



4 all

welcoming + inclusive practices for teaching R

mine çetinkaya-rundel

minebocek



mine-cetinkaya-rundel

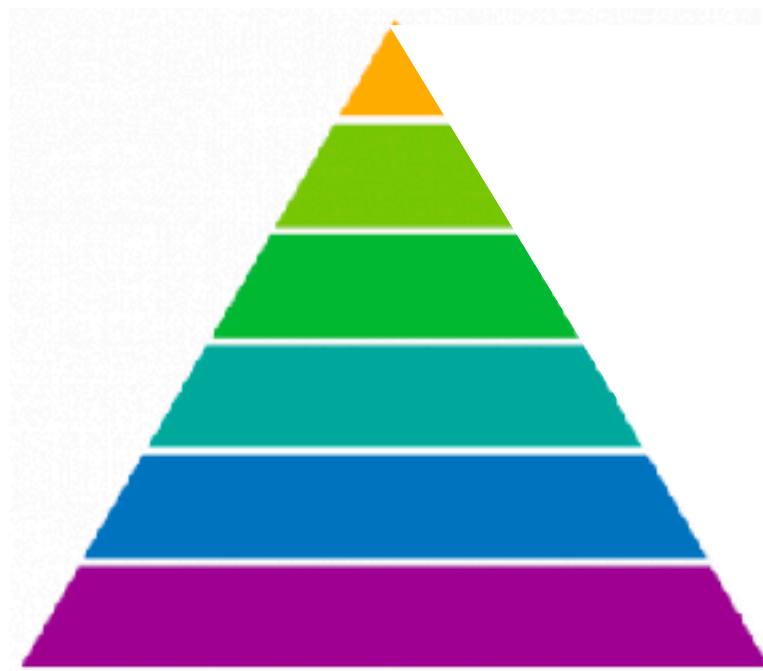
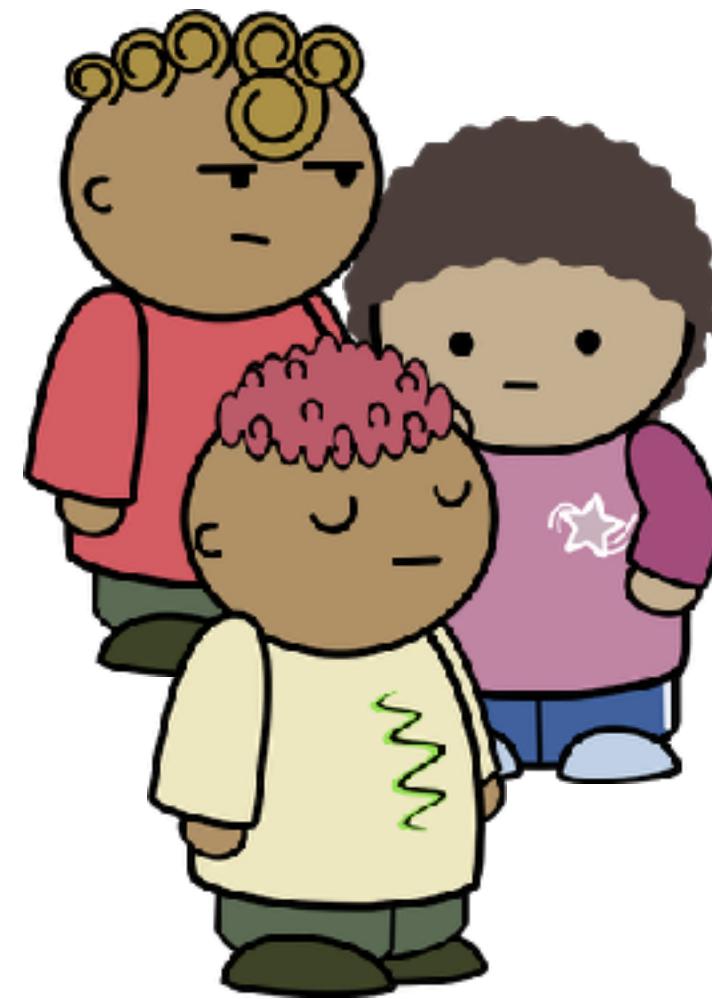


cetinkaya.mine@gmail.com



bit.ly/r4all-ecme

so, you want to teach R?



✓ learner personas

✓ learning goals

✓ list of topics

✓ syllabus

✓ resources

✓ computing infrastructure



?

...

keep curriculum challenging enough
to make it worthwhile for the students



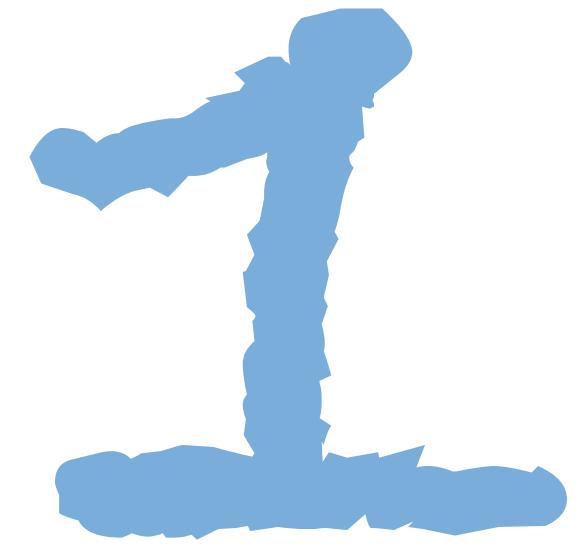
get students interested



ensure curriculum is supportive enough to
minimize number of students who fall
through the cracks



prepare students
for the next phase



get to know
your students



get to know your students



Andrew Heiss, PhD
@andrewheiss

About to send out my welcome-to-class survey, now with questions about name pronunciation (with audio!) and pronouns

Your answer

What, if anything, concerns you about this class? *

Your answer

Name pronunciation (optional)
I really want to know how to say your name! If people tend to struggle with your name, type it out phonetically here. People get my last name wrong all the time—it rhymes with 'nice.'

Your answer

Name pronunciation audio (optional)
If you want, you can also record yourself pronouncing your name and upload an audio file here. (Use the voice recording app on your phone, QuickTime on macOS, or Voice Recorder on Windows)

[ADD FILE](#)

What are your personal pronouns? *

Personal pronouns are the pronouns you use to describe yourself, such as he/him, she/her, ze/zir, etc.

She/her/hers
 He/him/his
 They/them/theirs
 Other: _____

How do you learn the best? *

Your answer

What has made your favorite university classes your favorite? *

Your answer

When you hear the word "economics," what do you think of? *

Your answer

How familiar are you with microeconomics? *

I have nightmares about this class

1	2	3	4	5	6	7	8	9	10
oooooooooooo									

MU_x / MU_y = P_x / P_y

How comfortable are you with Excel? *

1 2 3 4 5 6 7 8 9 10

1:24 PM · Aug 13, 2019 · Twitter for iPhone

 twitter.com/andrewheiss/status/1161327738000531458

Getting to know you

Please answer the questions below so that I can get to know you a bit better. Your answers can be brief. Some of your answers will be used to guide what application examples might be of interest to a majority of students in the course, and some of your answers will be used to help guide team formation.

What is your student ID number?

Your answer 

What is your name?

Your answer

Preferred name (optional). If you prefer to go by a different name than the one listed above, please let me know what it is.

Your answer



forms.gle/La4UfDjNLkyKR45B9

get to know your students

Getting to know you

About the course

What do you hope to learn from this course?

Your answer



What, if anything, concerns you about this course?

Your answer

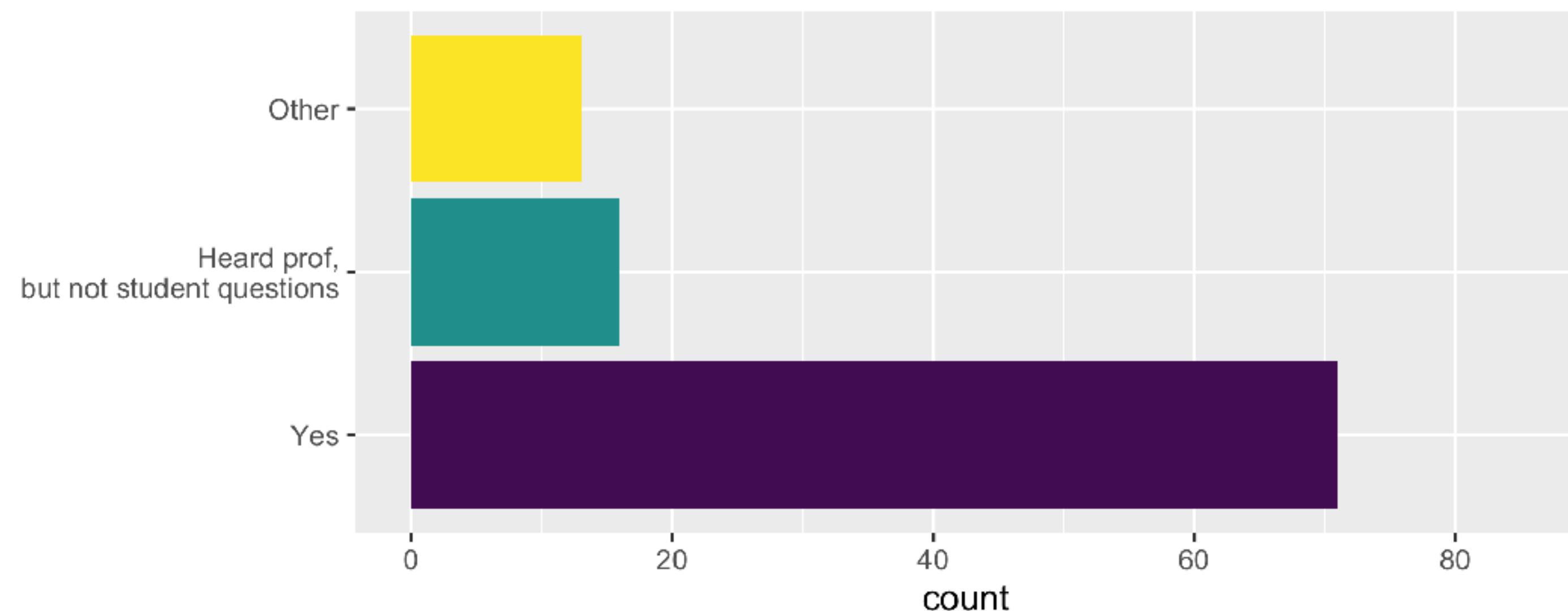
Is there anything you would like me to clarify about the course?

Your answer

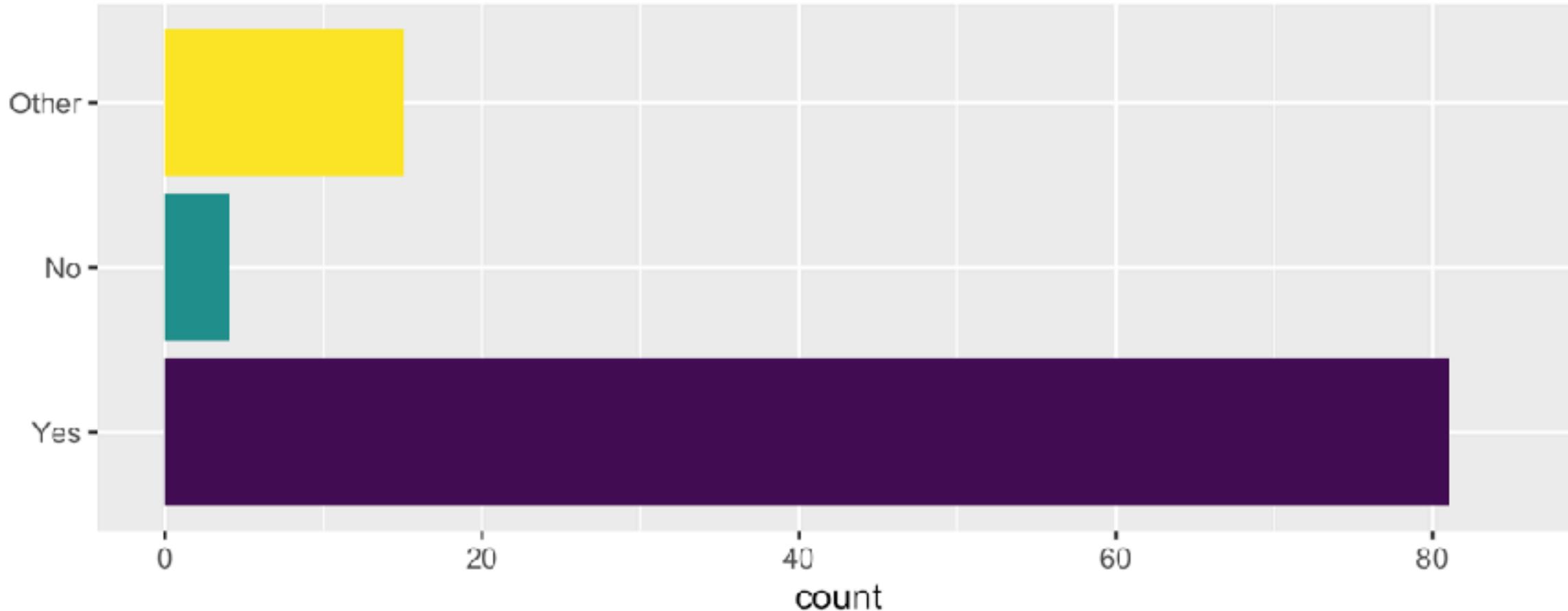


forms.gle/La4UfDjNLkyKR45B9

Hear well during the first lecture



Read the slides easily during the first lecture



student dashboard

Intro Data Science Individual students Overall Source Code

Select a student: Neemias Vemulakonda



Neemy Preferred name

Hope to learn...
Statestic

Anything else you would like me to know about you?
Not really theres not much else to know

Something cool / unique about yourself
I play violin, cello and guitar

How do you learn best?
Be patient and careful.

