A FEW PREREQUISITES

1. Do you have a “**sandbox**” to play in?
    - ❏ Make a new folder on your laptop
2. Do you have **git** installed?
    - ❏ Check via command line: `$ git --version`
    - ❏ https://git-scm.com/download
3. Do you have a **github** account?
    - ❏ https://github.com

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FIRST THINGS FIRST

```
$ git --version
```

git version 2.14.3 (Apple Git-98)

Is git already installed?

https://git-scm.com/download

use all the default options

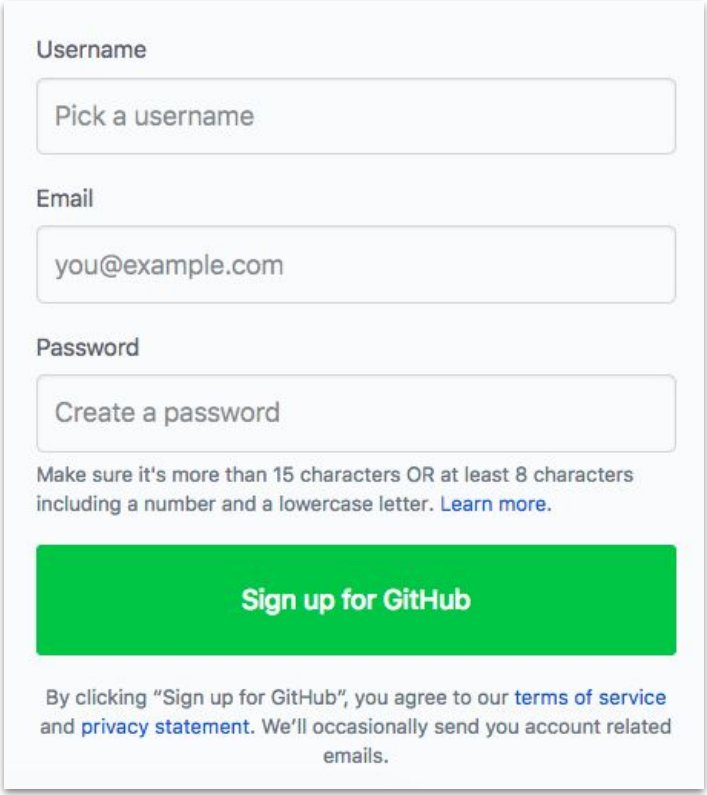
Windows: Launch Git Bash
Mac: Open Terminal

SECOND THINGS SECOND

https://github.com

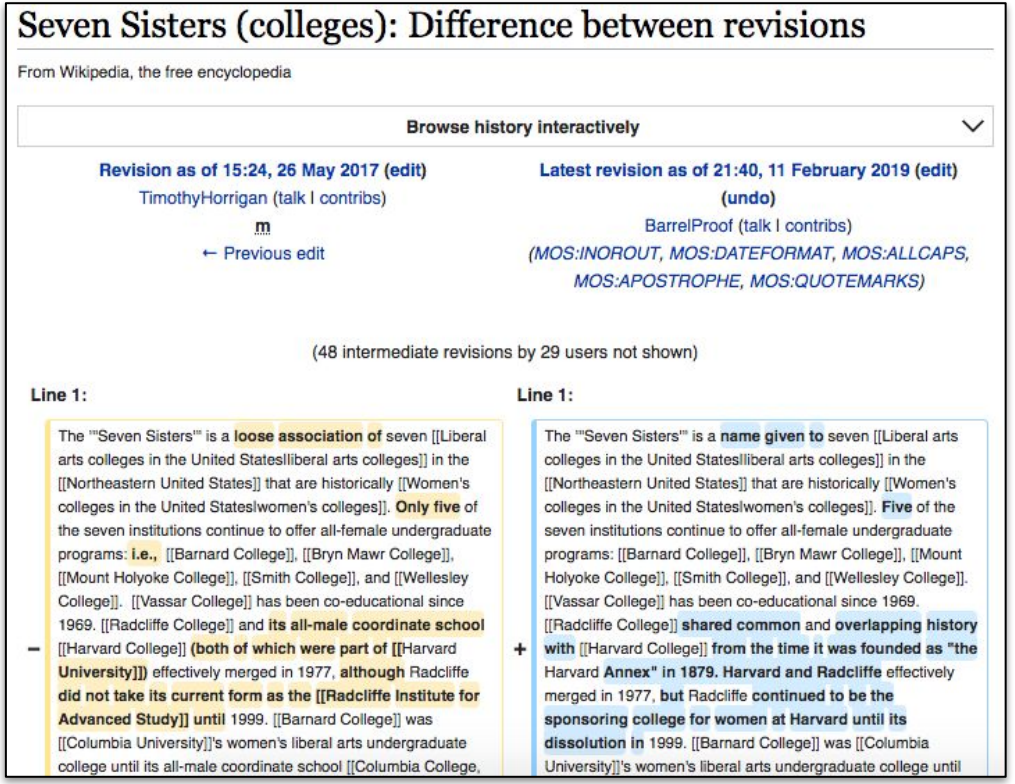
Create a github account in order to share code with your teammates

https://education.github.com/pack



VERSION CONTROL?

