



# BGGN 213

## Course Summary & Exam Preparation

Lecture 19

Barry Grant  
UC San Diego

<http://thegrantlab.org/bggn213>

# Today's Menu

- Summary of major learning goals,
- Course discussion and feedback ( [https://board.net/p/bggn213\\_f19](https://board.net/p/bggn213_f19) )
- CAPs evaluation incentives ( <https://cape.ucsd.edu/students> )
- Final exam
  - ➔ Test structure, guidelines and rules
  - ➔ Topics and example questions
  - ➔ Exam preparation, discussion and open study
- Polish our GitHub content and publish your own website portfolios

[https://bioboot.github.io/bggn213\\_F19/class-material/BGGN213\\_exam\\_guidlines.pdf](https://bioboot.github.io/bggn213_F19/class-material/BGGN213_exam_guidlines.pdf)

The screenshot shows a web browser window with the URL [https://bioboot.github.io/bggn213\\_S18/class-material/BGGN213\\_exam\\_guidlines.pdf](https://bioboot.github.io/bggn213_S18/class-material/BGGN213_exam_guidlines.pdf) in the address bar. The page content is a PDF document titled "BGGN-213: FOUNDATIONS OF BIOINFORMATICS" with the subtext "<http://thegrantlab.org/bggn213>". Below the title, there is a section titled "Preparing for the Final Exam". The text discusses the exam format, point distribution, and excluded material.

**BGGN-213: FOUNDATIONS OF BIOINFORMATICS**  
<http://thegrantlab.org/bggn213>

**Preparing for the Final Exam**

**Overview:** The final exam for BGGN-213 will be an open-book, open-notes 150-minute test consisting of 35 questions.

Questions will be predominantly short answer (typically worth 2 points) with a number of more involved longer answer questions (typically worth 5 points).

The number of points for each question is indicated at the beginning of each question. There are 80 total points on offer.

There will be no questions covering the material from lecture 10 (the git version control system). However, major points from all other lecture material are examinable

**Q1.** Did you enjoy this course? (Rank in relation to others you have experienced at UCSD)?

**Q2.** Should this course be offered again?

**Q3.** If so what changes would you recommend for this course in the future?

**Q4.** Was the course effectively organized (lecture and lab material online vs handout or TritonEd site)?

**Q5.** What advice would you give to another student who is considering taking this course?

**Q6.** Considering both the limitations and possibilities of the subject matter and the course, how would you rate the overall effectiveness of this course and instructor?

**Q7.** Do you agree or disagree - The course developed my abilities and skills for the subject?

**Q8.** On average, how many hours per week have you spent on this course, including attending classes, doing homework's and assignments?

**Q9.** Any other comments you would like to share?

EtherPad Version: [https://board.net/p/bggn213\\_f19](https://board.net/p/bggn213_f19)

Form Version: <https://tinyurl.com/bggn213-end>

Thank you very much!

# GitHub Spit & Polish

<https://bioboot.github.io/bggn213/>

# Foundations of Bioinformatics Class S18



A demo site of students cool class work portfolio

[View the Project on GitHub](#)  
bioboot/bggn213

## BGPN213

This is my classwork from BGPN213 at UC San Diego (S18). The main class homepage is [here](#)

- **Class05:** [Data Visualization in R](#) (for other self contained formats see [HTML](#), [MD](#) and [R](#)).
- Class06: [Why, when and how of writing your own R functions](#)
- Class07: [Bioinformatics R packages from CRAN and BioConductor](#)
- **Class08:** [Machine Learning for Bioinformatics 1](#)
- **Class09:** [Machine learning project](#)
- Etc.