What, if anything, concerns you about this course?
The difficulty

Nee-mee-as Pronunciation

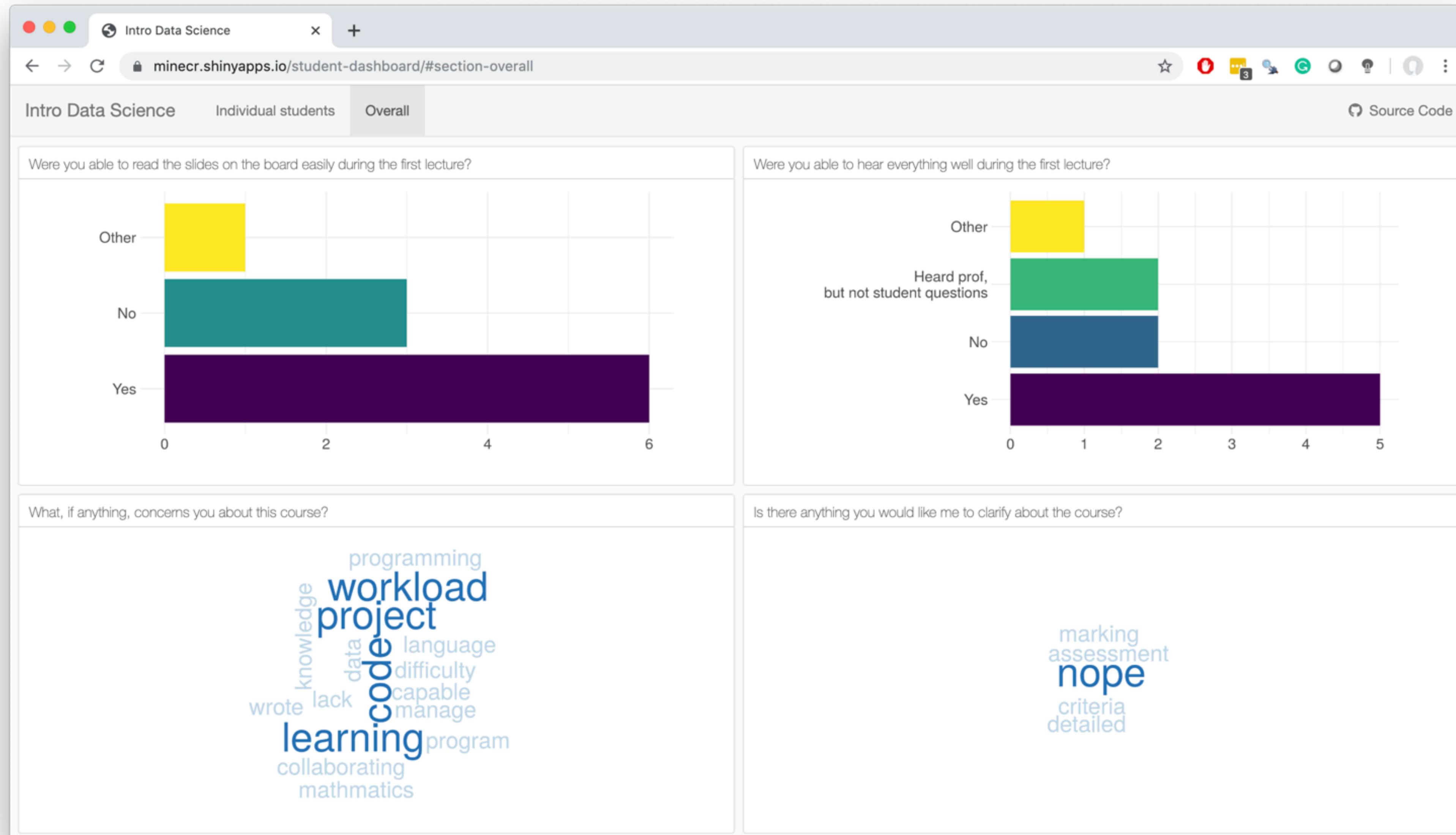
Programming language before?
No

They / them Pronouns

Statistics course before?
No

This screenshot shows a student dashboard for an Intro Data Science course. The top navigation bar includes tabs for 'Intro Data Science', 'Individual students' (which is selected), and 'Overall'. A 'Source Code' link is also present. Below the navigation, a dropdown menu shows 'Select a student' with 'Neemias Vemulakonda' selected. To the right of the dropdown is a portrait photo of a young woman with dark hair and glasses, identified as Neemias. The dashboard is divided into three main sections: 'Neemy' (Preferred name), 'Nee-mee-as' (Pronunciation), and 'They / them' (Pronouns). Each section contains a summary card with a user icon and a checkmark, followed by a list of responses to various questions. For example, under 'Neemy', responses include 'Hope to learn...' (Statestic) and 'Anything else you would like me to know about you?' (Not really theres not much else to know). Under 'Pronunciation', the response is 'Programming language before?' (No). Under 'Pronouns', the response is 'Statistics course before?' (No).

class dashboard



Intro Data Science

minecr.shinyapps.io/student-dashboard/#section-overall

Intro Data Science

minecr.shinyapps.io/student-dashboard/#section-individual-students

Intro Data Science Individual students Overall

Select a student

Neemias Vermulakonda

Neemy

Preferred name



Hope to learn...

Statestic

Anything else you would like me to know about you?

Not really theres not much else to know

Something cool / unique about yourself

I play violin, cello and guitar

How do you learn best?

Be patient and careful.

What, if anything, concerns you about this course?

The difficulty

Nee-mee-as

Pronunciation

They / them

Pronouns

minecr.shinyapps.io/student-dashboard/

rstd.io/student-dashboard-code

bit.ly/r4all-ecme

?

help them
get help



help with ?help

The name of the function, and the library it is in.

What it does.

More details on each named argument. This will tell you what class of thing each argument has to be—an object, a number, a data frame, a logical value, etc.

What the function returns—i.e., the result of whatever operation or calculation it performs. This can be a single number, as here, or a multi-part object such as a list, a data frame, a plot, or a model.

R Documentation

Arithmetic Mean

Description

Generic function for the (trimmed) arithmetic mean.

Usage

```
mean(x, ...)
```

Default S3 method:
mean(x, trim = 0, na.rm = FALSE, ...)

Arguments

- x An R object. Currently there are methods for numeric/logical vectors and [date](#), [date-time](#) and [time interval](#) objects. Complex vectors are allowed for `trim = 0`, only.
- trim the fraction (0 to 0.5) of observations to be trimmed from each end of `x` before the mean is computed. Values of `trim` outside that range are taken as the nearest endpoint.
- na.rm a logical value indicating whether NA values should be stripped before the computation proceeds.
- ... further arguments passed to or from other methods.

The ellipsis allows other arguments to be passed to and from the function.

Value

If `trim` is zero (the default), the arithmetic mean of the values in `x` is computed, as a numeric or complex vector of length one. If `x` is not logical (coerced to numeric), numeric (including integer) or complex, `NA_real_` is returned, with a warning.
If `trim` is non-zero, a symmetrically trimmed mean is computed with a fraction of `trim` observations deleted from each end before the mean is computed.

References

Becker, R. A., Chambers, J. M. and Wilks, A. R. (1988) *The New S Language*. Wadsworth & Brooks/Cole.

See Also

[weighted.mean](#), [mean.POSIXct](#), [colMeans](#) for row and column means.

Other related functions

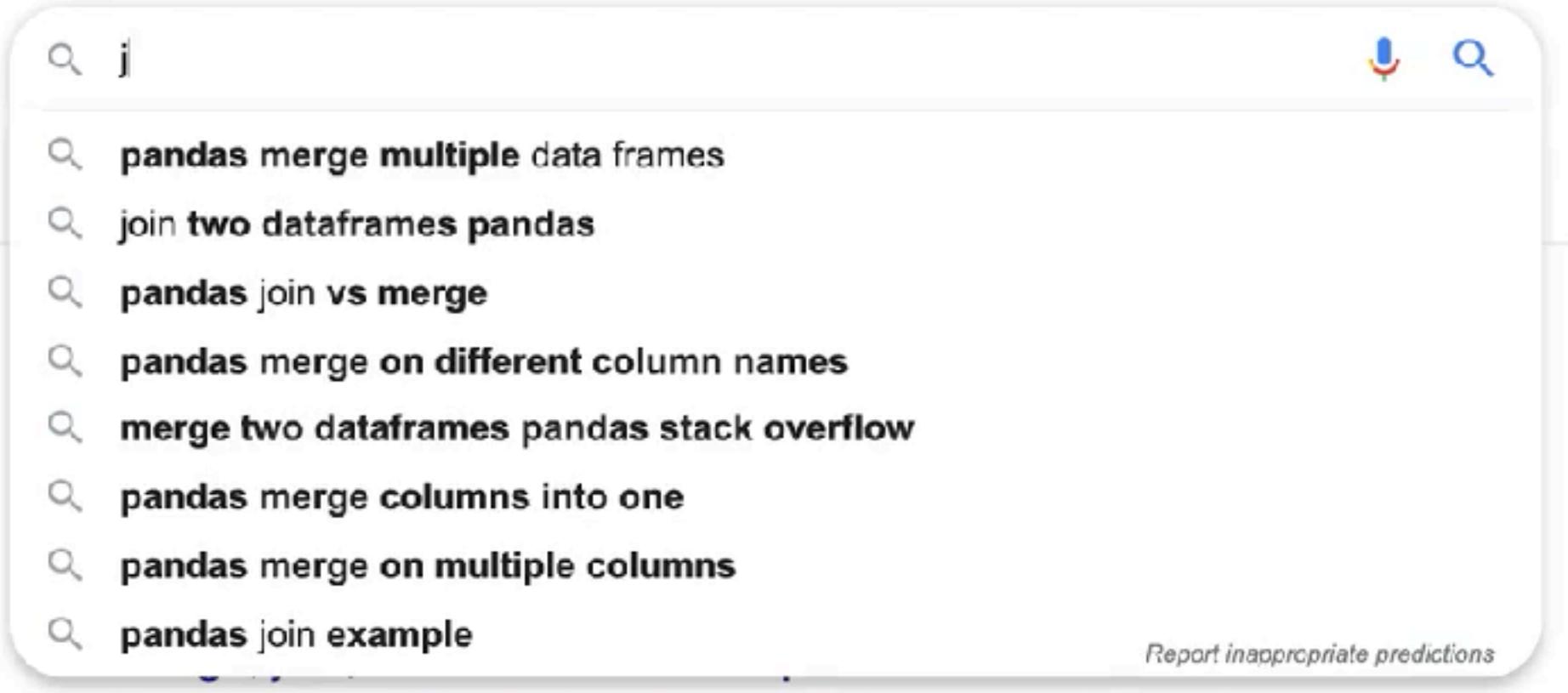
Examples

```
x <- c(0:10, 50)
xm <- mean(x)
c(xm, mean(x, trim = 0.10))
```

Self-contained examples that you can run at the console. These may use built-in datasets or other R functions.

[Package `base` version 3.4.3 [Index](#)] Visit the package's Index page to look for Demos and Vignettes detailing how it works.

help with

Google  Sign in

- [pandas merge multiple data frames](#)
- [join two dataframes pandas](#)
- [pandas join vs merge](#)
- [pandas merge on different column names](#)
- [merge two dataframes pandas stack overflow](#)
- [pandas merge columns into one](#)
- [pandas merge on multiple columns](#)
- [pandas join example](#)

Report inappropriate predictions

https://pandas.pydata.org/pandas-docs/stable/user_guide/merging.html

Like its sibling function on ndarrays, `numpy.concatenate`, `pandas.concat` takes a list ... When gluing together multiple `DataFrames`, you have a choice of how to ...

[pandas.DataFrame.join — pandas 0.25.1 documentation](#)

<https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.DataFrame.join.html>

Join columns with other `DataFrame` either on index or on a key column. Efficiently join multiple ...
Join `DataFrames` using their indexes. `>>> df.join(other ...)`

[Joining Pandas Dataframes - Data Carpentry](#)

<https://datacarpentry.org/python-socialsci/11-joins/>

Questions. How can I join two Dataframes with a common key? Objectives. Understand why we would want to join Dataframes. Know what is needed for a join to ...

[How to join \(merge\) data frames \(inner, outer, left, right ...\)](#)

<https://stackoverflow.com/questions/15205336/how-to-join-merge-data-frames-in-python>

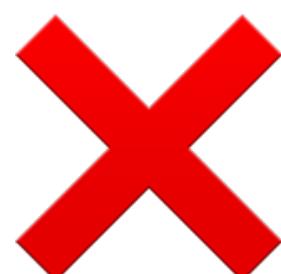
13 answers

Nov 9, 2015 - You can also use the `by.x` and `by.y` parameters if the matching variables have different names in the different data frames. Outer join: `merge(x = df1, y = df2, ...)`

[JOIN two dataframes on common column in python](#) Jan 4, 2017

[Concatenate rows of two dataframes in pandas](#) Jan 14, 2018

[How to merge two dataframes side-by-side?](#) Jun 14, 2018



help with

Google  Sign in

All Images Videos News Shopping More Settings Tools

About 112,000,000 results (0.38 seconds)

Joining DataFrames in Pandas (article) - DataCamp
[https://www.datacamp.com/community/tutorials/joining-dataframes-p... ▾](https://www.datacamp.com/community/tutorials/joining-dataframes-p...)
Sep 19, 2018 - Joining and merging DataFrames is the core process to start with data analysis and machine learning tasks. It is one of the toolkits which every ...