- Management of changes
- Documents and collections of information
- Ability to revert mistakes



Seven Sisters (colleges): Difference between revisions

From Wikipedia, the free encyclopedia

Browse history interactively

Revision as of 15:24, 26 May 2017 (edit)	Latest revision as of 21:40, 11 February 2019 (edit) (undo)
TimothyHorrigan (talk I contribs)	BarrelProof (talk I contribs)
m	*(MOS:INOROUT, MOS:DATEFORMAT, MOS:ALLCAPS, MOS:APOSTROPHE, MOS:QUOTEMARKS)*
← Previous edit	

(48 intermediate revisions by 29 users not shown)

Line 1:	Line 1:
The '''Seven Sisters''' is a **loose association of** seven [[Liberal arts colleges in the United States|liberal arts colleges]] in the [[Northeastern United States]] that are historically [[Women's colleges in the United States|women's colleges]]. **Only five** of the seven institutions continue to offer all-female undergraduate programs: **i.e.,** [[Barnard College]], [[Bryn Mawr College]], [[Mount Holyoke College]], [[Smith College]], and [[Wellesley College]]. [[Vassar College]] has been co-educational since 1969. [[Radcliffe College]] and **its all-male coordinate school** [[Harvard College]] **(both of which were part of [[**Harvard **University]])** effectively merged in 1977, **although** Radcliffe **did not take its current form as the [[Radcliffe Institute for Advanced Study]] until** 1999. [[Barnard College]] was [[Columbia University]]'s women's liberal arts undergraduate college until its all-male coordinate school [[Columbia College,	The '''Seven Sisters''' is a **name given to** seven [[Liberal arts colleges in the United States|liberal arts colleges]] in the [[Northeastern United States]] that are historically [[Women's colleges in the United States|women's colleges]]. **Five** of the seven institutions continue to offer all-female undergraduate programs: [[Barnard College]], [[Bryn Mawr College]], [[Mount Holyoke College]], [[Smith College]], and [[Wellesley College]]. [[Vassar College]] has been co-educational since 1969. [[Radcliffe College]] **shared common** and **overlapping history with** [[Harvard College]] **from the time it was founded as "the** Harvard **Annex" in 1879. Harvard and Radcliffe** effectively merged in 1977, **but** Radcliffe **continued to be the sponsoring college for women at Harvard until its dissolution in** 1999. [[Barnard College]] was [[Columbia University]]'s women's liberal arts undergraduate college until

WHAT IS GIT?

- Version control system
- Designed for team collaboration
- Free command line tool

WHAT IS GITHUB?

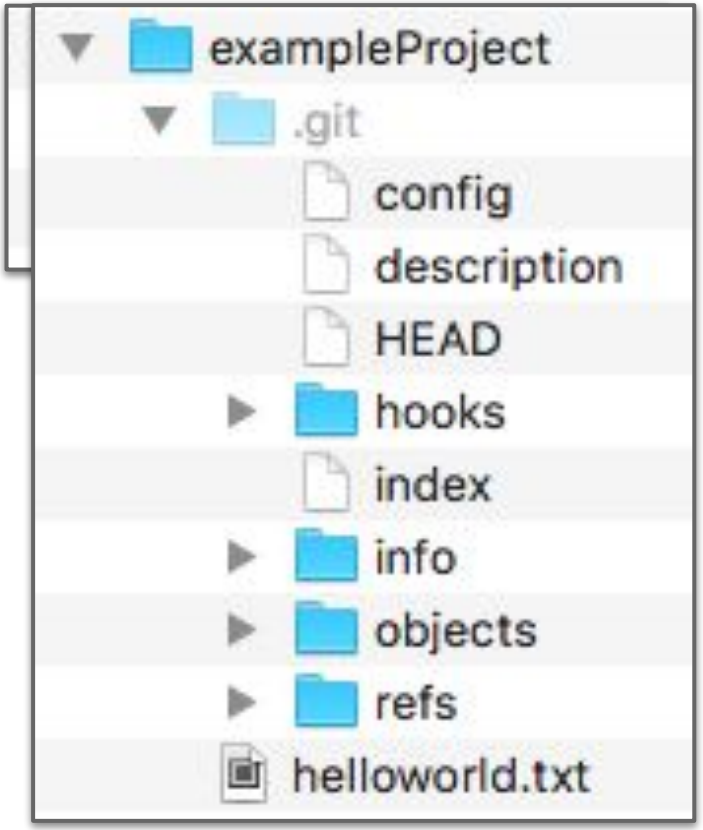
- Web-based hosting service
- Basic features available for free
- More for education/paid accounts

GETTING STARTED

List *all* files in current folder	`$ ls -a`
Change directory (move to a folder)	`$ cd <subfolder>`
What's the status of the git project?	`$ git status`
Initialize a new project	`$ git init <project>`
Download project and version history	`$ git clone <url>`

WHAT JUST HAPPENED?!

- ➔ Initialized a project
- ➔ Created a file
- ➔ Edited the file
- ➔ Saved the file
- ➔ *Staged* the file
- ➔ “On branch master”?



WHAT'S NEXT?

Look through history of the project	`$ git log`
Take a snapshot of the current work	`$ git commit -m <msg>`
What's changed since last commit?	`$ git diff (--staged)`

QUICK DETOUR!