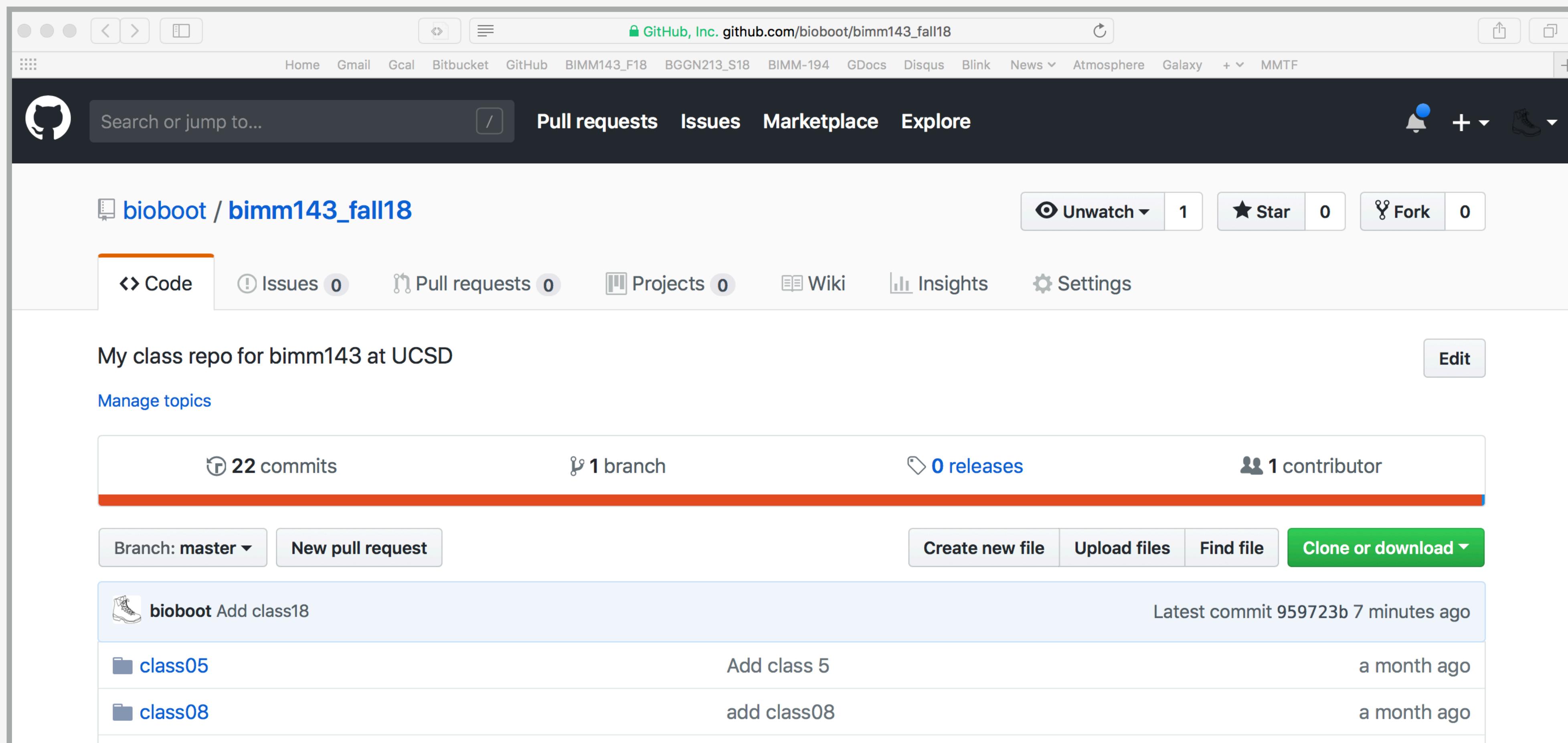
Here I: (1) Chose the “minimal” theme, (3) Edited `_config.yml` (adding logo and title), (4) Fixed a “date:” .md problem

