GIT/GITHUB DAY 2

May 1st, 2024

Do the course survey!!!

Recap day 1

- Made a new repo under your account
- Explored some ways to see changes (diff) between working copy and the repository
- Finish setting up SSH keys (4pts on this week's homework)
  - *Added to keychain or ssh-agent*
  - *Uploaded to github*
- Change remote URL on *my-resources*

In RStudio Terminal tab, do:

```
git remote set-url origin  git@github.com:meekrob/my-resources.git
```

Now click the up-arrow to push!!!

ChatGPT, why do we add our key to the ssh-agent?

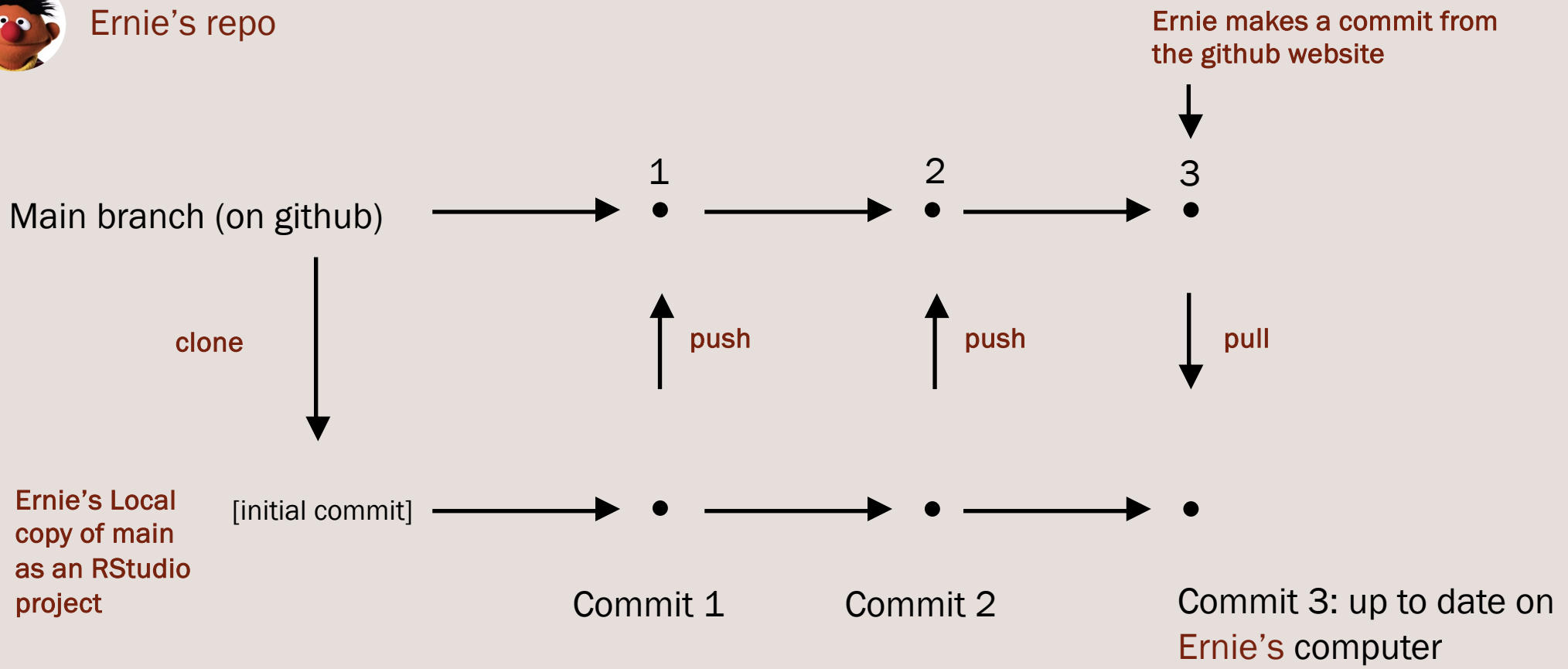
1. **Convenience**: The SSH agent is a background process that runs on your local machine and holds your decrypted private keys in memory. By adding your private key to the SSH agent, you can avoid having to enter your passphrase every time you use your private key. Once your key is added to the agent, it can be used for authentication without needing to re-enter the passphrase for that session.
2. **Security**: While using an SSH passphrase adds an extra layer of security by encrypting your private key, typing it in every time you need to use the key can be cumbersome and might lead users to choose weaker passphrases or even forgo using one altogether. By storing the decrypted key in the SSH agent, you can use a strong passphrase without the hassle of typing it repeatedly.
3. **Key Management**: The SSH agent makes it easier to manage multiple SSH keys. Instead of manually specifying which key to use for each connection or operation, the SSH agent automatically selects the appropriate key based on the server or service you're connecting to.
4. **Lifetime Management**: When you add a key to the SSH agent, you can specify how long the agent should keep the key in memory before automatically expiring it. This adds an extra layer of security by limiting the window of opportunity for an attacker to misuse the key if they gain access to your machine.