Merge, join, and concatenate — pandas 0.25.1 documentation
[https://pandas.pydata.org/pandas-docs/stable/user_guide/merging.html ▾](https://pandas.pydata.org/pandas-docs/stable/user_guide/merging.html)
Like its sibling function on ndarrays, `numpy.concatenate`, `pandas.concat` takes a list ... When gluing together multiple DataFrames, you have a choice of how to ...

pandas.DataFrame.join — pandas 0.25.1 documentation
[https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.DataFrame.join.html ▾](https://pandas.pydata.org/pandas-docs/stable/reference/api/pandas.DataFrame.join.html)
Join columns with other DataFrame either on index or on a key column. Efficiently join multiple ...
Join DataFrames using their indexes. >>> df.join(other ...

Joining Pandas Dataframes - Data Carpentry
[https://datacarpentry.org/python-socialsci/11-joins/ ▾](https://datacarpentry.org/python-socialsci/11-joins/)
Questions. How can I join two Dataframes with a common key? Objectives. Understand why we would want to join Dataframes. Know what is needed for a join to ...

How to join (merge) data frames (inner, outer, left, right ...
[https://stackoverflow.com/questions/how-to-join-merge-data-frames-in... ▾](https://stackoverflow.com/questions/how-to-join-merge-data-frames-in...)
13 answers
Nov 9, 2015 - You can also use the `by.x` and `by.y` parameters if the matching variables have different names in the different data frames. Outer join: `merge(x = df1, y = df2, ...`

JOIN two dataframes on common column in python Jan 4, 2017
Concatenate rows of two dataframes in pandas Jan 14, 2018
How to merge two dataframes side-by-side? Jun 14, 2018



help with



searcher

offers preliminary support for automatically or manually searching errors that are generated in R.

help with searcher



RStudio interface showing the 'searcher' R script and its execution.

The script 'searcher.R' contains:

```
1 # load packages -----
2
3 library(searcher)
4
5 # search something -----
6
7 search_stackoverflow("join data frames tidyverse")
8
9 # search an error -----
10
11 library(dplyr)
12
13 mtcars %>%
14   group_by(cyl) %>%
15   summarise(summary(mpg))
16 search_google()
17
```

The Environment pane shows:

- Environment tab selected
- Global Environment dropdown
- Message: "Environment is empty"

The Console pane shows the command:

```
>
```

The Files pane shows the file structure:

- Files tab selected
- Path: Home > Desktop > Talks > wtf-teach > latin-R > searcher
- File: searcher.R (406 B, Sep 26, 2019, 4:18 AM)

help with searcher



RStudio interface showing the 'searcher' package being used to search for Stack Overflow posts about joining data frames in the tidyverse.

The code in the script editor (searcher.R) is:

```
1 # load packages -----
2
3 library(searcher)
4
5 # search something -----
6
7 search_stackoverflow("join data frames tidyverse")
8
9 # search an error -----
10
11 library(dplyr)
12
13 mtcars %>%
14   group_by(cyl) %>%
15   summarise(summary(mpg))
16 search_google()
```

The console output shows the command being run and the search results being displayed in a web browser:

```
> library(searcher)
> search_stackoverflow("join data frames tidyverse")
Searching query in web browser ...
>
```

The file browser shows the 'searcher.R' file in the current directory:

Name	Size	Modified
searcher.R	406 B	Sep 26, 2019, 4:18 AM

help with



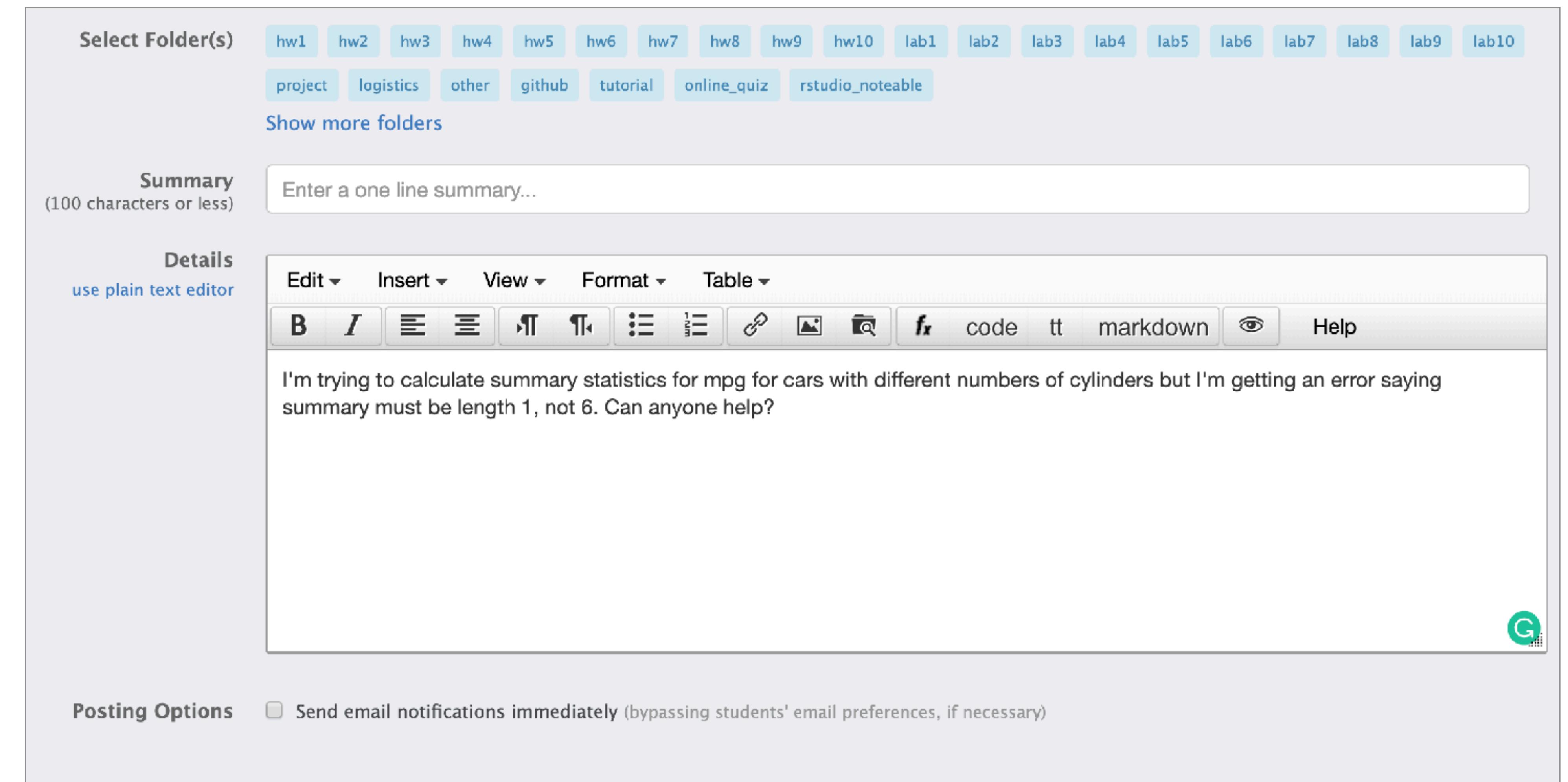
reprex

forces students to fulfil the technical criteria
so the instructor can focus on the help that
only a human can provide

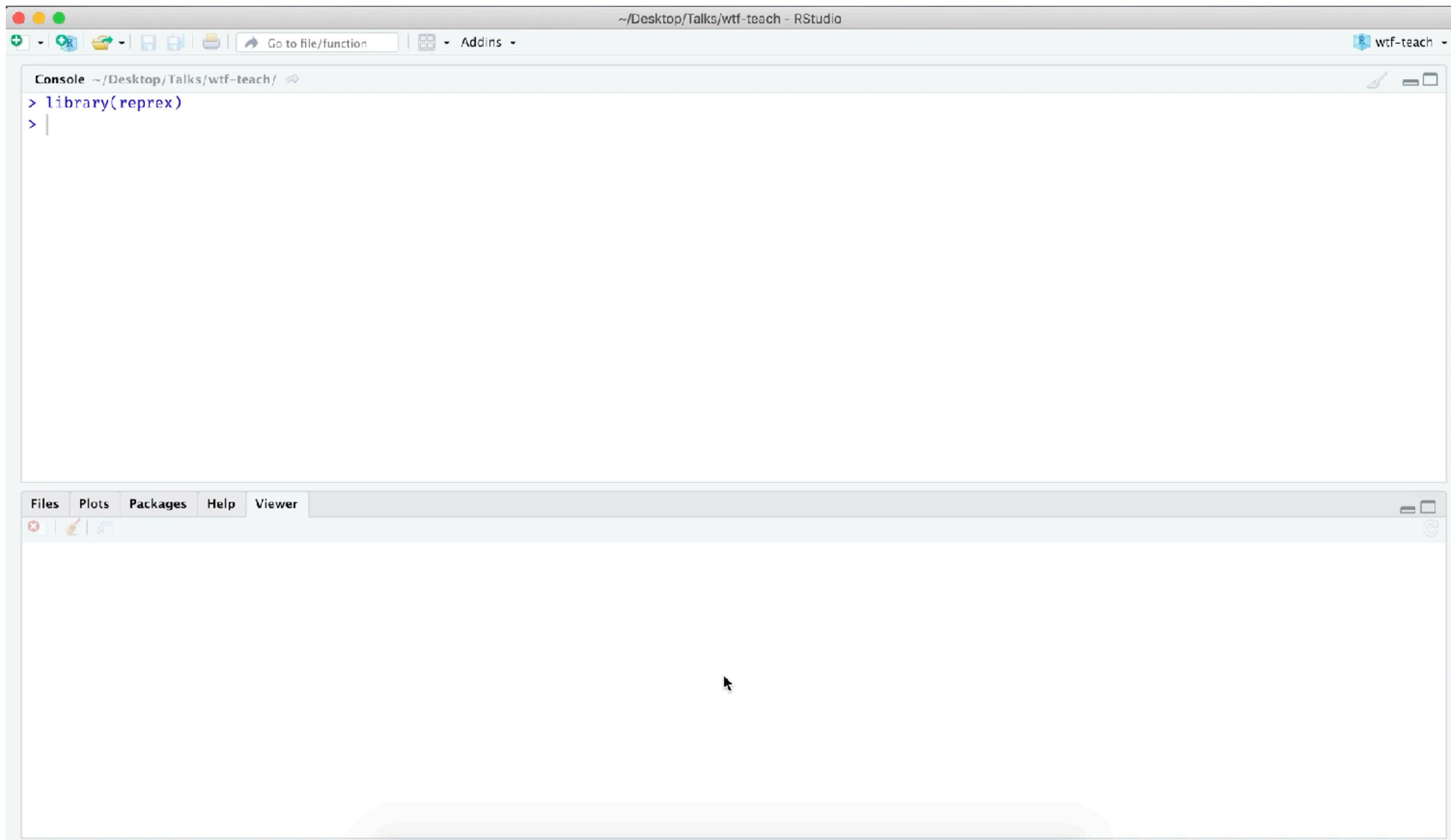
"Robot Pedantry, Human Empathy"

🔗 mikemcquaid.com/2018/06/05/robot-pedantry-human-empathy

sans reprex



with reprex



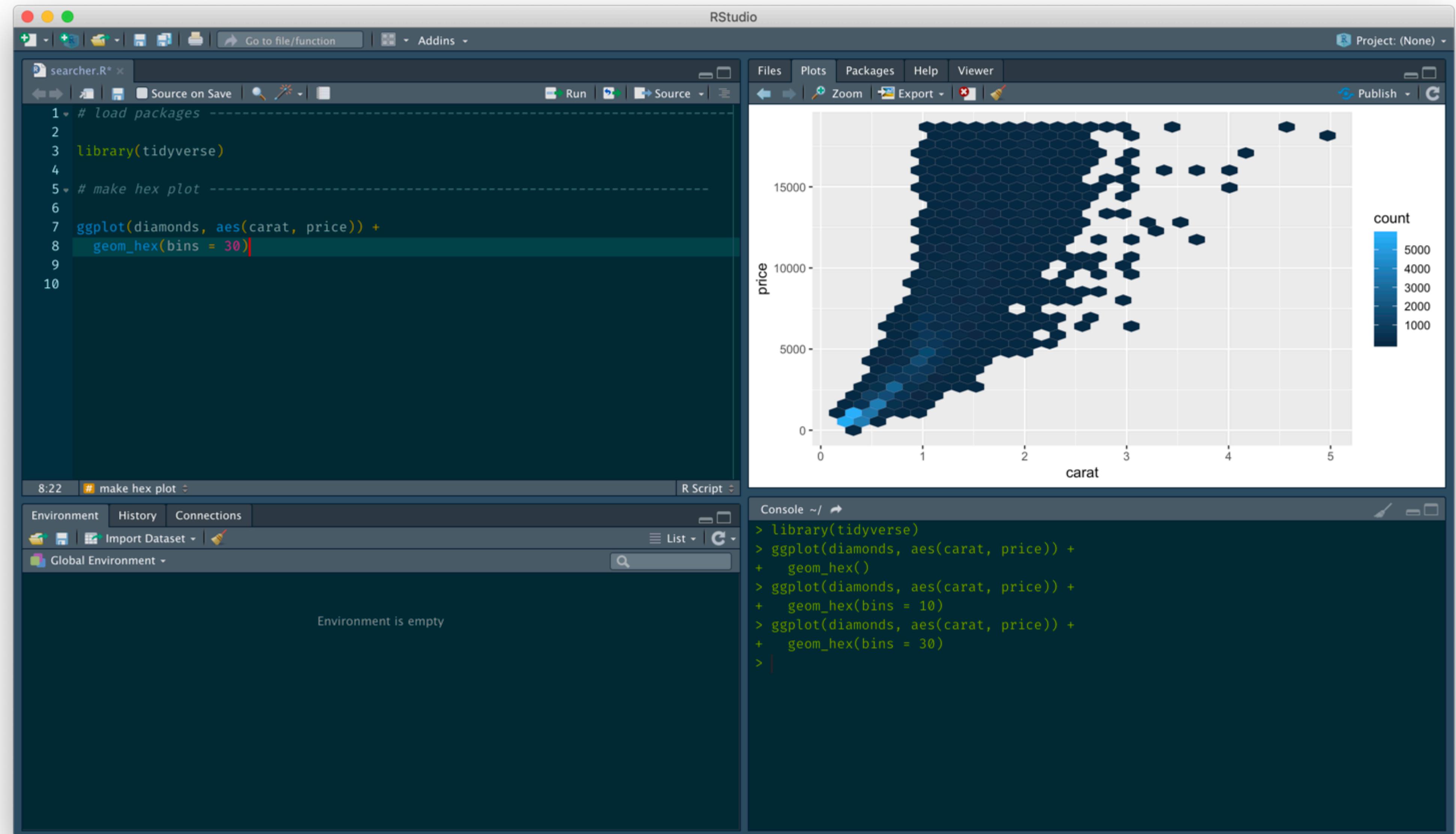
The image shows the RStudio interface. The title bar reads " ~/Desktop/Talks/wtf-teach - RStudio". The top menu bar includes "File", "Edit", "View", "Code", "Tools", "Help", and "Addins". The "Console" tab is active, showing the command "> library(reprex)" followed by a blank line for input. The bottom menu bar includes "Files", "Plots", "Packages", "Help", and "Viewer". The bottom left corner features a green square icon with a white checkmark and a small link icon below it.