**In your web browser navigate to your GitHub class repository <<https://github.com/>>**

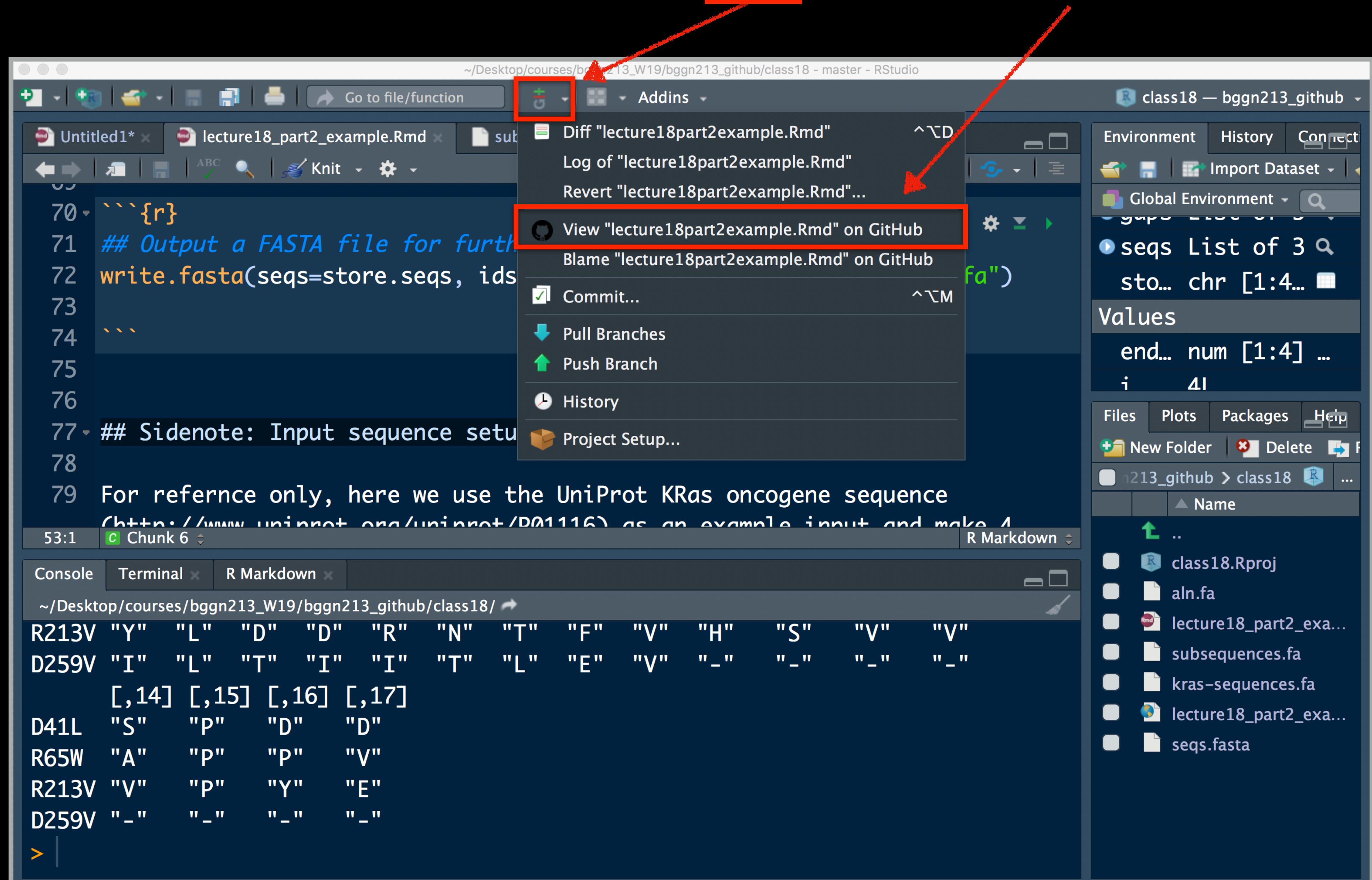
**Side-note:**

**To find the link to your GitHub repository from RStudio, open one of your past class projects and in the terminal type:**

**git remote -v**



Or for a given GitHub tracked file click **GIT** icon and "VIEW on GITHUB"