Mac:

```
$ git config --global core.editor "open -W -n"
```

Windows:

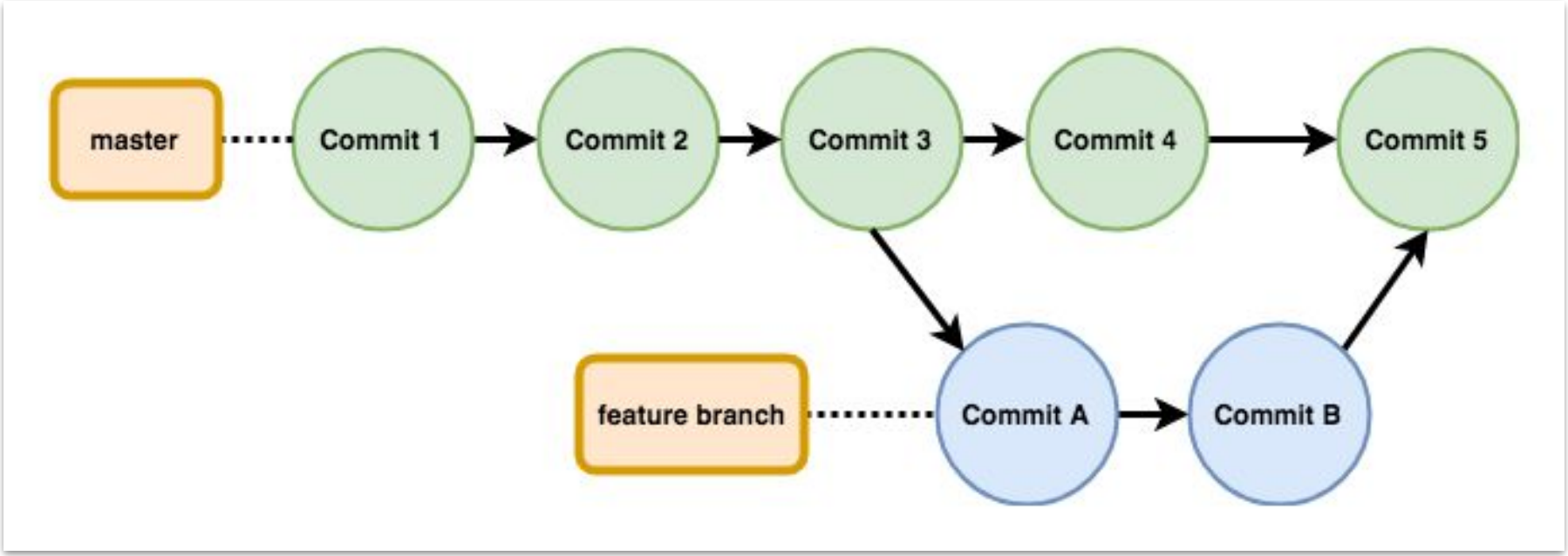
```
$ git config --global core.editor notepad
```

Changing the default git editor will allow us to avoid editing text files with things like vi, vim, emacs.

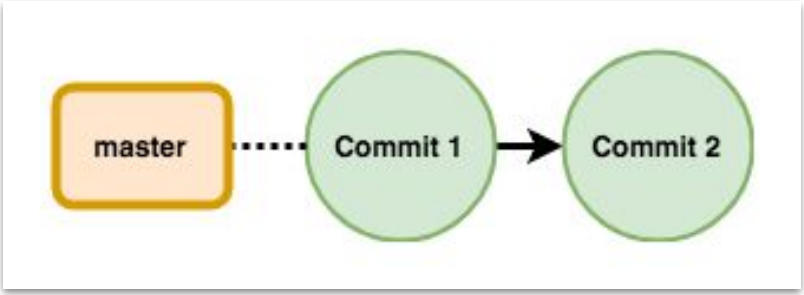
WHAT'S NEXT?

Look through history of the project	`$ git log`
Take a snapshot of the current work	`$ git commit -m <msg>`
What's changed since last commit?	`$ git diff (--staged)`
Creates a new commit, records in log	`$ git revert <commit>`
Undoes later commits, keeps changes	`$ git reset <commit>`