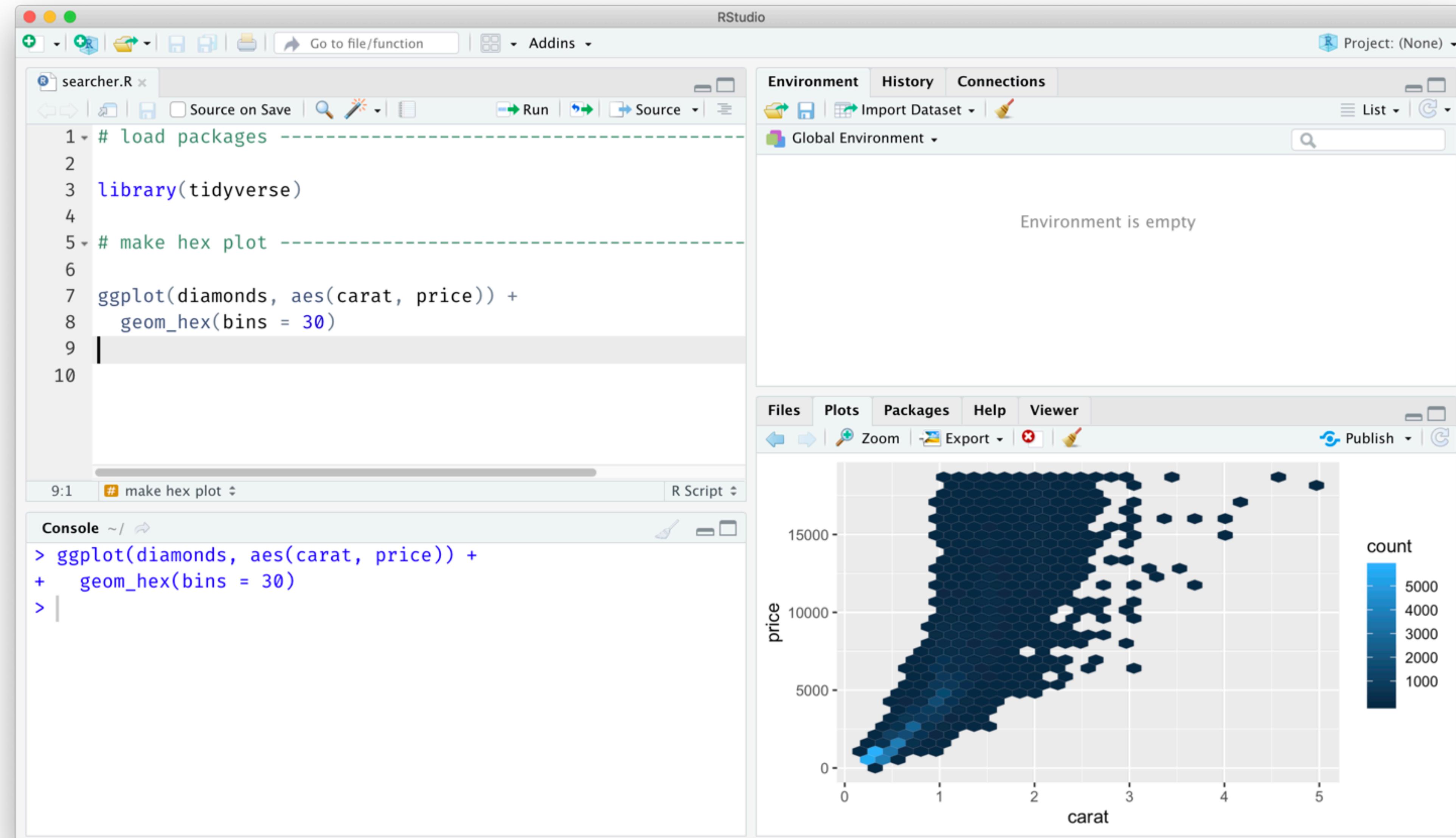
```
> library(reprex)
```

3

live code
early & often





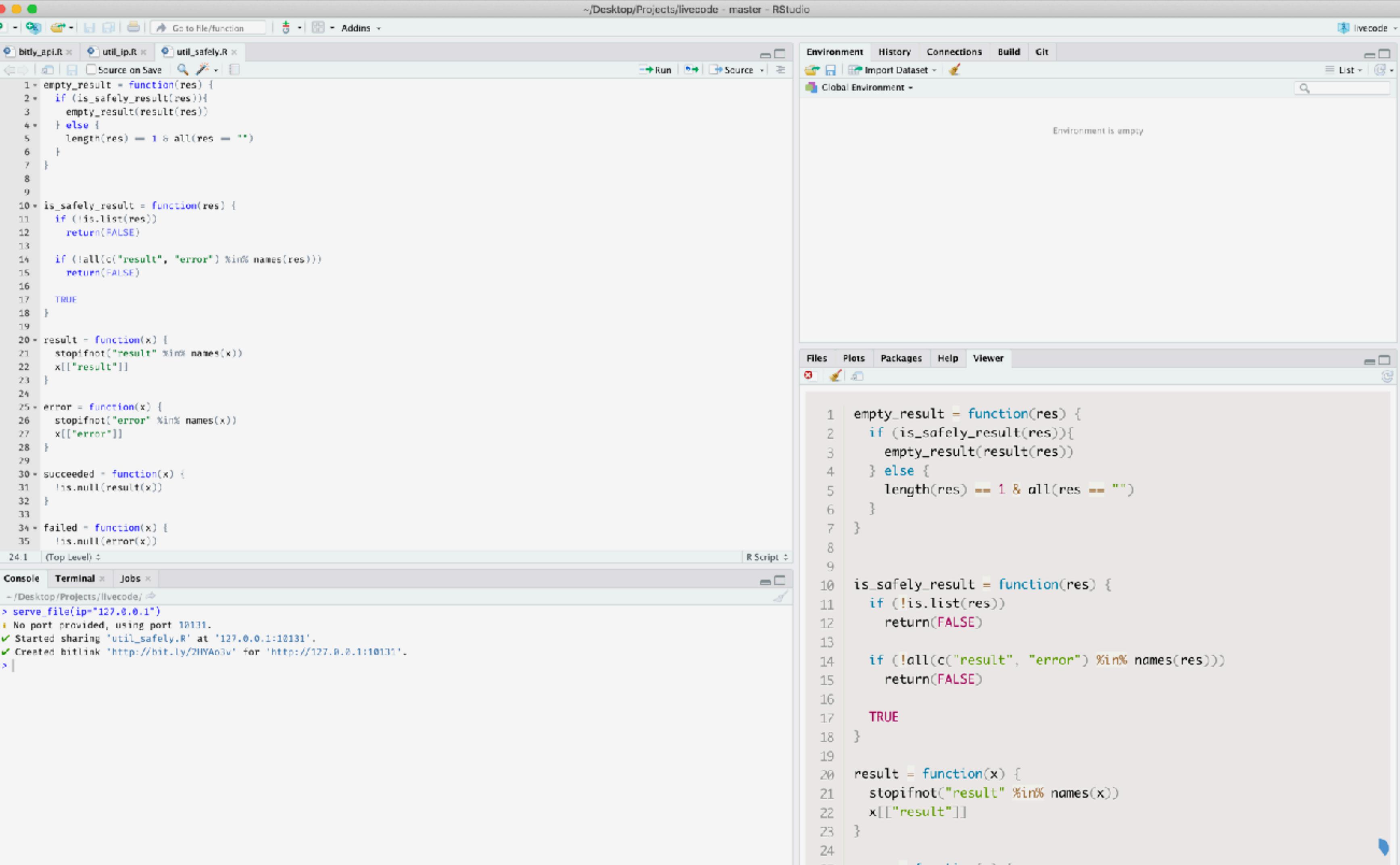


livecoding tips

- 🎨 use default appearance and font styles
- 🔍 zoom in and use larger fonts
- ✋ avoid keyboard shortcuts, unless carefully narrating
- 👀 test your physical space / back of classroom
- ⏺ + record
- 🚀 + broadcast

livecode with

livecode



The screenshot shows the RStudio interface with the following components:

- Code Editor:** Displays two R script files: `bitly_api.R` and `util_ip.R`. The `util_safely.R` file is open in the editor, containing the following code:

```
1 empty_result = function(res) {
2   if (is_safely_result(res)){
3     empty_result(result(res))
4   } else {
5     length(res) == 1 & all(res == "")
6   }
7 }

8

9 is_safely_result = function(res) {
10  if (!is.list(res))
11    return(FALSE)
12
13  if (!all(c("result", "error") %in% names(res)))
14    return(FALSE)
15
16  TRUE
17 }

18

19 result = function(x) {
20  stopifnot("result" %in% names(x))
21  x[["result"]]
22 }

23

24 error = function(x) {
25  stopifnot("error" %in% names(x))
26  x[["error"]]
27 }

28

29 succeeded = function(x) {
30  !is.null(result(x))
31 }

32

33 failed = function(x) {
34  !is.null(error(x))
35 }
```

- Console:** Shows the command `> serve file(ip="127.0.0.1")` being run, followed by output indicating the server is started at port 10131 and a bitlink is created.
- Global Environment:** Shows the message "Environment is empty".
- Viewer:** Displays the same R code as the editor.