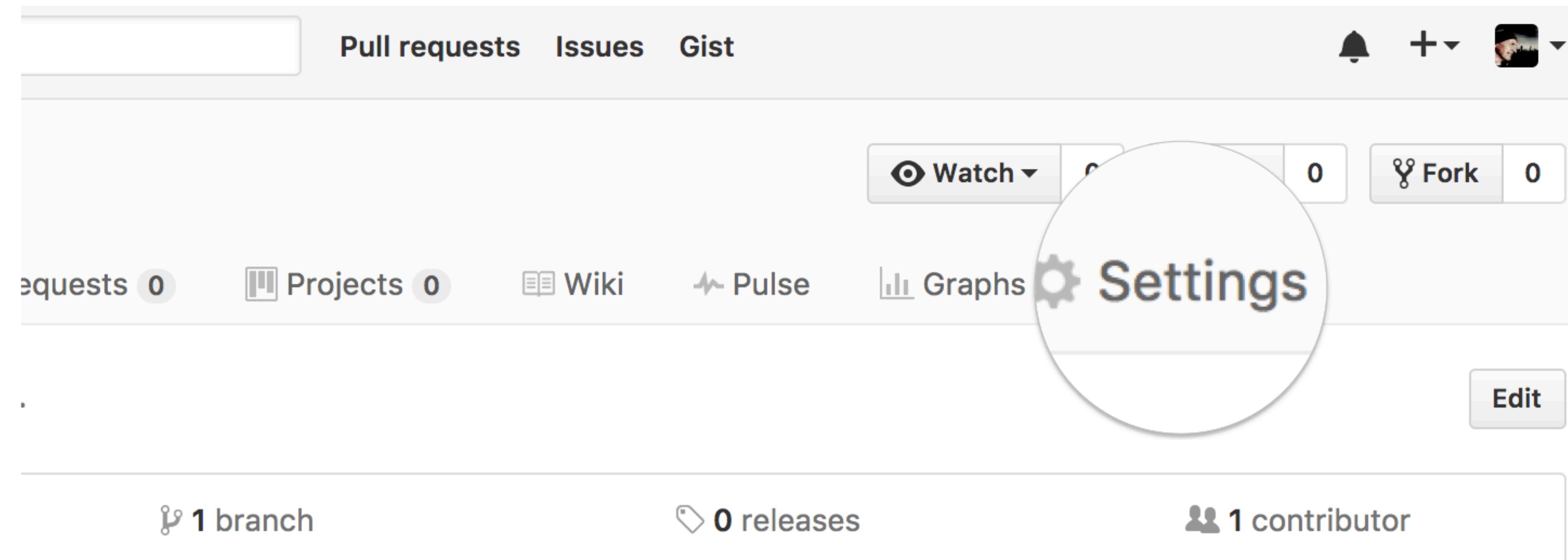


1

# Repository Settings

Head over to your **GitHub** class repository (where you are “pushing” all your class work)

Click on the **Settings** tab.



## Theme chooser

Scroll down to the **GitHub Pages** section. Press **Choose a theme**.

**GitHub Pages**

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

**Source**

GitHub Pages is currently disabled. Select a source below to enable GitHub Pages for this repository. [Learn more](#).

[None ▾](#) [Save](#)

---

**Theme chooser**

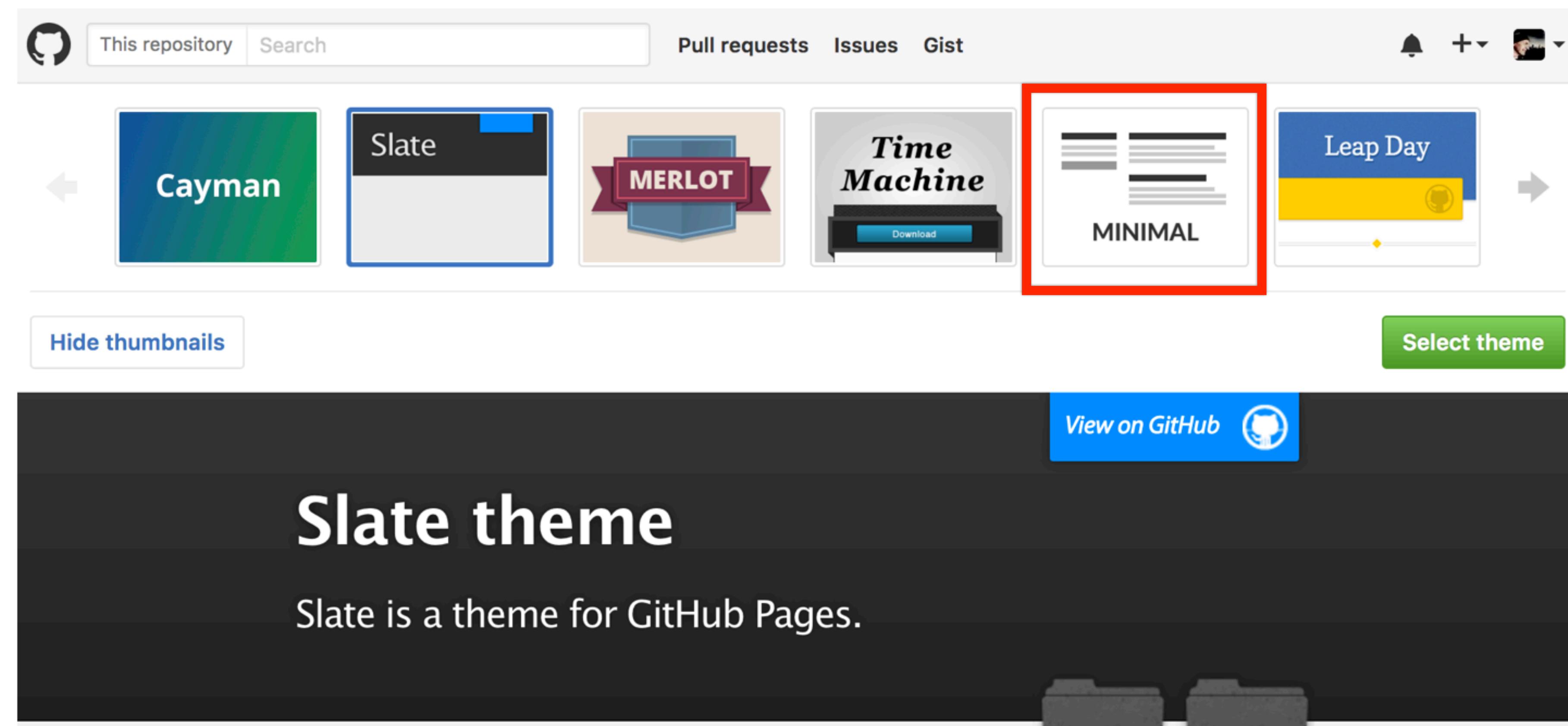
Select a theme to build your site with a Jekyll theme using the `master` branch. [Learn more](#).