Work on your *my-resources* repo

- In RStudio
  - *Add examples/ directory* and files (**Final project 5 pts**)
  - *Add templates/ directory* and files (**Final project 5 pts**)
  - Note: You can't add empty directories to repositories
- Find a partner
  - Add as collaborator under your repo's github.com settings (**Homework 2pts**)
  - Contribute one of your resources to *their* repository (**Homework 4pts: see below**)
    - On github.com, go to their repository
    - Create a new branch: "yourname's resource"
    - Upload your resource to their examples or templates directory
    - Submit pull request **(Homework 2pts)**
    - Accept partner's pull request **(Homework 2pts)**
    - Merge and Delete the extra branch
    - See Network under "Insights"

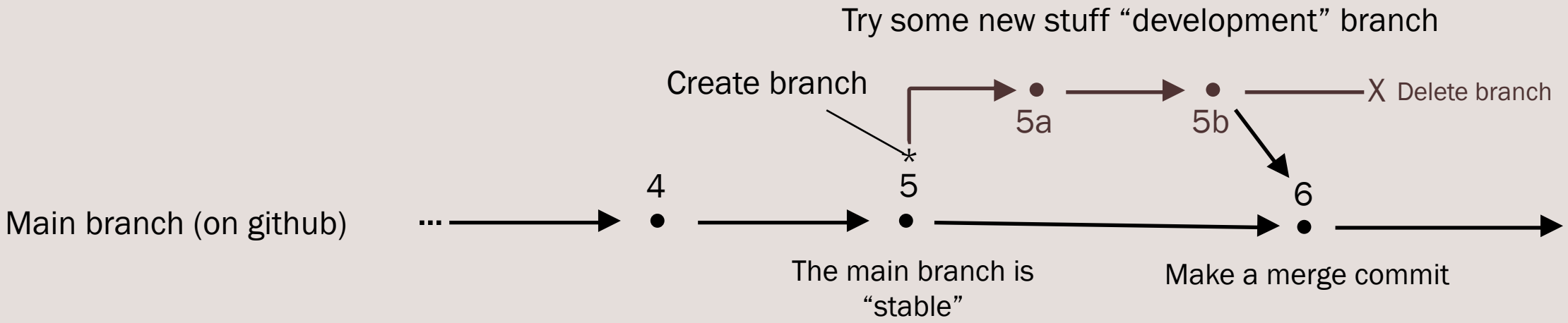
Making changes on github AND your local copy

Ernie's repo



Branching (Ernie gets bolder)

