

Lecture 06 - Git discussion, review, and extension

some logistics

- ▶ quizzes were worth too much and so I'm fixing that by increasing the weight on the group project
- ▶ messed up good & bads last week, but will do it on this Wednesday; put names on them!
- ▶ exercises due the following tutorial to allow for help at office hours
- ▶ orthogonal design to a point. . .

Why use Git?

How does Git work?

How does Git work?

- ▶ A set of functions that allow tracking of progress in a project and facilitate collaboration.
- ▶ Sets up a hidden directory that stores information about changes in a working directory.

```
git init
```

```
git add file_names
```

```
git commit -m "custom commit message"
```

Exercise 3 as a review

1. Use Git to commit each version of the shell script developed below when answering questions 2 - 4. Print your Git log for this shell script and turn it in with your answers below.
2. Write a shell script that does NOT use a loop, but writes the atom number and element with the lowest value in the fifth column of each .pdb file to a text file. Once you have a shell script that works, write the contents of that script below.

Exercise 3 as a review

```
cd data-shell/molecules
```

```
git init
```

Exercise 3 as a review

```
#!/usr/bin/env bash
```

```
# a script for pulling the atom with the minimum value in
```

```
# usage ./pdbScript.sh
```

```
cat cubane.pdb | grep ATOM | sort -n -k 5 | head -n 1 |  
tr -s " " | cut -d " " -f 3,5 >> results.txt
```

```
...
```

```
cat propane.pdb | grep ATOM | sort -n -k 5 | head -n 1 |  
tr -s " " | cut -d " " -f 3,5 >> results.txt
```


Exercise 3 as a review

```
git add -A
```

```
git commit -m "added shell script without a for loop"
```

Exercise 3 as a review

3. Revise the shell script from above so that it DOES use a loop. Once you have a shell script that works, write the contents of that script below.

Exercise 3 as a review

```
#!/usr/bin/env bash

# a script for pulling the atom with the minimum value in
# usage ./pdbScript.sh

for file in "$@"
do
    cat $file | grep ATOM | sort -n -k 5 | head -n 1 |
    tr -s " " | cut -d " " -f 3,5 >> results.txt
done
```

Exercise 3 as a review

```
git add -A
```

```
git commit -m "added a for loop to pdbScript.sh"
```

Exercise 3 as a review

4. Revise the shell script from above so that it can take an argument from the user to determine which column from the .pdb files we are using to pick an atom. Once you have a shell script that works, write the contents of that script below.

Exercise 3 as a review

```
git log
```

```
git diff HEAD 'hash from previous commit'
```

```
git checkout 'hash from previous commit'  
-- pdbScript.sh
```

Exercise 3 as a review

```
#!/usr/bin/env bash
```

```
# a script for pulling the atom with the minimum value in
```

```
# usage ./pdbScript.sh column_number
```

```
cat cubane.pdb | grep ATOM | sort -n -k $1 | head -n 1  
tr -s " " | cut -d " " -f 3,5 >> results.txt
```

```
...
```

```
cat propane.pdb | grep ATOM | sort -n -k $1 | head -n 1  
tr -s " " | cut -d " " -f 3,5 >> results.txt
```

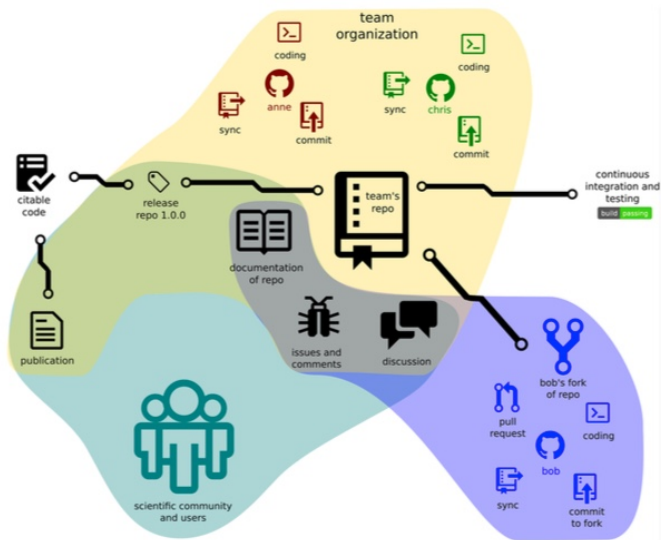
Exercise 3 as a review

```
git add -A
```