[Choose a theme](#)

## Pick a theme

Choose one of the themes from the carousel at the top.

When you're done, click **Select theme** on the right.



## Edit content

Use the [GitHub](#) online editor to add content.  
In particular, add links to each classes .MD file

The screenshot shows the GitHub online editor interface for a repository named `jldec / new-pages-site`. The repository has 0 stars and 0 forks. The navigation bar includes links for Issues (0), Pull requests (0), Projects (0), Wiki, Pulse, Graphs, and Settings. The main content area shows the `new-pages-site / README.md` file. The file contains the following Markdown content:

```
1 ## Welcome to GitHub Pages
2
3 You can use the \[editor on GitHub\](https://github.com/jldec/new-pages-site/edit/master/README.md) to maintain and preview the content
for your website in Markdown files.
4
5 Whenever you commit to this repository, GitHub Pages will run \[Jekyll\](https://jekyllrb.com/) to rebuild the pages in your site, from
the content in your Markdown files.
6
7 #### Markdown
8
9 Markdown is a lightweight and easy-to-use syntax for styling your writing. It includes conventions for
10
11 ````markdown
12 Syntax highlighted code block
13
14 # Header 1
```

# Commit

Enter a commit comment and click on **Commit changes** below the editor.

```
35  ### Support or Contact  
36  
37  Having trouble with Pages? Check out our \[documentation\]\(https://help.github.com/categories/gi\)  
\(\) and we'll help you sort it out.  
38
```



## Commit changes

Add content to new pages site

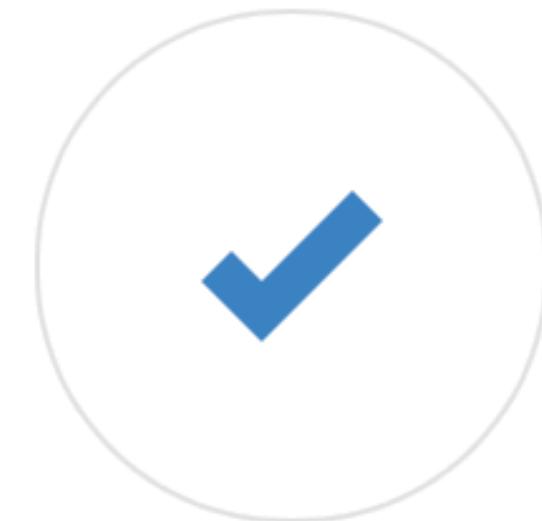
Add an optional extended description...