BRANCHES

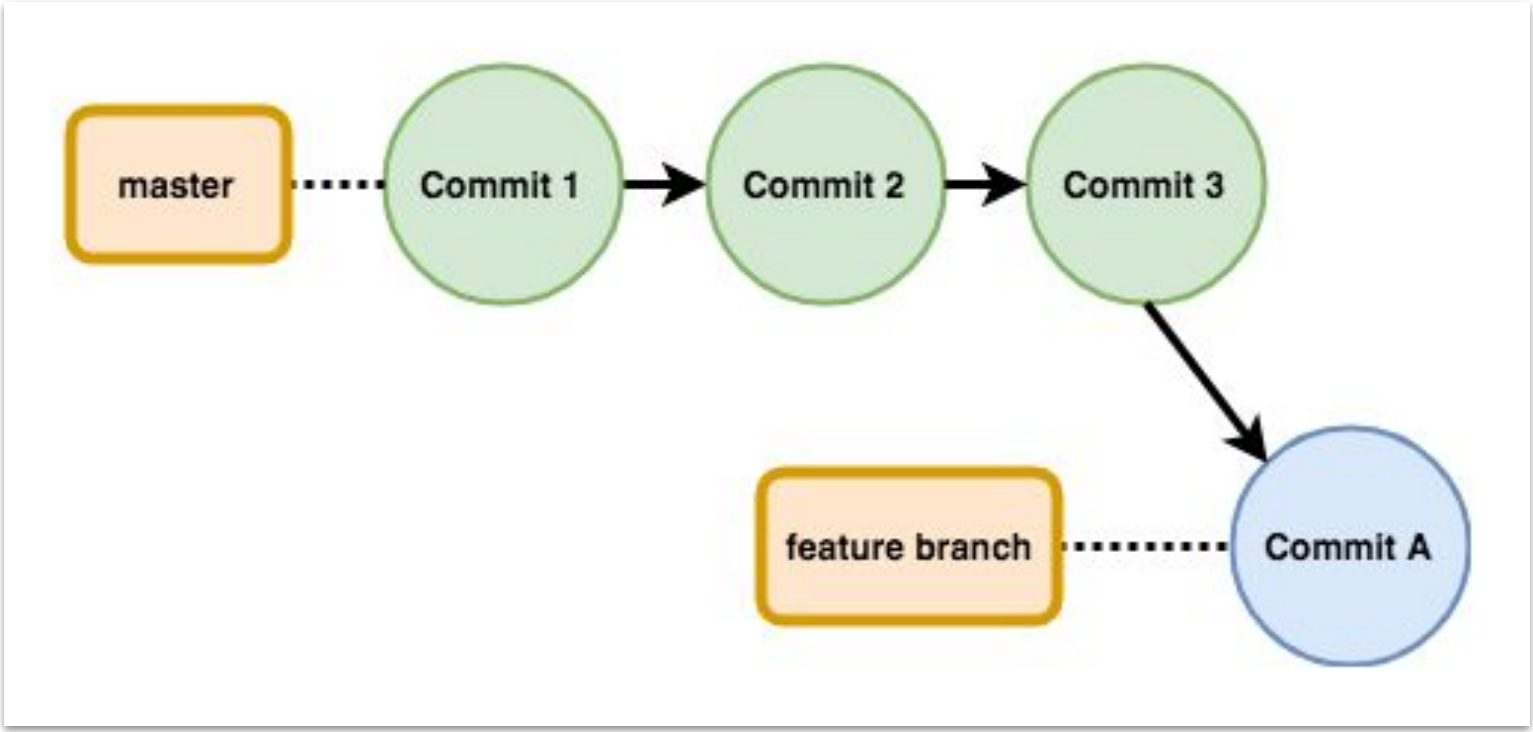

master
Commit 1
Commit 2
Commit 3
Commit 4
Commit 5
feature branch
Commit A
Commit B

WHAT'S NEXT?

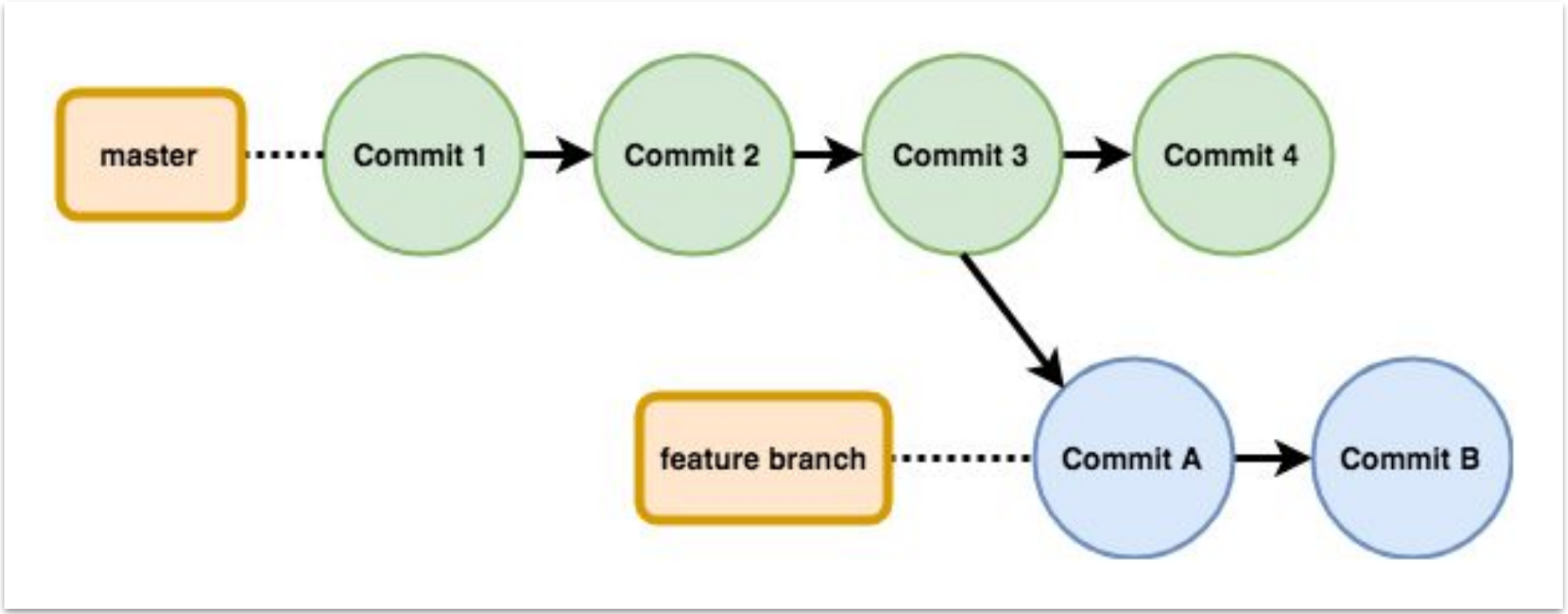


List out all the branches	`$ git branch`
Switch to the named branch	`$ git checkout (-b) <name>`
Merge into current branch	`$ git merge <name>`