Ernie's repo

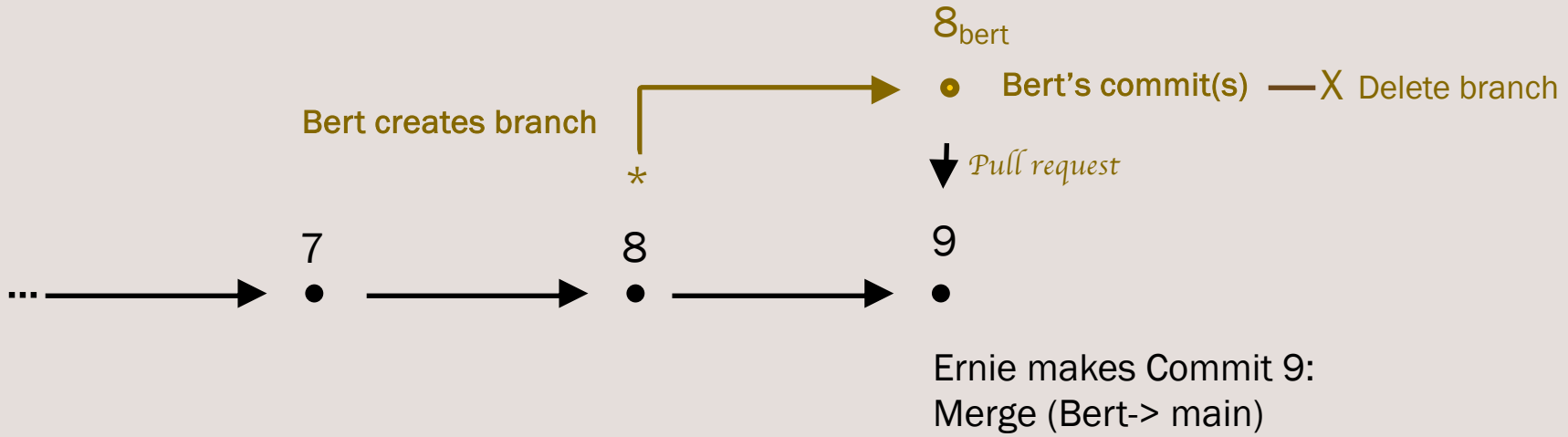


Note- commit numbers are for demonstration only

Collaborating

Repository owner

Collaborator: Bert
(write permission)



Ernie makes Commit 9:
Merge (Bert-> main)

The Whole commit history as a Graph/Network

Repository owner

Collaborator: Bert
(write permission)