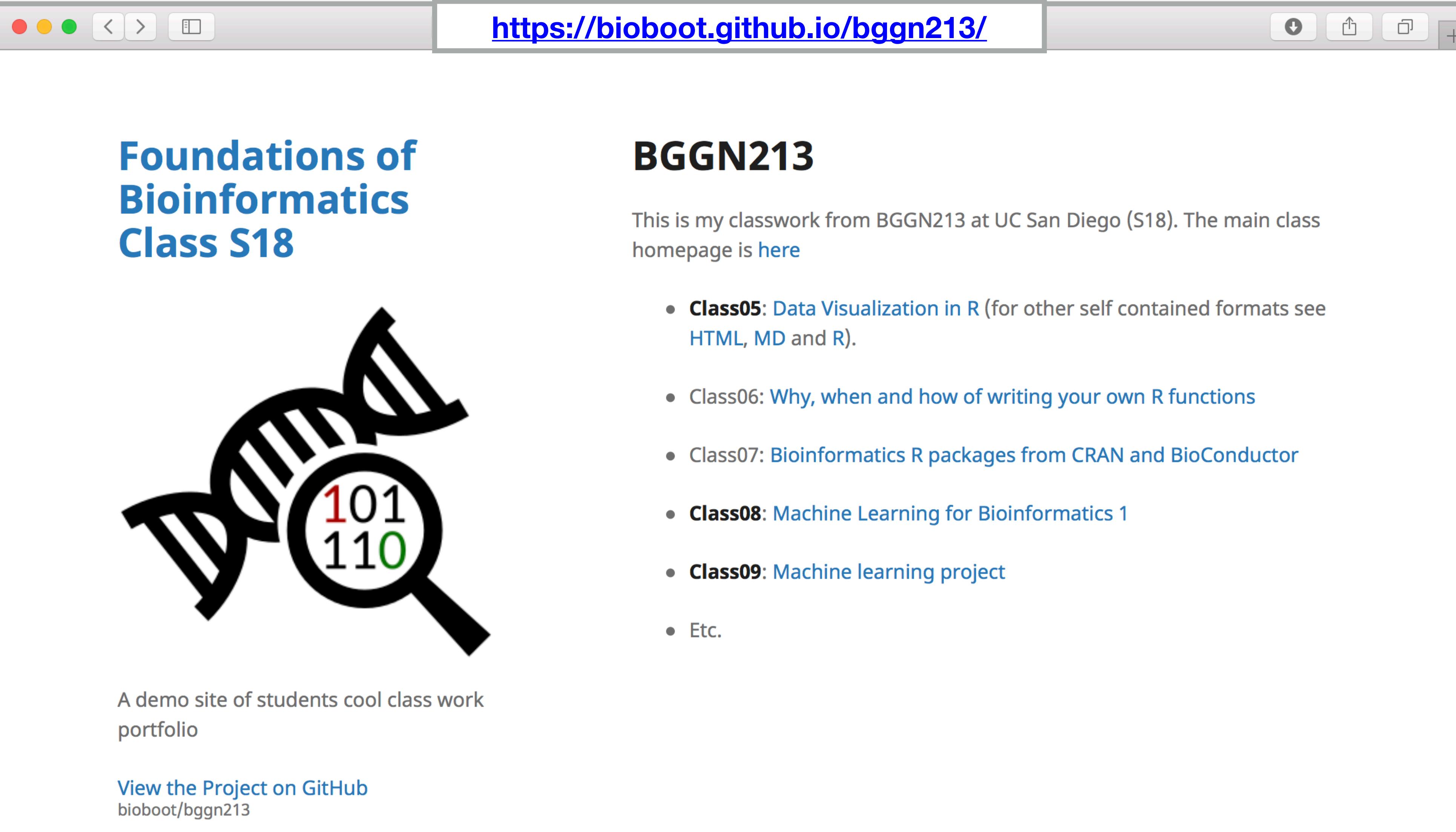
Commit directly to the `master` branch.

6

...and you're done!

Fire up a browser and go to **<http://username.github.io/repository>**.





<https://bioboot.github.io/bggn213/>

# Foundations of Bioinformatics Class S18



A demo site of students cool class work portfolio

[View the Project on GitHub](#)  
bioboot/bggn213

## BGGN213

This is my classwork from BGGN213 at UC San Diego (S18). The main class homepage is [here](#)

- **Class05:** [Data Visualization in R](#) (for other self contained formats see [HTML](#), [MD](#) and [R](#)).
- Class06: [Why, when and how of writing your own R functions](#)
- Class07: [Bioinformatics R packages from CRAN and BioConductor](#)
- **Class08:** [Machine Learning for Bioinformatics 1](#)
- **Class09:** [Machine learning project](#)
- Etc.