BRANCHES

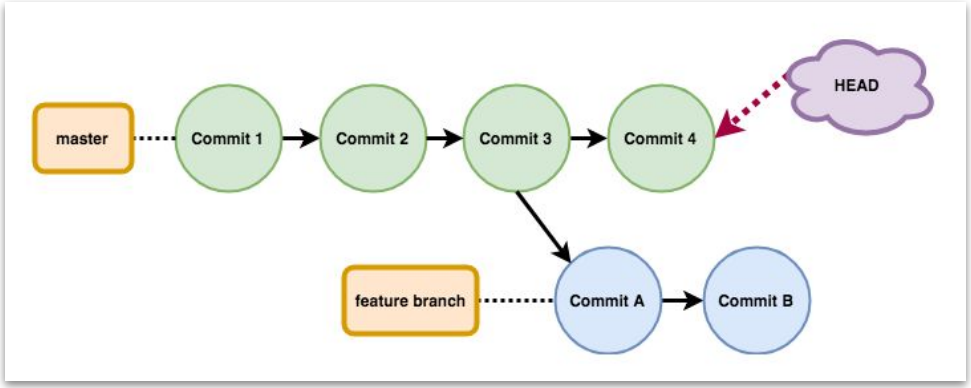


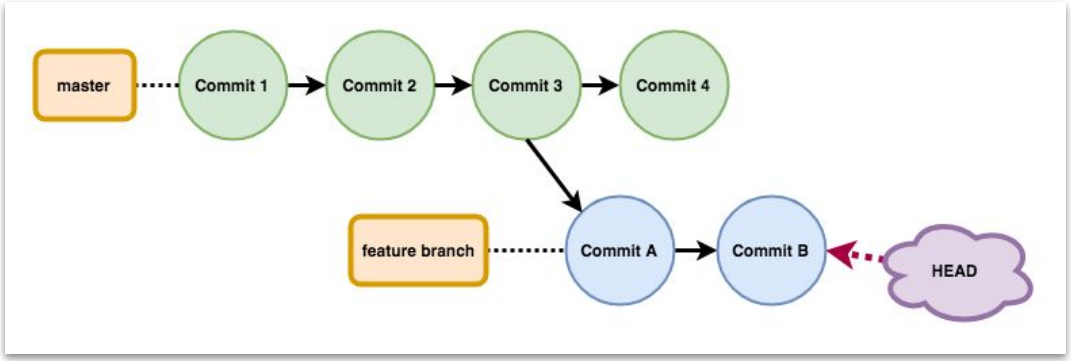
BRANCHES


master
Commit 1
Commit 2
Commit 3
Commit 4
feature branch
Commit A
Commit B

Terminology: HEAD

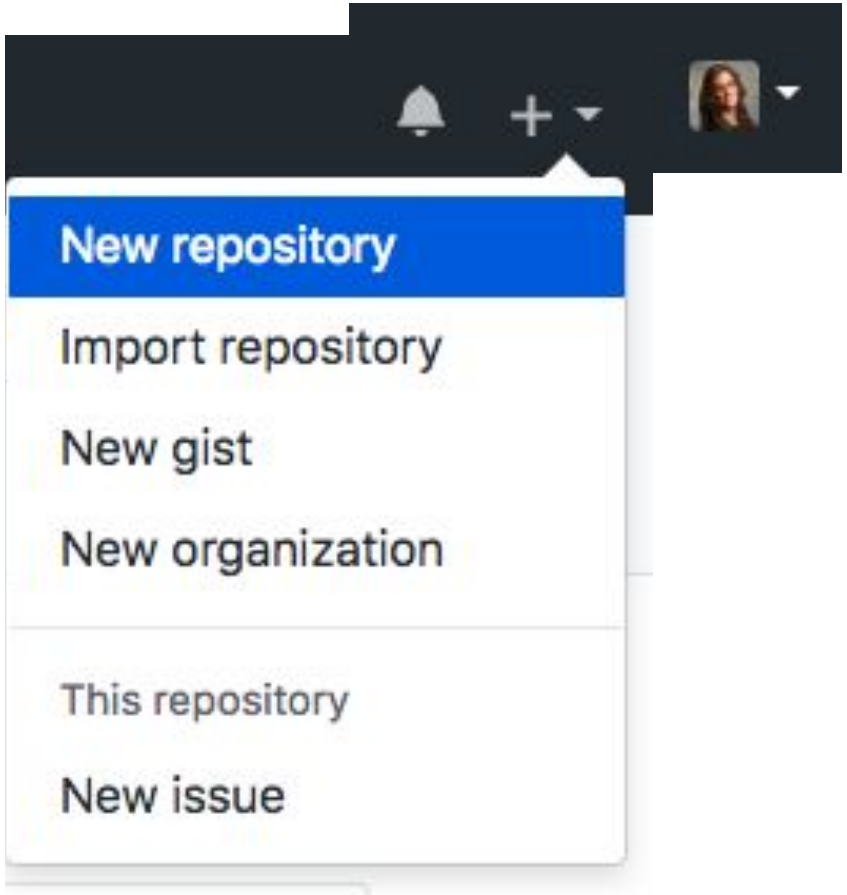
- Symbolic reference
- Last known state of working directory
- Parent of your next commit