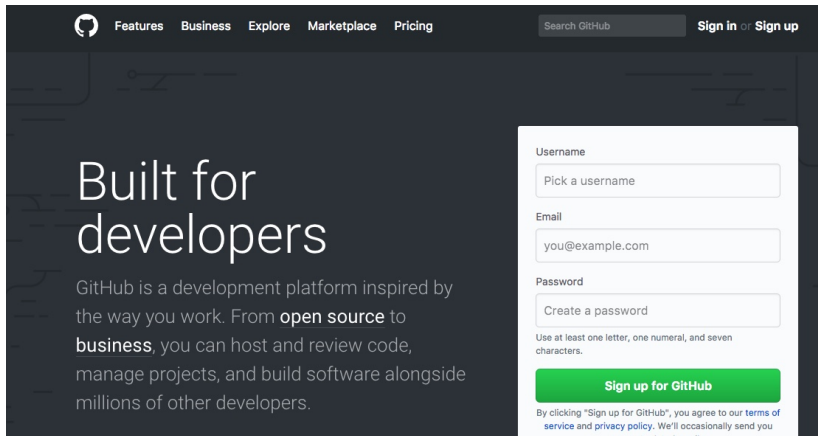
```
git commit -m "added argument to pbsScript.sh  
for selecting the column number but got rid of  
the for loop"
```


What is the connection between Git and GitHub?


What is the connection between Git and GitHub?



Sign up for GitHub...



The image is a screenshot of the GitHub website's sign-up page. The top navigation bar is dark with the GitHub logo on the left and links for 'Features', 'Business', 'Explore', 'Marketplace', and 'Pricing' in the center. On the right of the bar is a search bar labeled 'Search GitHub' and links for 'Sign in' and 'Sign up'. The main content area has a dark background with the text 'Built for developers' in large white font. Below this, a paragraph describes GitHub as a development platform. On the right side, there is a white sign-up form with fields for 'Username', 'Email', and 'Password'. A green button labeled 'Sign up for GitHub' is at the bottom of the form. Below the button, there is a line of text about agreeing to terms of service and privacy policy.

 [Features](#) [Business](#) [Explore](#) [Marketplace](#) [Pricing](#) [Sign in](#) or [Sign up](#)

Built for developers

GitHub is a development platform inspired by the way you work. From **open source** to **business**, you can host and review code, manage projects, and build software alongside millions of other developers.

Username

Email

Password

Use at least one letter, one numeral, and seven characters.

[Sign up for GitHub](#)

By clicking "Sign up for GitHub", you agree to our [terms of service](#) and [privacy policy](#). We'll occasionally send you promotional emails.

Sign up for GitHub...

joneslabND ▾



You've been added to the **GLEON** organization!



Here are some quick tips for a first-time organization member.

- Use the switch context button in the upper left corner of this page to switch between your personal context (joneslabND) and organizations you are a member of.
- After you switch contexts you'll see an organization-focused dashboard that lists out organization repositories and activities.

defunkt ▾

★ earchie starred joneslabND/ICB_Fall2017 19 days ago

💡 **ProTip!** Edit your feed by updating the users you [follow](#) and repositories you [watch](#).

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GitHub Universe
October 10-12 in San Francisco



Repositories you contribute to ⁷

📁	edamame-cou.../Jones_R_Files	0 ★
📁	MFEh2o/scalingC	0 ★
📁	MFEh2o/ratesVfates	0 ★
🔒	ND-BIOS60576/lesson-0-jzwart	0 ★
📁	ND-BIOS60576/Lesson0	0 ★

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Your repositories ¹⁸

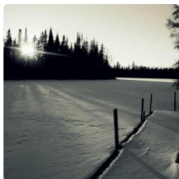
New repository

Find a repository...

All Public Private Sources Forks

📁 ICB_Fall2017


Sign up for GitHub...



Stuart Jones

joneslabND

[Add a bio](#)

 University of Notre Dame

 sjones20@nd.edu

 <http://www.nd.edu/~sjones20>

Organizations



Overview

Repositories 15

Stars 0

Followers 2

Following 0

Popular repositories

Customize your pinned repositories

ICB_Fall2017

 Shell ★ 1

peaksND

R tool for processing of amplified fragment length polymorphism data generated by ABI sequencers

glmtools

Forked from USGS-R/glmtools

Tools for interacting with the General Lake Model (GLM) in R

 R

methaneEcosystemModel

 R

KF-code

Forked from ctsolomon/KF-code

Kalman Filter analysis of lake C models

LakeMetabolizer

Forked from GLEON/LakeMetabolizer

Collection of Lake Metabolism Functions

function review

git config

git init

git add

git commit

git status

git log

git checkout