
16 - [ ] [Add files using the command line](https://docs.gitlab.com/ee/gitlab-basics/add-file.
17 html#add-a-file-using-the-command-line) or push an existing Git repository with the following command:
18
19 ```
20 cd existing_repo
21 git remote add origin https://gitlab.cs.umd.edu/cmssc436labsprivate/cmssc436-aporter.git
22 git branch -M main
23 git push -uf origin main
24 ```
25
26 ## Integrate with your tools
27 - [ ] [Set up project integrations](https://gitlab.cs.umd.edu/cmssc436labsprivate/cmssc436-aporter/-/settings/integrations)
```

Important: Merge Errors

- Contact the TA or Instructor
- Nuclear Option
 - Clone your repository again elsewhere
 - Make sure it's up-to date with upstream
 - Copy over your work to this new directory and push

Important: Merge Errors

- Not a merge error

```
cmssc436-aporter — -zsh — 80x24
Last login: Wed Aug 30 21:20:37 on ttys000
[saiyr@Sais-Macbook ~ % cd CMSC436\ Fall\ 2023
cd: no such file or directory: CMSC436 Fall 2023
[saiyr@Sais-Macbook ~ % cd Downloads/CMSC436\ Fall\ 2023/cmssc436-aporter
[saiyr@Sais-Macbook cmssc436-aporter % git pull upstream main --allow-unrelated-hi
stories
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 3 (delta 1), reused 1 (delta 1), pack-reused 2
Unpacking objects: 100% (3/3), 2.94 KiB | 752.00 KiB/s, done.
From https://gitlab.cs.umd.edu/cmssc436labsprivate/cmssc436f23students
* branch          main          -> FETCH_HEAD
   84517dc..8c85780 main          -> upstream/main
Merge made by the 'ort' strategy.
 README.md | 2 +--
 1 file changed, 1 insertion(+), 1 deletion(-)
[saiyr@Sais-Macbook cmssc436-aporter % █
```

Important Git commands

`git status` → To see if there are any changes to commit

Important commands

`git status` → To see if there are any changes to commit

`git fetch upstream master` → See if there is anything to pull

`git pull upstream master` → Actually pulling from upstream

How to turn in your work!

All on your local dev environment

```
git status
```

```
git add filesToCommit //(Don't use the --all flag!!)
```

```
git commit -m "exercise 1 implementation"
```

```
git push origin main
```

Check status of repo through browser