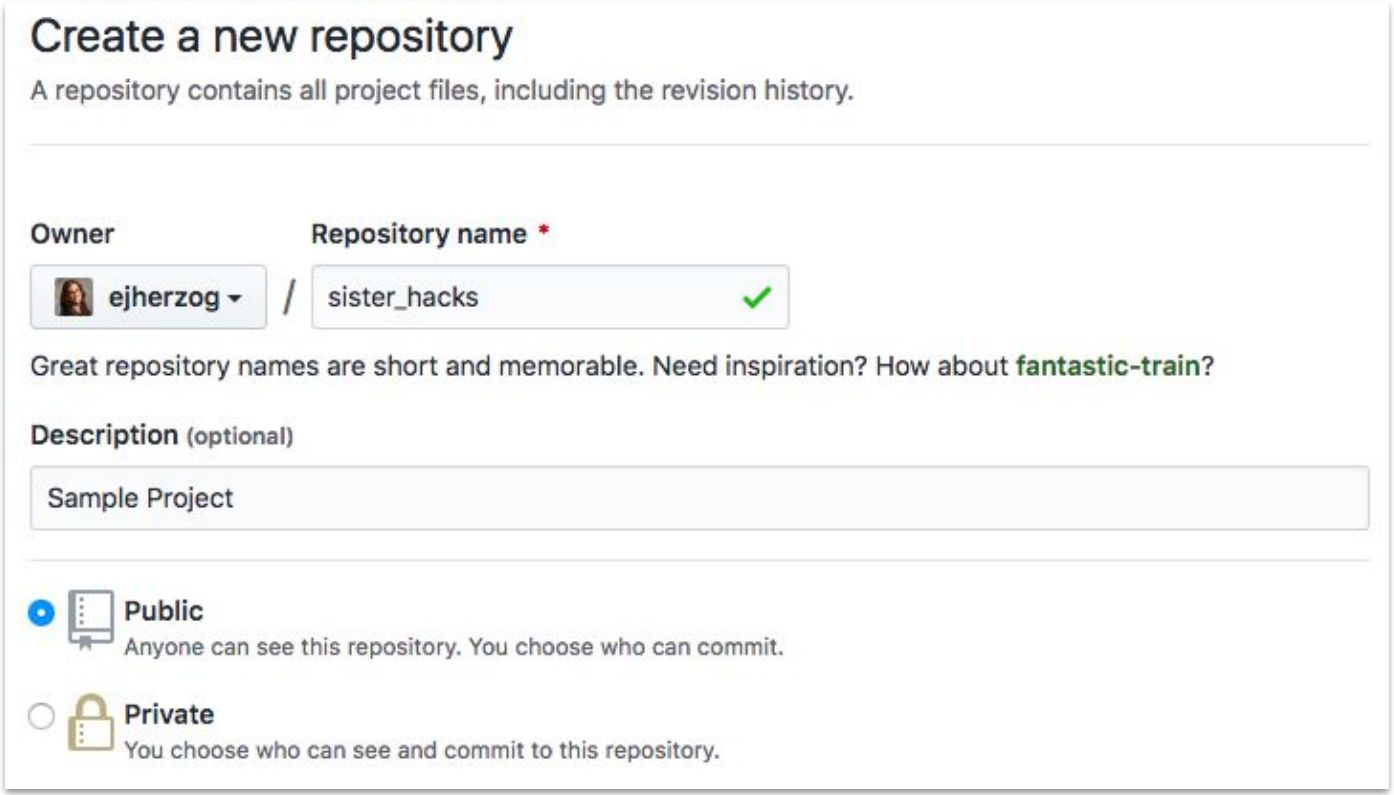


LET'S COLLABORATE!