github.com/rundel/livecode

4

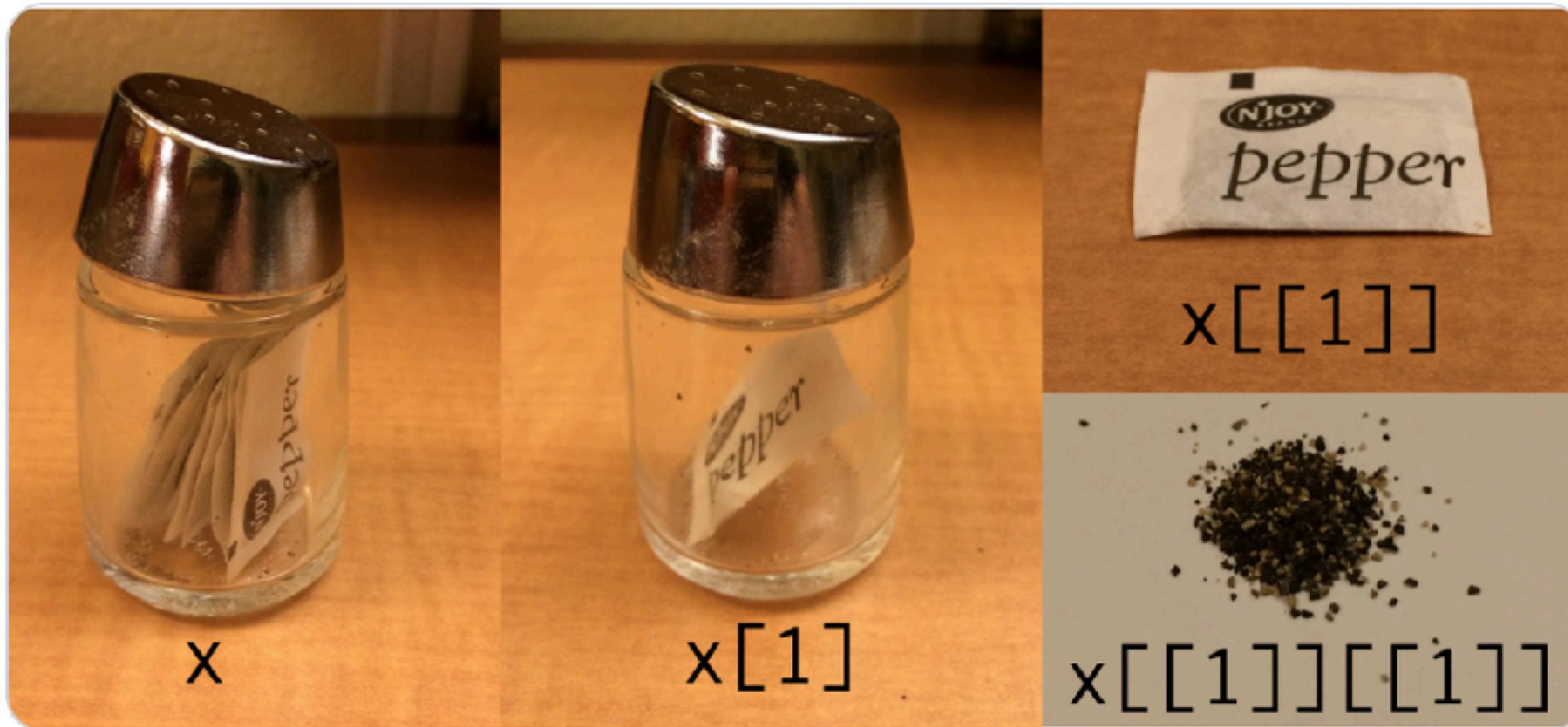
leverage
visuals





Hadley Wickham
@hadleywickham

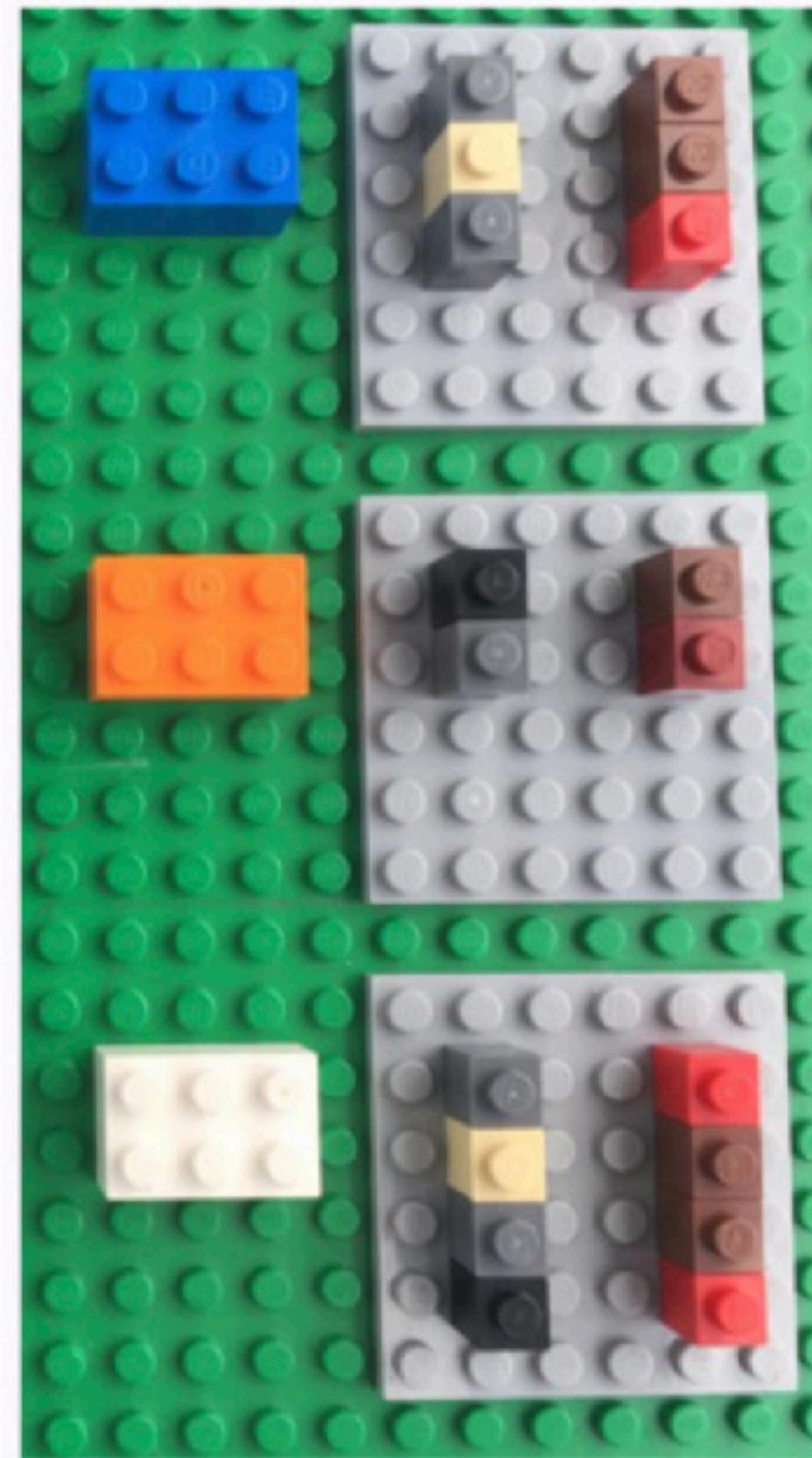
Indexing lists in **#rstats**. Inspired by the Residence Inn



8:09 AM · Sep 14, 2015 · Echofon



twitter.com/hadleywickham/status/643381054758363136



```
gap_nested <- gapminder %>%
  group_by(country) %>%
  nest()
gap_nested
#> # A tibble: 142 × 2
#>   country               data
#>   <fctr>                <list>
#> 1 Afghanistan <tibble [12 × 5]>
#> 2 Albania    <tibble [12 × 5]>
#> 3 Algeria    <tibble [12 × 5]>
#> 4 Angola     <tibble [12 × 5]>
#> 5 Argentina   <tibble [12 × 5]>
#> 6 Australia   <tibble [12 × 5]>
#> 7 Austria     <tibble [12 × 5]>
#> 8 Bahrain    <tibble [12 × 5]>
#> 9 Bangladesh  <tibble [12 × 5]>
#> 10 Belgium    <tibble [12 × 5]>
#> # ... with 132 more rows
```

🔗 jennybc.github.io/purrr-tutorial/more-resources.html

reprex: make reproducible examples

HELP THEM HELP ~~YOU~~ EVERYONE!



🔗 github.com/allisonhorst/stats-illustrations

and leverage non-visuals

Dr. Kaitlin Stack Whitney @KStackWhitney · Jun 25
Replying to @kirstie_j and @minebocek
Hope this includes non visual, other sense based ways to represent data!
1 reply · 1 retweet · 1 like · 1 share

Kirstie Whitaker @kirstie_j · Jun 25
That's a super interesting point. The thrust of @minebocek's talk was on putting the *fun* parts of working with data at the front. I think it would generalise really well to audio output etc too. What other representations were you thinking of?
1 reply · 1 retweet · 1 like · 1 share

Dr. Kaitlin Stack Whitney @KStackWhitney · Jun 25
Touch, sound -- @aohasley gave a wonderful talk at @EdsiNetwork conf on necessity of multimodal data representation - so as not to presume or require vision, or any particular sensory ability/disability
1 reply · 1 retweet · 4 likes · 1 share

Mine CetinkayaRundel @minebocek · Jun 25
This is a really good point, and one many don't currently have a good way of addressing in a data science curriculum, I'd be really interested in hearing how others tackle it
3 replies · 1 retweet · 1 like · 1 share

Dr. Kaitlin Stack Whitney @KStackWhitney · Jun 25
Replying to @minebocek @kirstie_j and 2 others
there are a lot of people thinking and presenting on this. here's an event by @tchoi8 and @ChanceyFleet this week -

ChanceyFleet 🌈 🍎 @ChanceyFleet · Jun 23
Explore spatial thinking & communication in the absence of image.
Non-Visual Origami Workshop | Hosted by Chancey Fleet with @Tchoi8 & @Robbykraft Tickets, Thu, Jun 27, 2019 at 3:00 PM @DataSociety eventbrite.com/e/non-visual-o...

1 reply · 1 retweet · 4 likes · 1 share



twitter.com/KStackWhitney/status/1143497505654677504

5

define & pronounce
terms



define

> ?double

double {base}

R Documentation

Double-Precision Vectors

Description

Create, coerce to or test for a double-precision vector.

Usage

```
double(length = 0)
as.double(x, ...)
is.double(x)
```

```
single(length = 0)
as.single(x, ...)
```

Arguments

length A non-negative integer specifying the desired length. Double values will be coerced to integer:
supplying an argument of length other than one is an error.

x object to be coerced or tested.

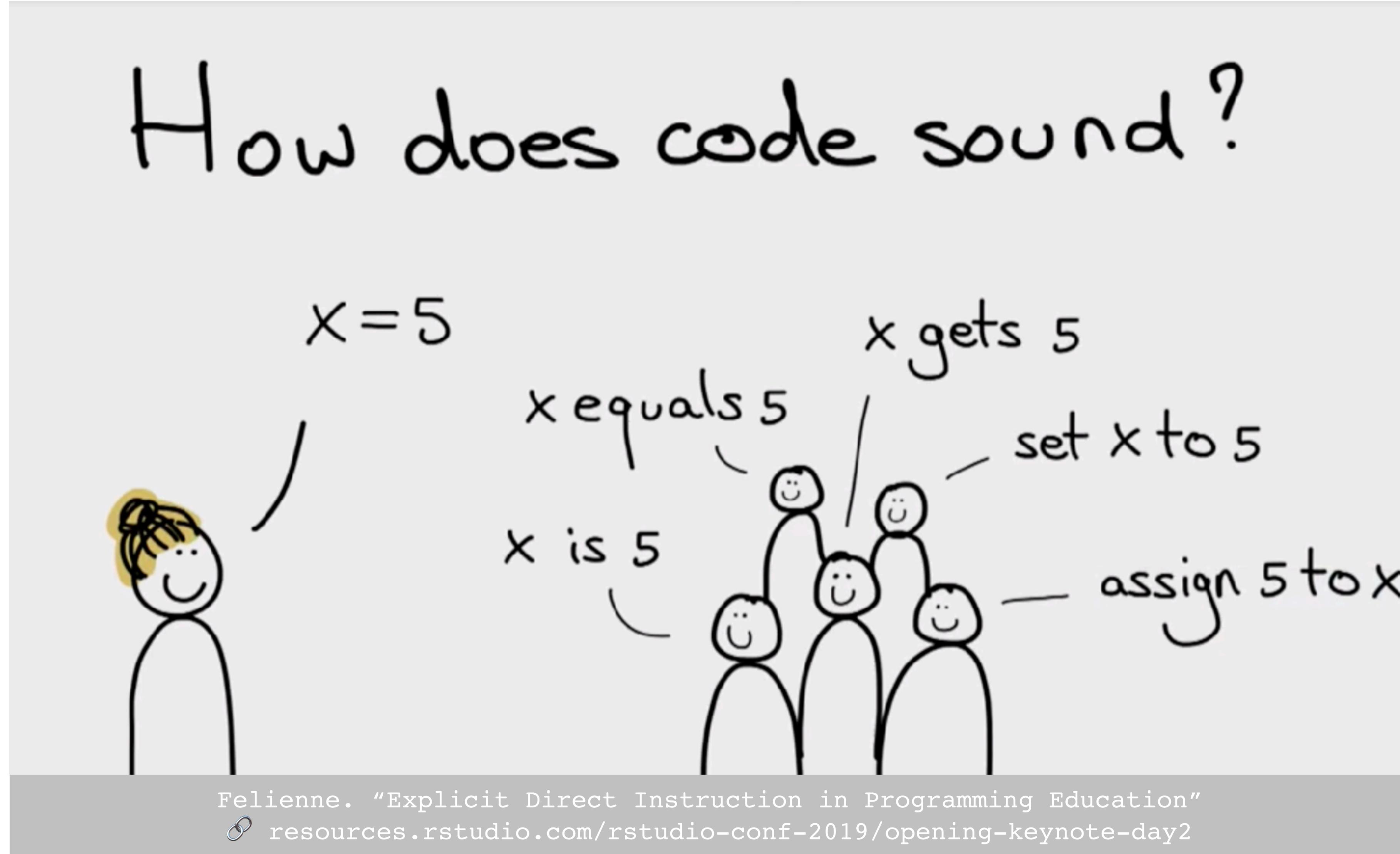
... further arguments passed to or from other methods.

Details

`double` creates a double-precision vector of the specified length. The elements of the vector are all equal to `0`. It is identical to [numeric](#).

`as.double` is a generic function. It is identical to `as.numeric`. Methods should return an object of base type "double".

pronounce



6

highlight
diversity



gender diversity

LGBT+ resources for statisticians and data scientists

Written by Donna LaLonde, Wendy Martinez, Jack Miller, Miles Ott and Suzanne Thornton on 30 May 2019.

Posted in [Culture](#)



In professional and classroom settings, we strive to communicate the intention of a respectful and productive interaction. In order to accomplish this, we all need to be mindful of our implicit biases, especially when beginning new professional relationships and establishing learning environments. The resources provided in this article are presented with this very intention.

Editor's note For further discussion of LGBT+ inclusion in statistics and data science, see [this related article](#) from our June 2019 print edition.

We have organized the following resources and tips as outlines and checklists for ease of implementation and adaptation. This resource should be viewed as an initial (and by no means exhaustive) reference and we encourage your contributions. Please use the comments section or this [Google form](#) to contribute your additional resources or tips.

 significancemagazine.com/624

- > EU Lesbian, Gay, Bisexual and Transgender Survey
- > European Network for the Investigation of Gender Incongruence
- > LGBTData: repository by Drexel University School of Public Health
- > Population Research in Sexual Minority Health (PRISM) Data Archive
- > US Center for Disease Control (CDC) data

language diversity



RStudio Cheat Sheets - RStudio

rstudio.com/resources/cheatsheets/

- Edgar Ruiz has provided a Spanish translation of the [Data Visualization cheatsheet](#) ([Previous version](#) by Carlos Ortega and Santiago Mota of the [Grupo de Usuarios de R de Madrid](#)).