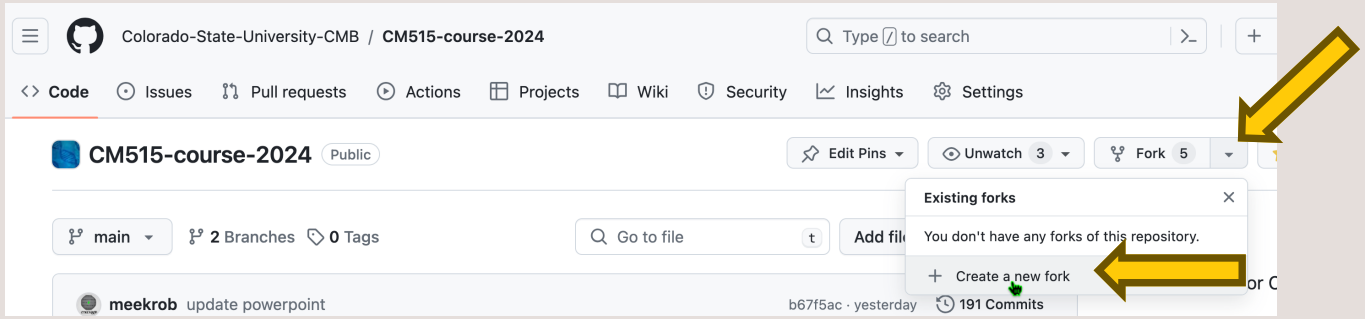
Time to roleplay Bert and Ernie

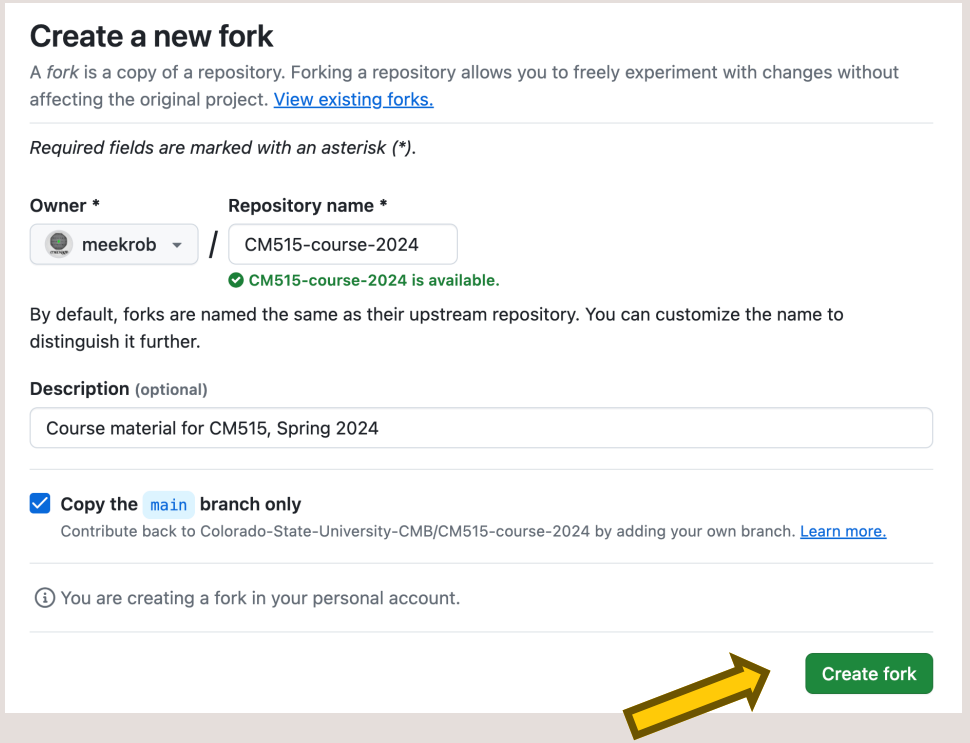
- You find a partner
  - Add as collaborator under your repo's github.com settings (**Homework 2pts**)
  - (You will also be their Bert to their Ernie)
  - Contribute one of your resources to *their* repository (**Homework 4pts: see below**)
  - As their
    - On github.com, go to their repository
    - Create a new branch: "Bert's resource"
    - Upload your resource to their examples or templates directory
    - Submit pull request **(Homework 2pts)**
  - **As**
    - Accept partner's pull request **(Homework 2pts)**
    - Merge and Delete the extra branch
  - *See Network under "Insights"*