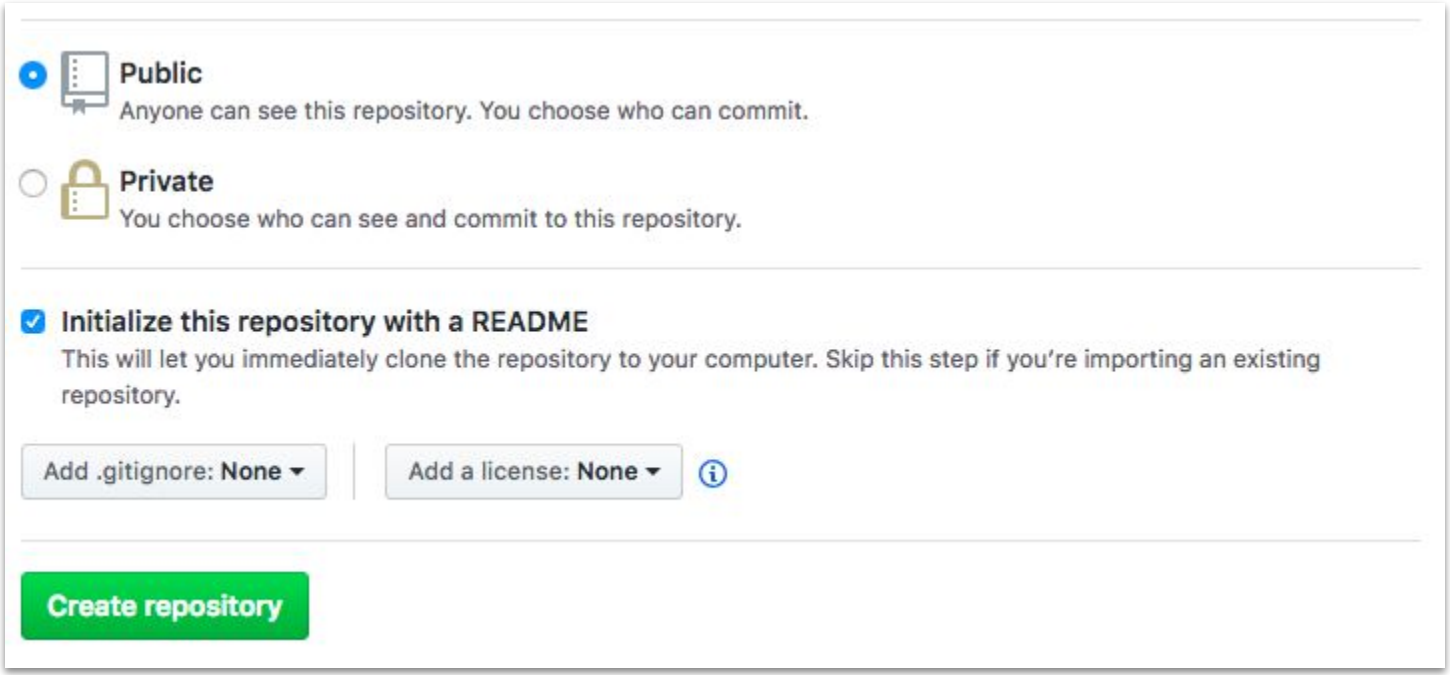
- Go to github.com
- Choose 1 team member (ONLY 1) who will create a new repository
- Use the + in the upper right corner



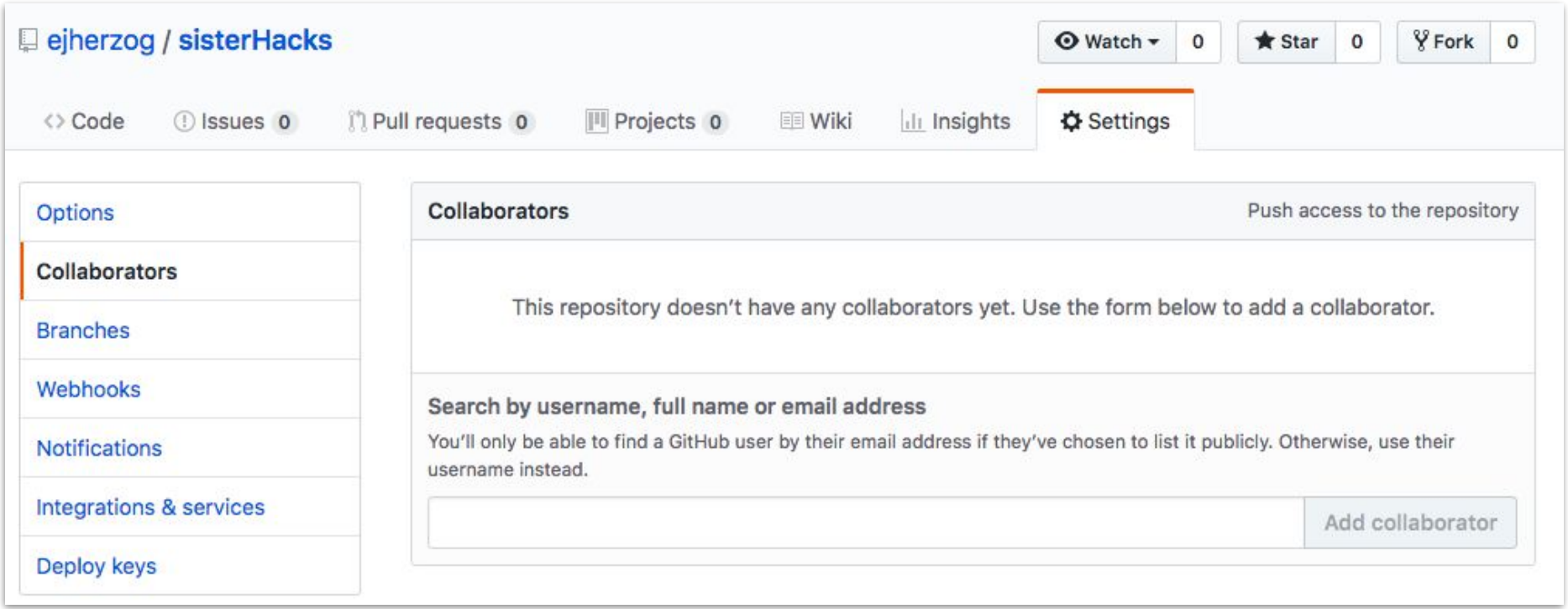
LET'S COLLABORATE!