Turkish Translations - Türkçe Çeviriler

- Metin Yazıcı has provided Turkish translations of the [Data Import](#), [Data Visualization](#), [R Markdown](#), and [Shiny](#) cheatsheets.
- Hazel kavılı and Berk Orbay have provided Turkish translations of the [Data Transformation](#) cheatsheet and the redesigned [Data Visualization](#) cheatsheet.
- Elif Kartal has provided a Turkish translation of the [Base R](#) cheatsheet.
- Zeki Özen has provided a Turkish translation of the [Regular Expressions](#) cheatsheet.
- İlkim Ecem Emre has provided a Turkish translation of the [caret](#) cheatsheet.

Ukrainian Translations - українські переклади

Evgeni Chasnovski of [QuestionFlow](#) has provided Ukrainian translations of the [Data Import](#), [Data Transformation](#), [Purrr](#) and [lubridate](#) cheatsheets.

Uzbek Translations - O'zbek tilidagi tarjimalar

Alisher Suyunov has provided Uzbek translations of the [Data Import](#) and [Data Transformation](#) cheatsheets.

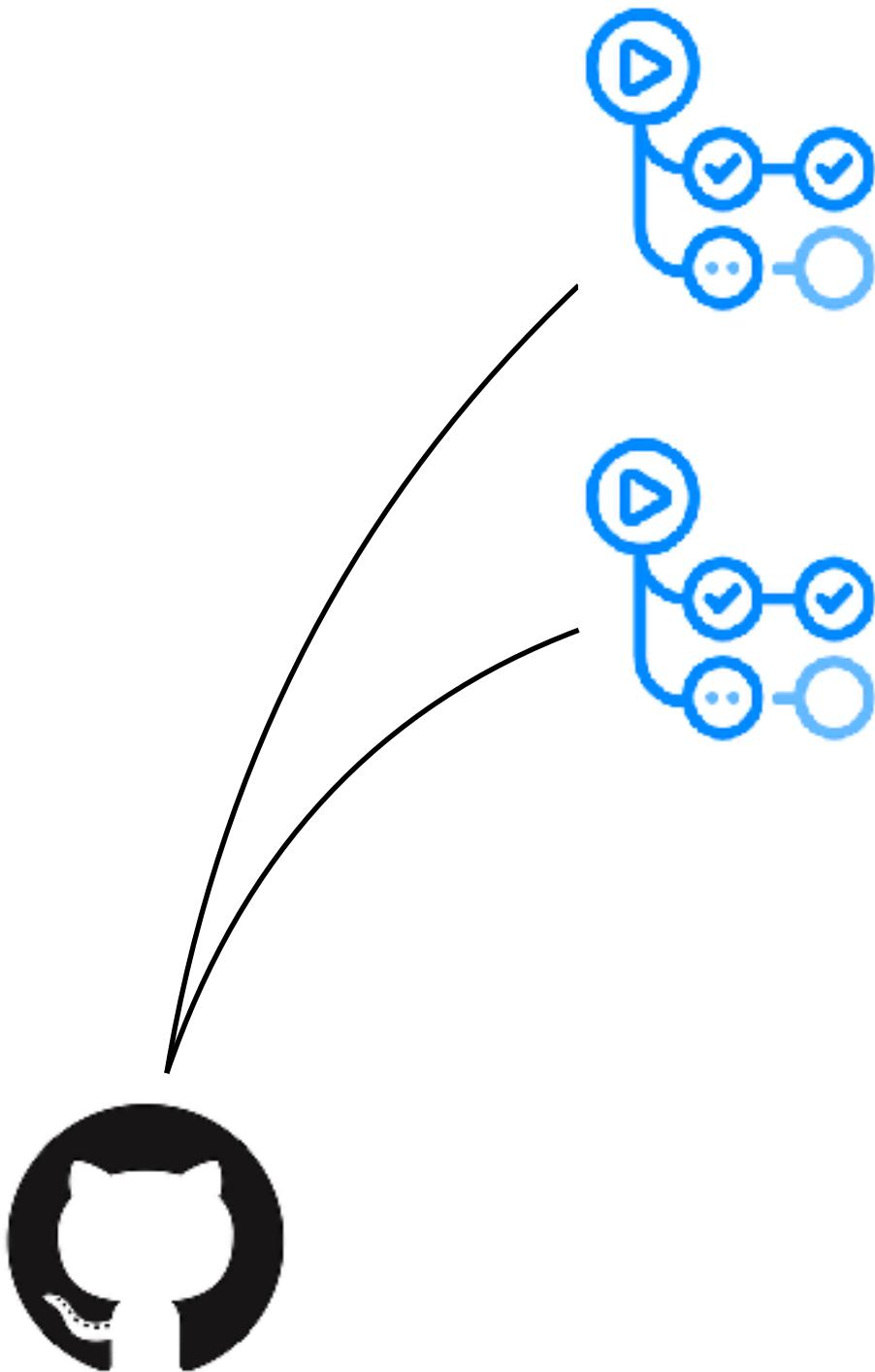
Vietnamese Translations - Bản dịch tiếng Việt

Anh Hoang Duc and Duc Pham of [RAnalytics.vn](#) have provided Vietnamese translations of the [Data Visualization](#), [Data Wrangling](#), [R Markdown](#), [Shiny](#), [Package Development](#), [Base R](#), [purrr](#), [stringr](#), and [lubridate](#) cheatsheets.



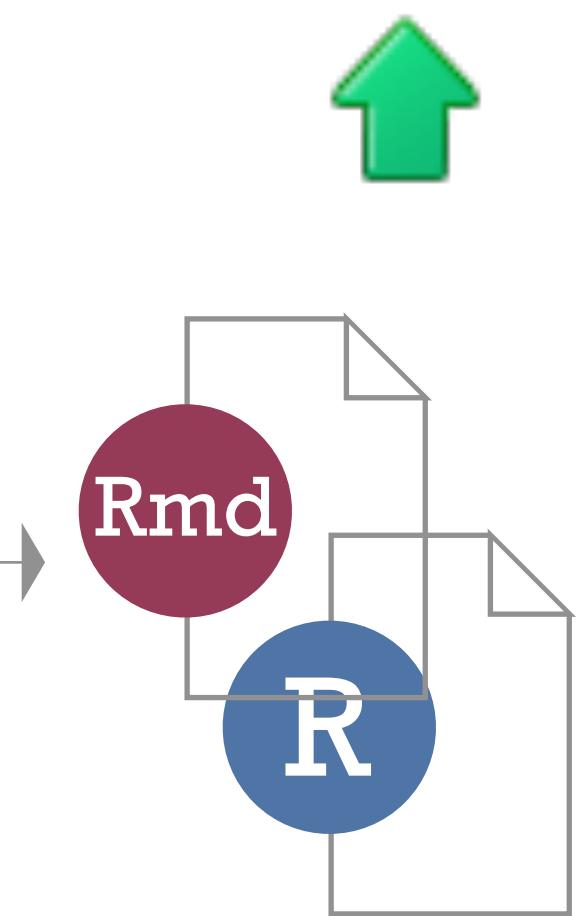
provide
instant feedback





Does my Rmd knit?

Am I pushing extraneous
files to my repo?



README.md

knit passing

allowed files passing

lab-07-model-course-evals

Instructions for "Lab 7 - Modeling course evaluations, Pt. 1" are [here](#). Insert your answers to the exercises to [lab-07-model-course-evals.Rmd](#).



Does my Rmd knit?

knit passing

18 lines (17 sloc) | 354 Bytes

[Raw](#) [Blame](#) [History](#)

```
1 on:
2   push:
3     branches:
4       - master
5     paths:
6       - 'lab-07-model-course-evals.Rmd'
7   name: knit
8   jobs:
9     knit:
10    runs-on: ubuntu-latest
11    container:
12      image: rocker/tidyverse:latest
13    steps:
14      - name: Checkout
15        uses: actions/checkout@master
16      - name: Check
17        run: Rscript -e "rmarkdown::render('lab-07-model-course-evals.Rmd')"
```



Am I pushing extraneous files to my repo?

allowed files **passing**

16 lines (15 sloc) | 294 Bytes

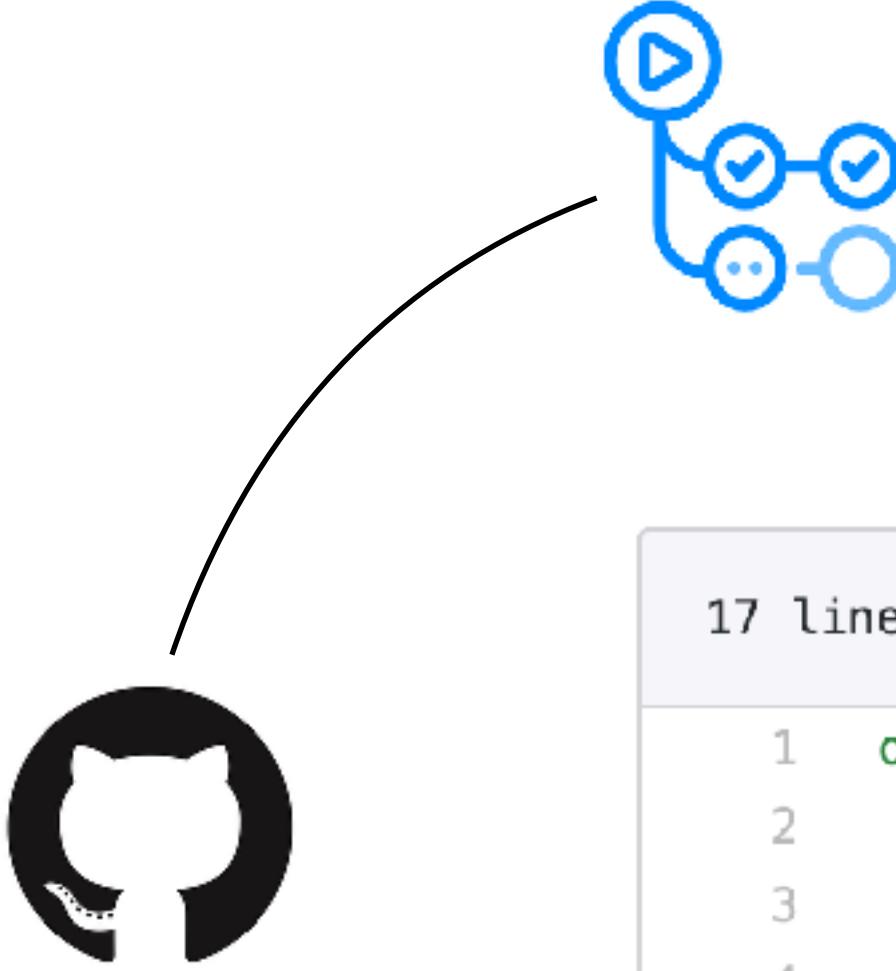
Raw Blame History

```
1 on:
2   push:
3     branches:
4       - master
5   name: allowed files
6   jobs:
7     allowed-files:
8       runs-on: ubuntu-latest
9       container:
10      image: rocker/r-ver:latest
11      steps:
12        - name: Checkout
13          uses: actions/checkout@master
14        - name: Check
15          run: Rscript .github/lab-07-allowed-files.R
```

Executable File | 22 lines (17 sloc) | 611 Bytes

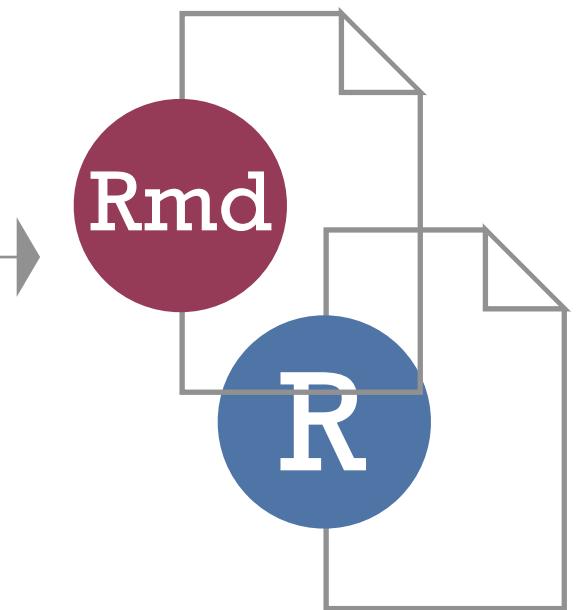
Raw Blame History

```
1 allowed_files = c("lab-07-model-course-evals.md",
2                         "lab-07-model-course-evals.Rmd",
3                         "lab-07-model-course-evals.Rproj",
4                         "lab-07-allowed-files.R",
5                         "README.md",
6                         "data",
7                         "lab-07-model-course-evals_files",
8                         ".gitignore")
9
10 files = dir()
11 disallowed_files = !files %in% allowed_files
12
13 if (any(disallowed_files)) {
14   cat("Disallowed files found:\n")
15   cat("  (remove the following files from your repo)\n\n")
16
17   for(file in files[disallowed_files])
18     cat("*",file,"\n")
19
20   quit("no",1,TRUE)
21 }
```



Am I following style guidelines?

periodically



17 lines (17 sloc) | 487 Bytes

Raw Blame History

```
1 on:
2   schedule:
3     - cron: '30 13 * * *'
4 name: style
5 jobs:
6   style:
7     runs-on: ubuntu-latest
8     container:
9       image: rundel/ghclass:latest
10    steps:
11      - name: Run styler on repo
12        env:
13          GITHUB_PAT: ${{ secrets.GITHUB_TOKEN }}
14        run:
15          git config --global user.name "${GITHUB_ACTOR}"
16          git config --global user.email "noreply@github.com"
17          Rscript -e "ghclass::repo_style(\"${GITHUB_REPOSITORY}\", tag_collaborators = FALSE, prompt = FALSE)"
```

```
repo_style(repo = "ghclass-demo/hw-03-ncbikecrash-ghclass-anya",
           files = "*.Rmd", draft = TRUE)
```

```
#> ✓ Created branch 'styler' from 'ghclass-demo/hw-03-ncbikecrash-ghclass-anya'.
#> ✓ Cloned 'ghclass-demo/hw-03-ncbikecrash-ghclass-anya@styler'.
#> ✓ Created pull request for 'ghclass-demo/hw-03-ncbikecrash-ghclass-anya (master <=
styler)'.
```

styler revisions #1

Draft mine-cetinkaya... wants to merge 1 commit into master from styler

Conversation 0 Commits 1 Checks 0 Files changed 1 +16 -18

mine-cetinkaya... commented 14 minutes ago

This pull request contains the results of running the automated R code formating tool styler on your repo. Styling is based on the [tidyverse R style guide](#).