https://www.deviantart.com/mooncreeper

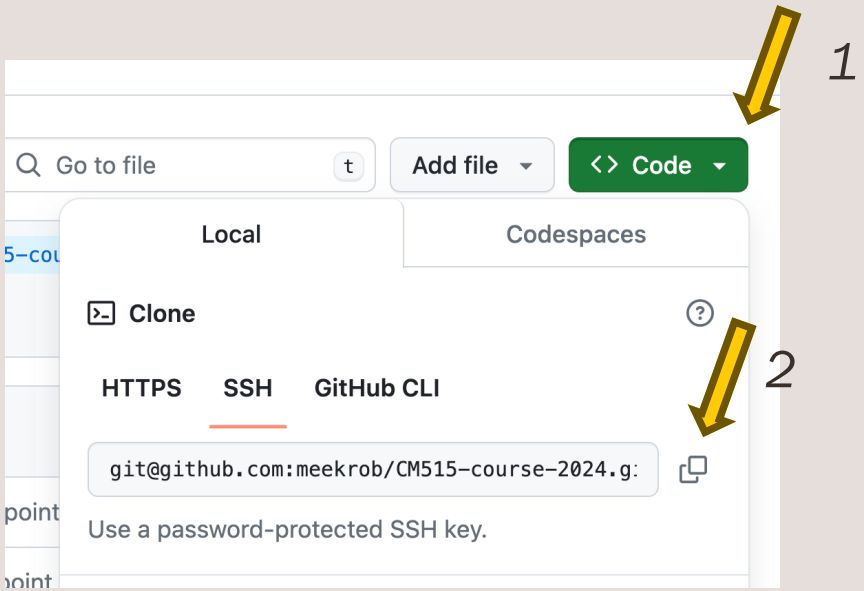
Forking

- Go to https://github.com/Colorado-State-University-CMB/CM515-course-2024

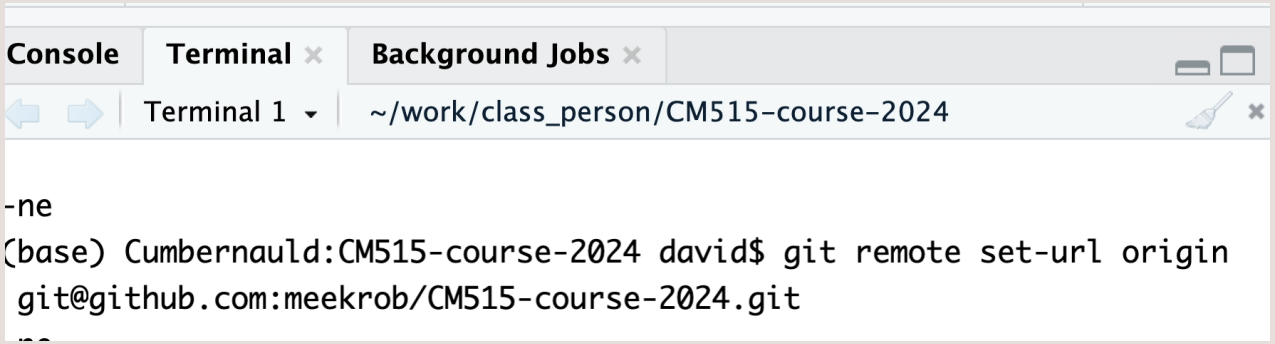




Get YOUR fork of class repo into RStudio



Change your url in RStudio like we did for *my-resources*




```
git remote set-url origin git@github.com:meekrob/CM515-course-2024.git
```

3 Type this command in your terminal (replace my username with yours) and hit return

If this doesn't work, create a new project linked to this repository

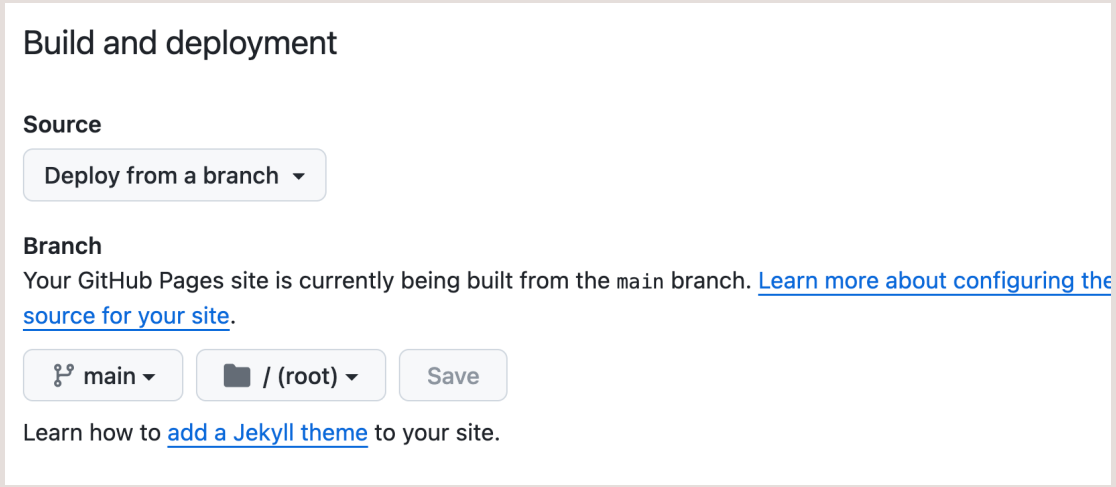
What to do for final project in the fork

