```
library(dplyr)
rladies_global %>%
  filter(city == 'Baltimore')
```

R-Ladies

Highlights from rstudio::conf 2018

Alexis Norris (alexisleighnorris@gmail.com)

25 September 2018

1. What is rstudio::conf?
2. Tidyverse
3. Visualization Tools
4. Other

What is rstudio::conf?

rstudio::conf

R-Ladies

History

- Started in 2017 (Orlando)
- 2nd meeting was held in San Diego, CA in January 2018
- 2019 meeting – Austin, TX (Jan 15-18, 2019)

Agenda

- 2 days of workshops
- 2 days of conference

Workshops

Vary from beginner to advance

- Shiny
- RMarkdown
- Deep Learning
- Tidyverse
- Train-the-trainer certifications

Tidyverse

Non-Standard Evaluation

Hadley Wickham (@hadleywickham)

NSE examples

- `df$x` is NSE of '$(df, x)'
- Columns not quoted when called in `ggplot` aesthetics

Bang Bang (`!!`)

- Indicates an object rather than a column
- Solves the issue of having object and variable (e.g. column) with the same name + If you want variable use !!x
- If you want column use x

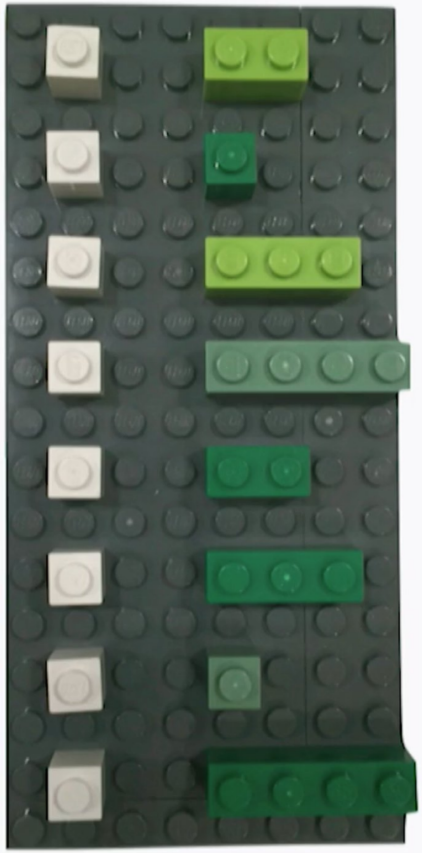
More info

- Book: Advanced R (2nd edition) - http://adv-r.had.co.nz/

List Columns

Jenny Bryan (@JennyBryan)

name stuff
<chr> <list>



this **is** a data frame!

a tibble, specifically

List Columns

Jenny Bryan (@JennyBryan)

List columns in a data.frame

- "Rectangling" for increased efficiency and handling complicated data in a data.frame
- `prrr::map_*(glue::glue_data()) %>% unnest()` replaces `lapply()`

Examples

- Plotting models: add column to table with linear model (`lm`) results; add to `ggplot` using `group_by()`
- Example datasets: `repurrrsive` package

More info

- rstd.io/rectangling

Tips & Tricks

Emily Robinson (@robinson_es)

Checking data

- Replace values with NA: `dplyr::na_if()`
- Examine numeric columns quickly: `dplyr::select_if()`; `skimr::skim()`
- Examine single column: `stringr::str_split()` `%>%` `tidyr::unnest()`

Visualizing data

- Match axes: `forcats::fct_reorder()`
- Reorder axis levels: `forcats::fct_relevel()`

Visualization Tools

Visual Inference

Di Cook (@visnut)

Rationale

- *Apophenia* - imagining things in plots
- Using `ggplot` to see if data is significant

Methods/protocols

1. Rorshach: plot null *before* actual
2. Line-up: plot null with actual; *blinded* people pick best

Steps with `nullabor` package

1. Create null using permutation or simulation
2. Get p-value for "line-up"
3. Visual inference with `pvisual()`
4. Power with `visual_power()`

Useful Packages

- `naniar`: finding and handling NAs
- `visdat`: visualize dataset
- `workflowr`: project management (dir structure, git, Rmd, Github page)
- `ggraphs`: `ggplot` for network data (hierarchical clustering, dendrograms, phylograms, gene networks. . .)

Other

TensorFlow

JJ Allaire (@fly_upside_down)

Machine/deep learning with `TensorFlow` and `Keras` API

Steps

1. Data pre-processing
2. Define model
3. Compile model
4. Train model
5. Evaluate with new data
6. Predict, optimize with `tfruns` package

More info

- Examples: tensorflow.rstudio.com/gallery
- Book: **Deep learning with R**

RStudio 1.1

Kevin Ushey (@kevin_ushey)

Terminal

- You can open bash scripts (`*.sh`) in RStudio
- Run bash scripts in terminal: `CTRL+ALT+ENTER` (line-by-line)
- `ssh` using terminal
- Pass R code to ssh'd connection

Connections tab & databases

- View tables in database
- odbc package
- See: db.rstudio.com

Thank you!

You can watch all of the talks (2017, 2018) online:

https://www.rstudio.com/resources/videos/rstudioconf-2018-talks