Click on the commit below to see details of recommended changes. It is not necessary that your code cleanly pass these checks, but if there is a large number of significant changes suggested you should review the style guide with an eye towards potentially improving your code formatting.

@ghclass-anya

Results of running styler: 721c39c

Add more commits by pushing to the **styler** branch on [ghclass-demo/hw-03-ncbikecrash-ghclass-anya](#).

This pull request is still a work in progress
Draft pull requests cannot be merged.

Merge pull request You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

Ready for review

Reviewers: ghclass-anya Request

Suggestions: No one—assign yourself

Assignees: None yet

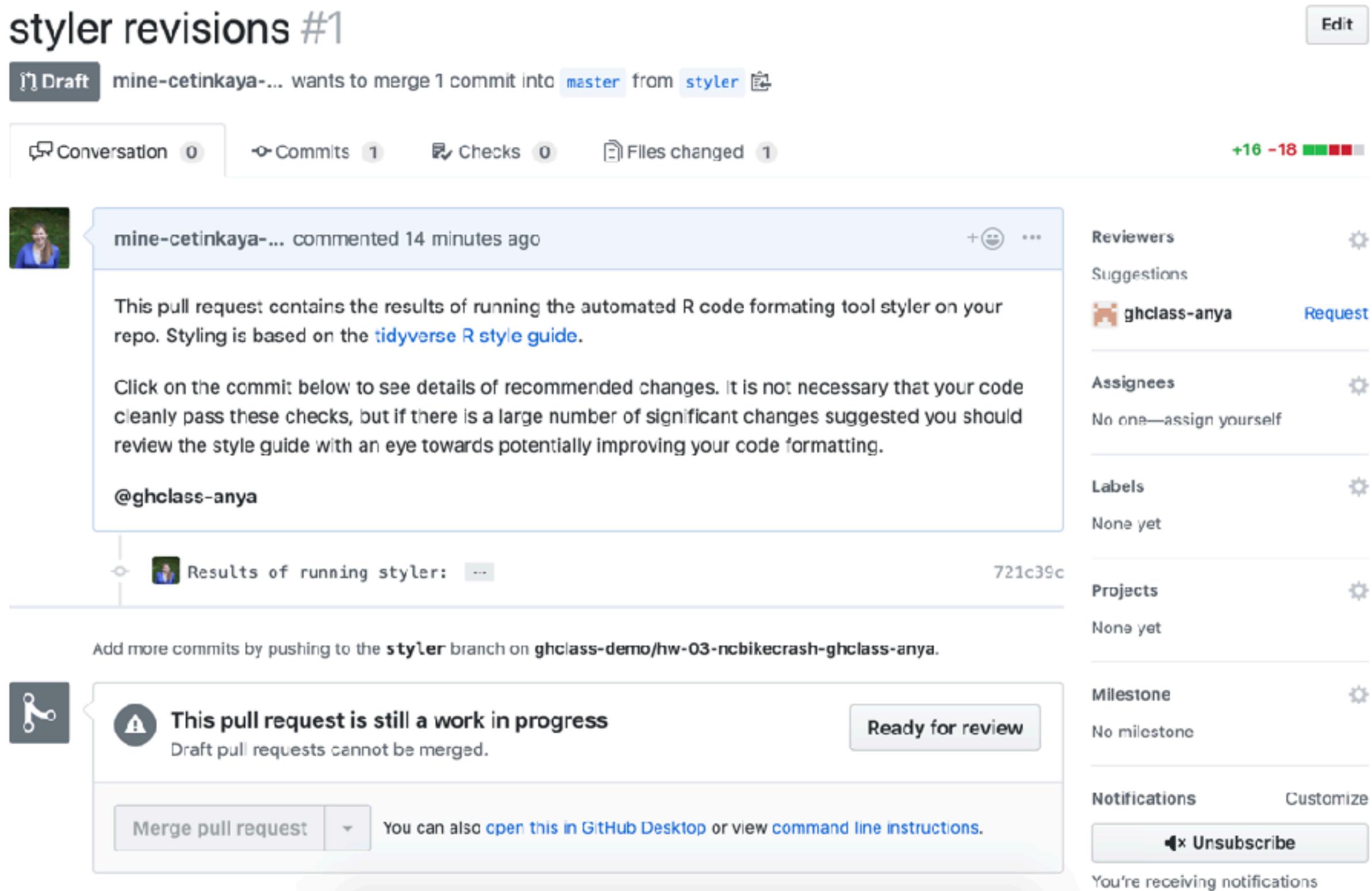
Labels: None yet

Projects: None yet

Milestone: No milestone

Notifications: Customize Unsubscribe

You're receiving notifications



gitclass-ecme / hw / Pull requests / styler revisions #1

Code Issues 0 Pull requests 1 Projects 0 Wiki Security Insights Settings

styler revisions #1

Draft mine-cetinkaya-... wants to merge 1 commit into master from styler

Conversation 0 Commits 1 Checks 0 Files changed 1 +16 -18

Changes from all commits ▾ File filter... ▾ Jump to... ▾ Review changes ▾

Results of running styler:

Styling 1 files:
hw-03-ncbikecrash.Rmd i

Status	Count	Legend
✓	0	File unchanged.
i	1	File changed.
*	0	Styling threw an error.

Please review the changes carefully!

styler (#1)

mine-cetinkaya-rundel committed 16 minutes ago commit 721c39cf8b6c0e6b3bc50f2918747415910b980e

34 hw-03-ncbikecrash.Rmd

@@ -7,7 +7,7 @@ output: github_document

```
7
8 ```{r load-packages, message=FALSE}
9 # load packages
10 -library(tidyverse)
```

7
8 ```{r load-packages, message=FALSE}
9 # load packages
10 +library(tidyverse)

don't just point out negatives

take a note from **praise**,
also comment on positives

Installation

```
devtools::install_github("gaborcsardi/praise")
```

Usage

```
library(praise)
praise()
```

```
#> [1] "You are super-excellent!"
```

You can supply a template, and `praise()` fills in random words of the specified part of speech:

```
praise("${EXCLAMATION}! You have done this ${adverb_manner}!")
```

```
#> [1] "AYE! You have done this enormously!"
```

8

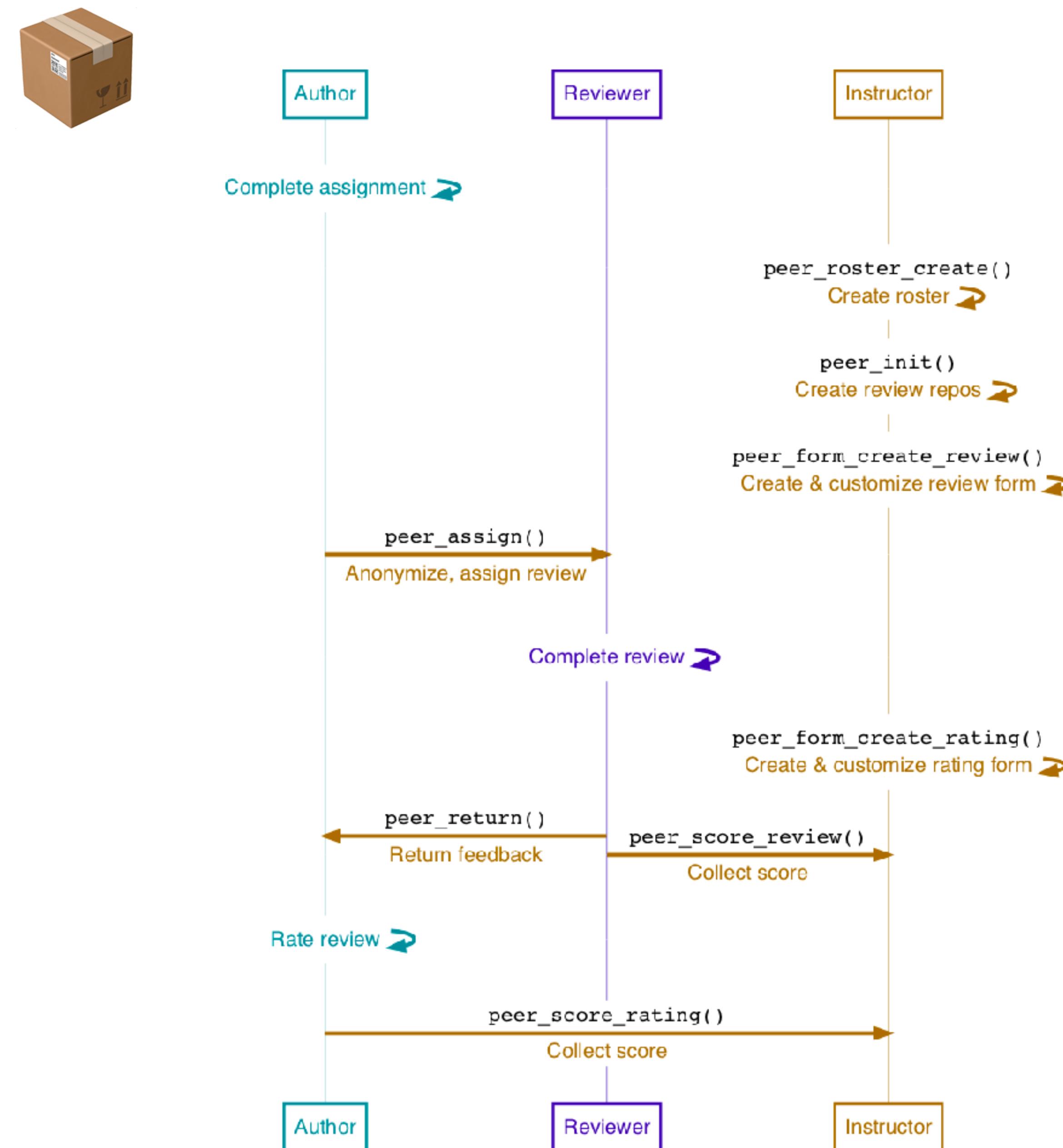
invite
peer feedback



peer review

- 对学生来说， make expertise “contagious” within your class
- 对教师来说， help students see their work through another’s eyes, without instructor having to point out flaws

peer review with ghclass



9

amplify diverse
voices



BRUNA WUNDERVALD

Brooke Watson

Julia Silge

Once Upon Data

Omayma Said

R Questions Tag Pairs on Stackoverflow

Posted on May 6, 2017

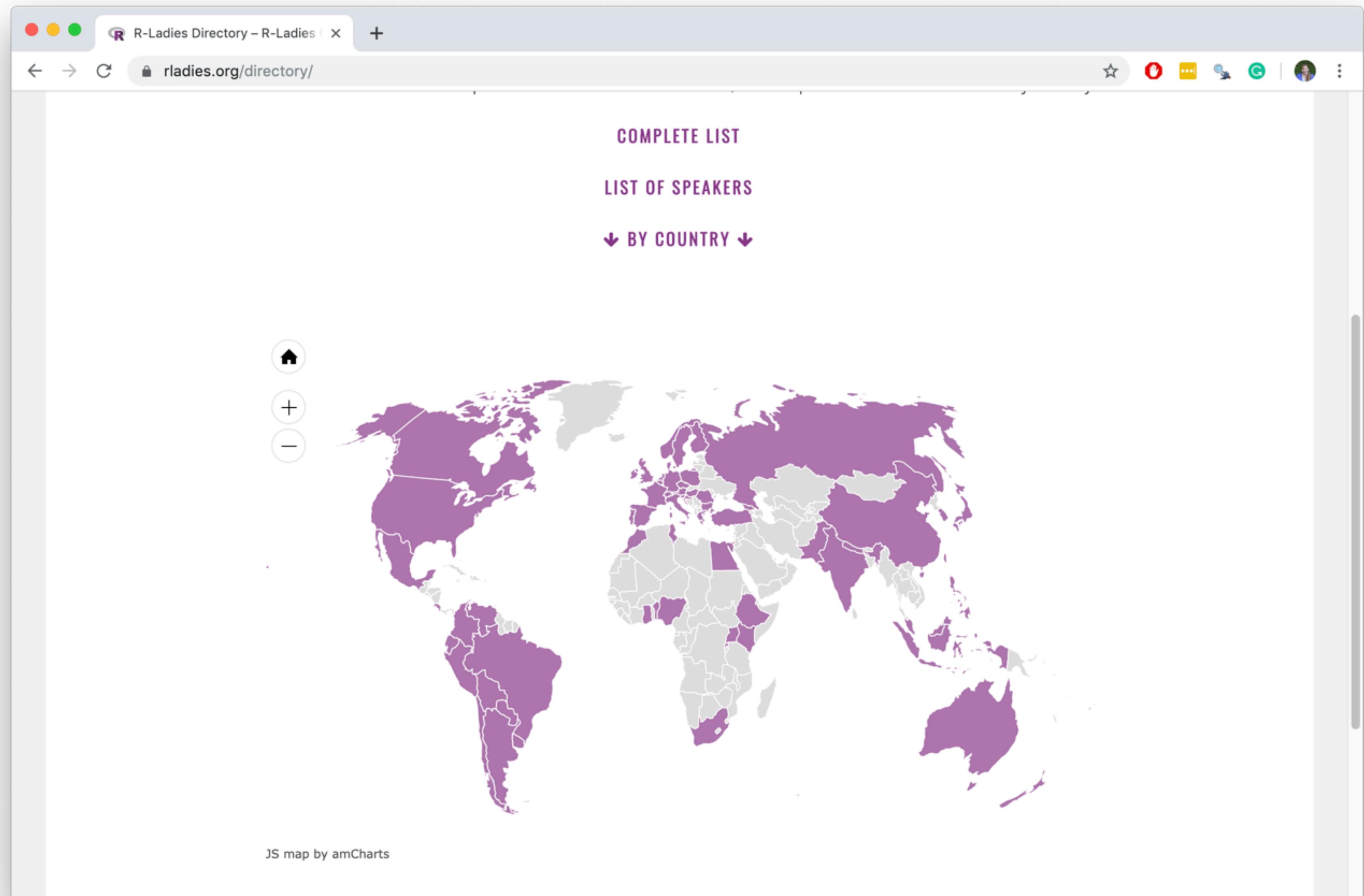
Months ago, I passed by [R Questions from Stack Overflow](#) published on [Kaggle](#). I was interested in tag pairs in particular, i.e. which tags appear together in R questions, so I worked on this simple [kernel](#).