- Your version of the CM515 repo
  - Fork class repo **5pts**
  - Save some completed assignments in your repo. You must do this for at least two modules. **5pts**

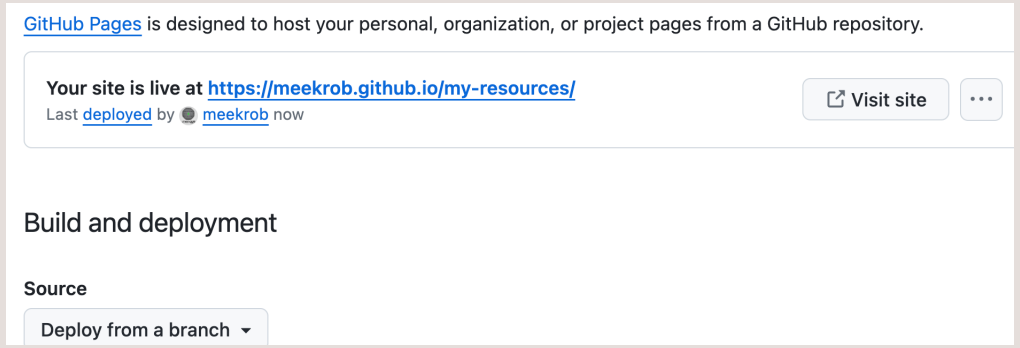
- Add, commit and push an assignment file from at least TWO different modules
- WHAT TO TURN IN: Nothing. We will check to see your commit history to see that you added two files.

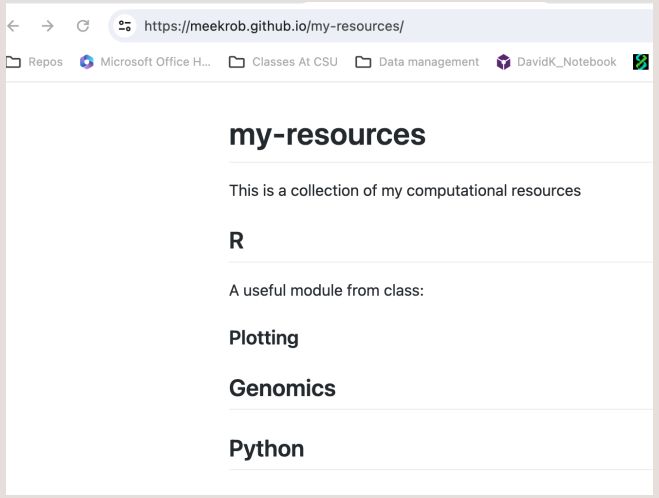
Github pages

In repository settings, the link “Pages” is on the left side



This appears after a minute





Now I have a website for the my-resources repository. ***You*** don’t need to do this: it’s for demonstration.

The contents of the website are rendered from the markdown in README.md

Your profile

- Create a new repository that's the same as your github username
- It is a special repository with a README.md that renders html onto your github.com/username page
- Use the markdown guide to fullfill the requirements of the final project
- Your portfolio
  - Make a special repository with the same name as your username. This will be the "profile" repository for your account. **5pts**
  - Turn on github pages for your profile. It will build a website for you at https://username.github.io/username/. **5pts**
  - What to put in your portfolio (this is the README.md on your portfolio's repo)
    - An introduction to yourself. **5pts**
    - On your portfolio's front page, create a "useful links" link that goes to your *my-examples* repo. Use the markdown referenceLinks to an external site. for this. **5pts**
    - On your portfolio's front page, create an "interesting" module link that goes to a module in your fork of the class repo. **5pts**

Have. At. It.