Here I: (1) Chose the “minimal” theme, (3) Edited \_config.yml (adding logo and title), (4) Edited README.md

[https://bioboot.github.io/tmp\\_test/](https://bioboot.github.io/tmp_test/)

Y **bioboot / bimm143\_serina\_f18**  
forked from [serinahuang/bimm143](#)

**Code** Pull requests 0 Projects 0 Wiki Insights Settings

Branch: master **bimm143\_serina\_f18 / \_config.yml** Find file Copy path

**bioboot** Update \_config.yml 3b72493 just now

1 contributor

4 lines (3 sloc) | 151 Bytes Raw Blame History

```
1 theme: jekyll-theme-minimal
2 logo: https://bioboot.github.io/bimm143_F18/assets/img/logo.png
3 title: Serina's Bioinformatics Class (BIMM143, Fall 2018)
```

Here I: (1) Chose the “minimal” theme, (3) Edited config.yml (adding logo and title), (4) Edited README.md

<https://bioboot.github.io/bggn213/>

# Foundations of Bioinformatics Class S18



A demo site of students cool class work portfolio

[View the Project on GitHub](#)  
bioboot/bggn213

## BGNN213

This is my classwork from BGNN213 at UC San Diego (S18). The main class homepage is [here](#)

- **Class05:** [Data Visualization in R](#) (for other self contained formats see [HTML](#), [MD](#) and [R](#)).
- Class06: [Why, when and how of writing your own R functions](#)
- Class07: [Bioinformatics R packages from CRAN and BioConductor](#)
- **Class08:** [Machine Learning for Bioinformatics 1](#)
- **Class09:** [Machine learning project](#)
- Etc.

Here I: (1) Chose the “minimal” theme, (3) Edited \_config.yml (adding logo and title), (4) Edited README.md

[https://bioboot.github.io/tmp\\_test/](https://bioboot.github.io/tmp_test/)

The screenshot shows a GitHub repository page for 'bioboot / tmp\_test'. The repository has 1 unwatcher, 0 stars, and 0 forks. The 'Code' tab is selected. Below it, there's a search bar for 'tmp\_test / README.md' with a 'Search' button and a 'cancel' link. The main area displays the contents of the README.md file:

```
1 # BIMM143 Classwork
2
3 This is a store of my class-work for [BIMM143 Winter 2019](https://bioboot.github.io/bimm143_W19/) at UC San Diego.
4
5 ## Content
6 - Class05: [R fundamentals](https://github.com/bioboot/tmp_test/blob/master/class05/class05.md)
7 - Class06: [R graphics]()
8 - Class07: R Functions
9 - Class08: R packages from CRAN, Bioconductor and GitHub
10 - Class09: Introduction to machine learning
11 - Class10: Some thing else
12 - Class11: (Structural Bioinformatics](https://github.com/bioboot/tmp_test/blob/master/class11/class11.md)
13 - Class12: etc. etc.
14
```

Here I: (1) Chose the “minimal” theme, (3) Edited \_config.yml (adding logo and title), (4) Edited README.md

**Introduction to Bioinformatics (BIMM143)**



A demo site of students cool class web site

[View the Project on GitHub](#)  
bioboot/bimm143-1

This project is maintained by [bioboot](#)

Hosted on GitHub Pages — Theme by [orderedlist](#)

**Bioinformatics Class BIMM-143**

This is my repository for my Bioinformatics class from UC San Diego in S18.

**Index of Material**

*Introductory Material: Working With R*

Class 5 - [Basic Data Exploration and Visualization in R](#) [HTML](#), [MD](#), [Rmd](#)

Class 6 - [Creating R Functions](#)

Class 7 - [R Packages](#), working with CRAN, and working with Bioconductor

*Using R and Other Tools for Bioinformatics Analysis*

Class 8 - [An Introduction to Machine Learning \(Heirarchical Clustering\)](#)

Class 9 - [Analyzing High Dimensional Datasets and Unsupervised Learning](#)

Class 11 - [Structural Bioinformatics: Analyzing Protein Structure and Function](#)

Class 12 - [Drug Discovery: Techniques and Analysis](#)

Class 13 - [Genome Informatics and High Throughput Sequencing \(NGS, RNA-Seq, and FastQC\)](#)

Class 14 - [Transcriptomics and RNA-Seq Analysis](#)

Here I: (1) forked Serina's Repo, (2) Chose the “minimal” theme, (3) Edited `_config.yml` (adding logo and title)

# **Thank you very much!**

**Please do fill out your official course evaluations if you get a chance.  
It is important to the courses we offer in the future and how we teach them!**

# Going Further With DataCamp

[https://bioboot.github.io/bggn213\\_F19/class-material/datacamp\\_extras.pdf](https://bioboot.github.io/bggn213_F19/class-material/datacamp_extras.pdf)

The screenshot shows a web browser window displaying the DataCamp website at [www.datacamp.com/tracks/custom-bioinformatics-extension](https://www.datacamp.com/tracks/custom-bioinformatics-extension). The page title is "CUSTOM TRACK Bioinformatics Extension". The main content area features a blue background with white text. At the top left is a blue icon of a head with a brain. To its right is a search bar with the placeholder "What would you like to learn today?". Below the search bar are navigation links: "Learn", "Practice", "Projects", "Pricing", "My Classes", and a user profile icon showing "3,050 XP". A magnifying glass icon over a DNA double helix is on the right.