LET'S COLLABORATE!



LET'S COLLABORATE!



LET'S COLLABORATE!

- Go to `github.com/<username>/<repositoryName>`
- Click green 'Clone or Download' button
- Copy URL to clipboard
- **`$ git clone <URL>`**
- **`$ cd <repositoryName>`**

DO SOME BRANCH WORK

- `$ git pull`
- `$ git status`
- `$ git checkout -b <yourname>`
- Create at least one new file (.txt, .csv, .md, .py)
- `$ git add .`
- `$ git commit -m "<meaningful message>"`

WHERE ARE YOUR CHANGES?

- `$ git status`
- Look at the github page for your repo: no branches??
- `$ git pull`
- `$ git push`
- `$ git push --set-upstream origin <branch>`
- Look back at the github page for your repo

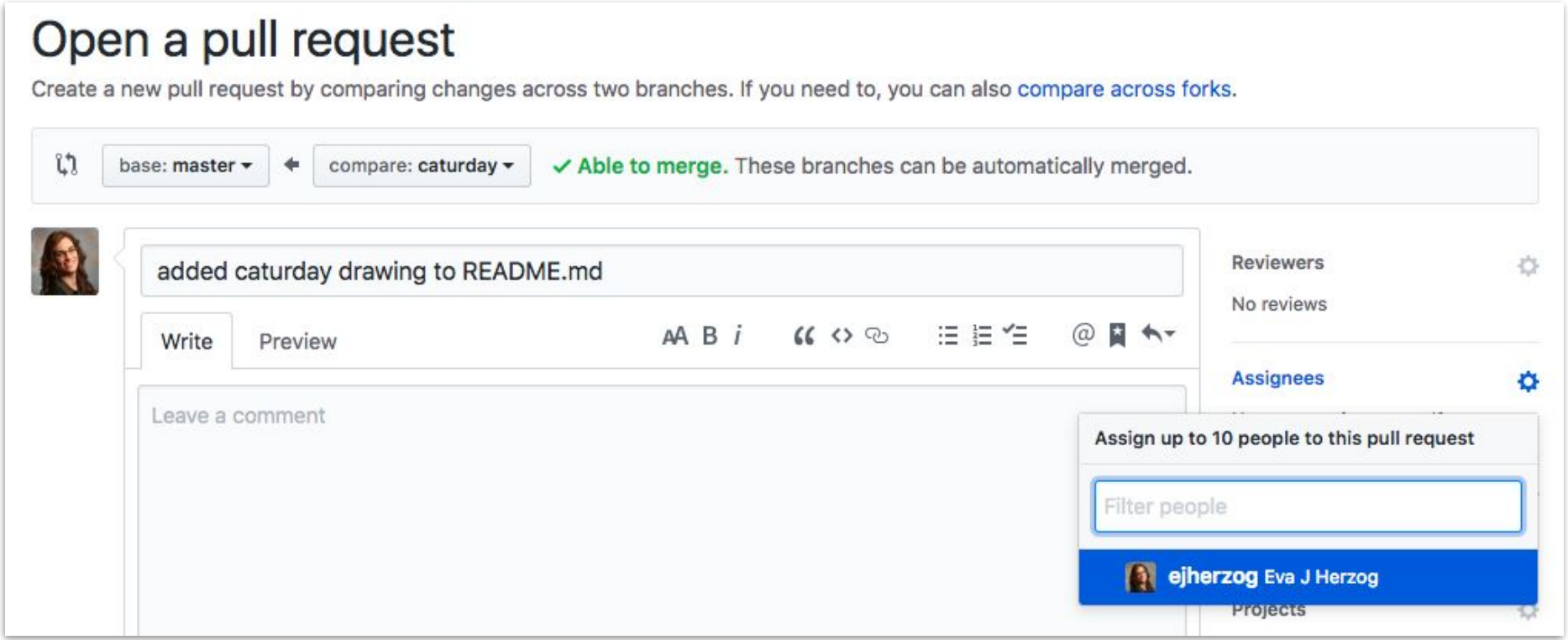
PUSHING AND PULLING

Get remote updates to local machine	`$ git fetch`
git fetch + incorporate those changes	`$ git pull`
Upload all local branches to Github	`$ git push`

```
$ git push --set-upstream origin <branch name>
```

Push a local branch to the remote repo for the first time

MERGE YOUR CHANGES



Last words of wisdom

- About to push changes? Pull first.
- Trying out an idea? Create a new branch.
- Avoid erasing history. Leave the evidence.
- “Take chances, make mistakes, & get messy!”

-Ms. Frizzle

Sources

1. Git Logos: Jason Long [CC BY 3.0 (https://creativecommons.org/licenses/by/3.0)]
2. Seven Sisters Page History: https://en.wikipedia.org/wiki/Seven_Sisters_(colleges)
3. Computer ClipArt: AJ from openclipart.org [CC0]
4. Server Icon: The Oxygen Team, KDE; [LGPL (https://www.gnu.org/copyleft/lgpl.html)]
5. Github Logo: GitHub [MIT (http://opensource.org/licenses/mit-license.php)]
6. Branch diagrams: Eva Herzog using draw.io