This week, I had some time so I thought about deploying a simple [Shiny App](#), to give people access to exploring the tag pairs. So here is the App, where you can see the most frequent tags that appear with a certain tag. And below is the full code of how I processed and aggregated the data.

R Tag Pairs Shiny App

R Questions Tag Pairs on Stackoverflow

bit.ly/r4all-ecme



10

make room for
creativity



analyse your own data

Showcase your inner data scientist

TL;DR

Pick a dataset, any dataset...

...and do something with it. That is your final project in a nutshell. More details below.

PS: Please don't make pie charts for your project.

May be too long, but please do read

The final project for this class will consist of analysis on a dataset of your own choosing. The dataset may already exist, or you may collect your own data using a survey or by conducting an experiment. You can choose the data based on your interests or based on work in other courses or research projects. The goal of this project is for you to demonstrate proficiency in the techniques we have covered in this class (and beyond, if you like) and apply them to a novel dataset in a meaningful way.

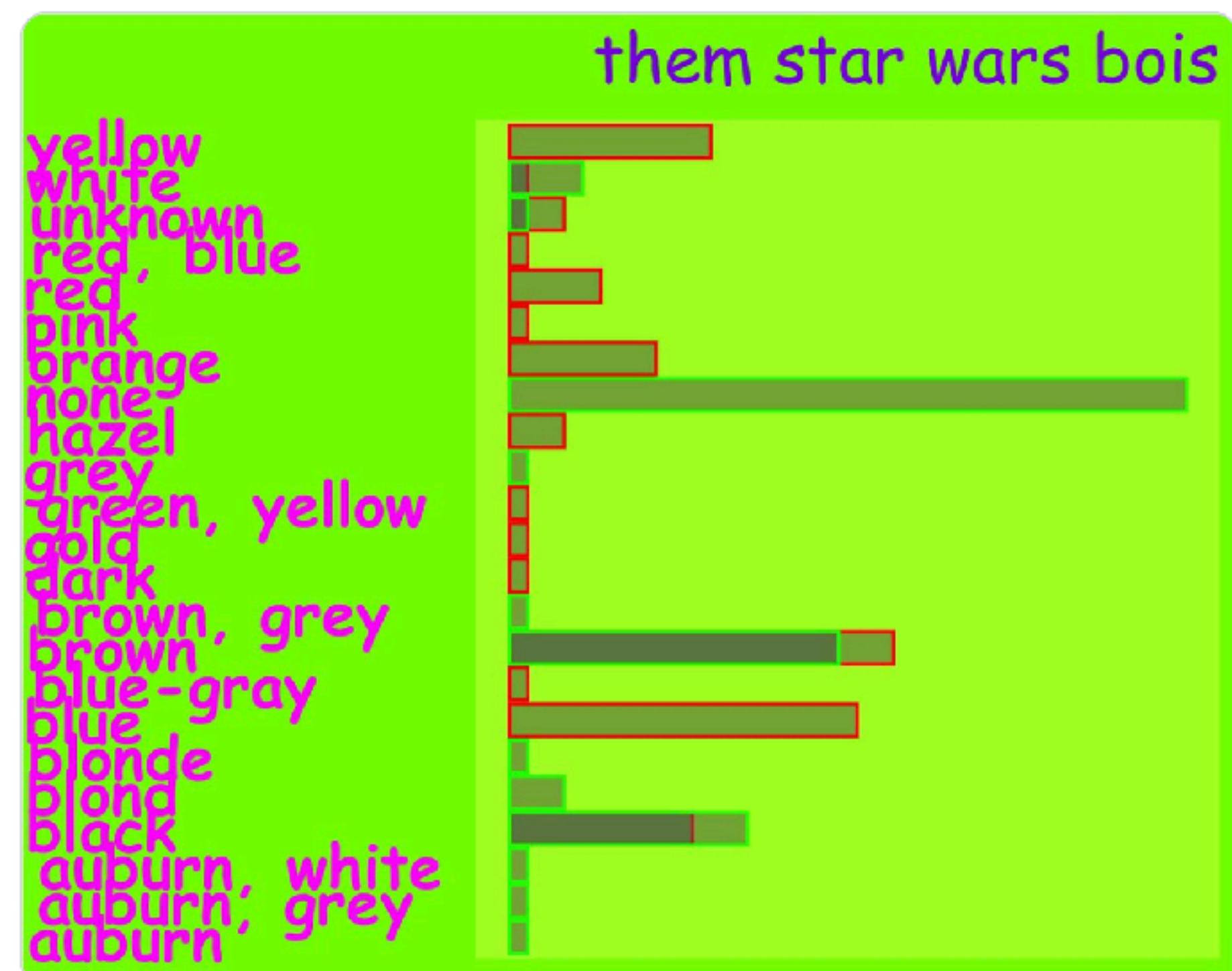


ugly ggplot2 themes



Drew Steen
@biogeobiochem

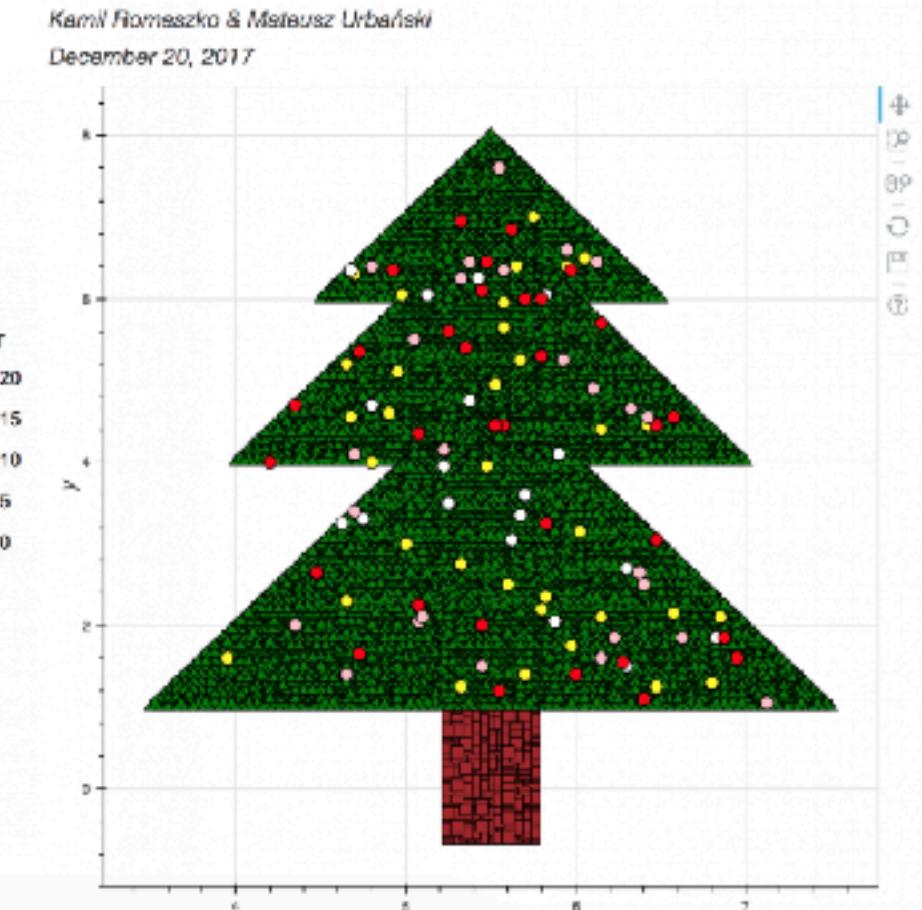
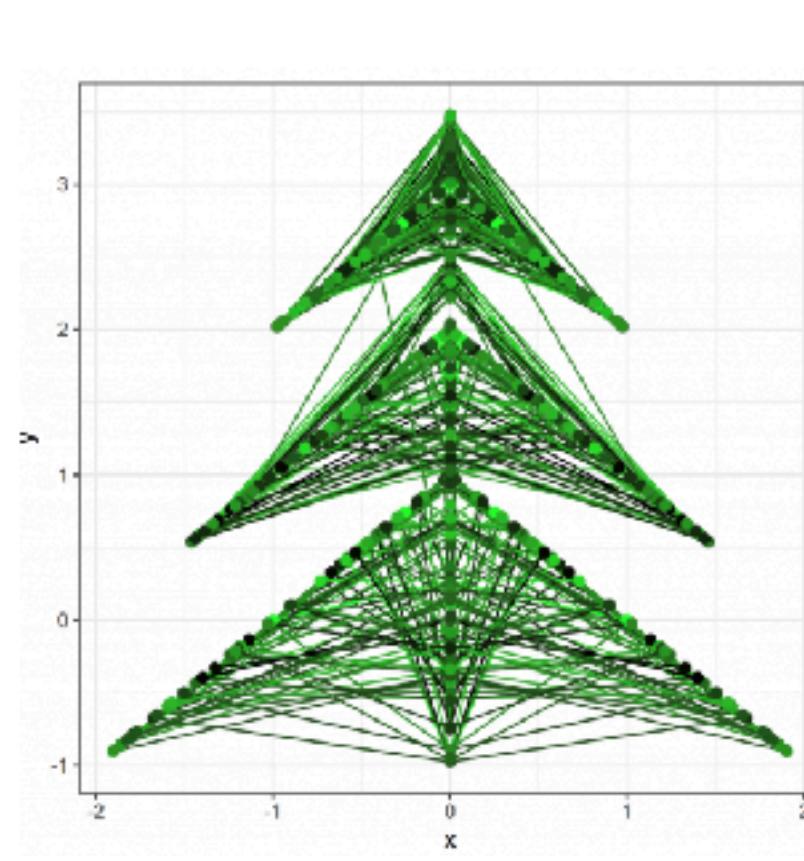
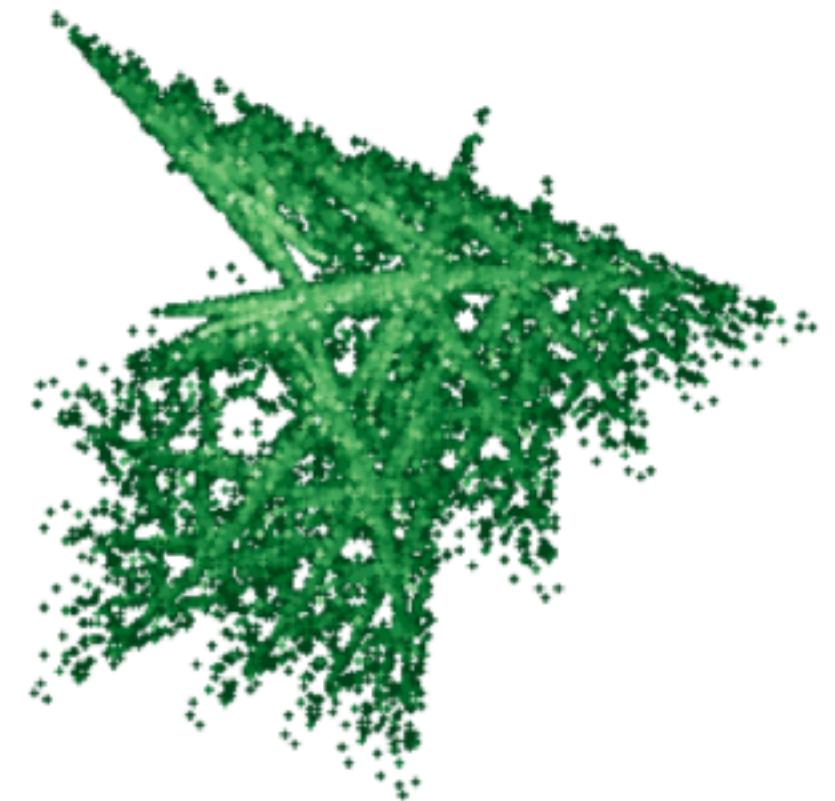
First up, big congratulations to [@UTK_EPS](#) Ph.D. student Rihanna Moore, who won by popular vote with this monstrosity



1:29 PM · Sep 13, 2019 · Twitter Web App



draw a Christmas tree



smarterpoland.pl/index.php/2017/12/christmas-trees



4 all

welcoming + inclusive practices for teaching R



bit.ly/r4all-ecme



bit.ly/r4all-github

minebocek 

mine-cetinkaya-rundel 

cetinkaya.mine@gmail.com 



Illustrations by Desirée De Leon, @dcossyle