**CUSTOM TRACK**  
**Bioinformatics Extension**

Barry's suggested DataCamp courses for delving deeper into R, Git, the Shell, data visualization, and Bioinformatics data analysis generally. Please do reach out if you encounter problems. Happy DataCamping!

**Enroll**

R Language | Shell | Git | Spreadsheets | 111 hours | 26 Courses

**Introduction to Shell for Data Science**

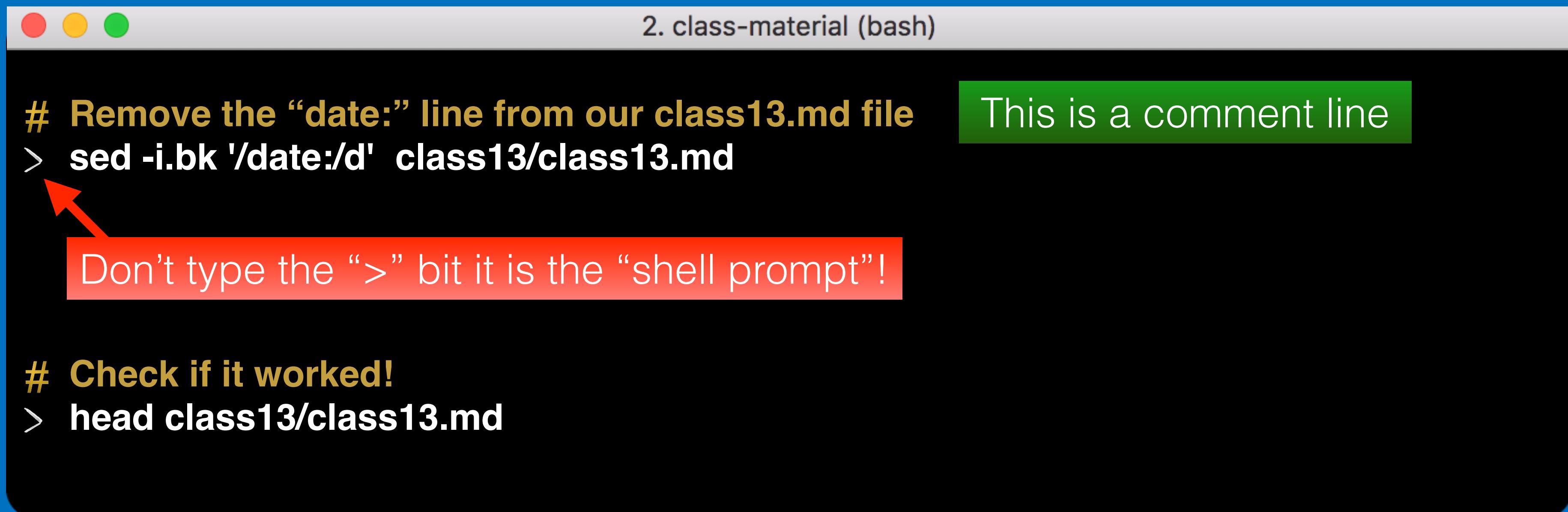
The Unix command line helps users combine existing programs in new ways, automate repetitive tasks, and run programs ...

**INSTRUCTORS**

 **Greg Wilson**  
Co-founder of Software Carpentry

 **Jonathan Cornelissen**

Thank you very much!



The screenshot shows a terminal window with the title "2. class-material (bash)". The window contains the following text:

```
# Remove the “date:” line from our class13.md file
> sed -i.bk '/date:/d' class13/class13.md
```

A red arrow points from the text "Don't type the ‘>’ bit it is the ‘shell prompt’!" to the first command line starting with ">".

A green box highlights the word "comment" in the sentence "This is a comment line".

Don't type the “>” bit it is the “shell prompt”!

```
# Check if it worked!
> head class13/class13.md
```

**Q.** What do you see after each command?

**Q.** Does it make sense