Introduction to R

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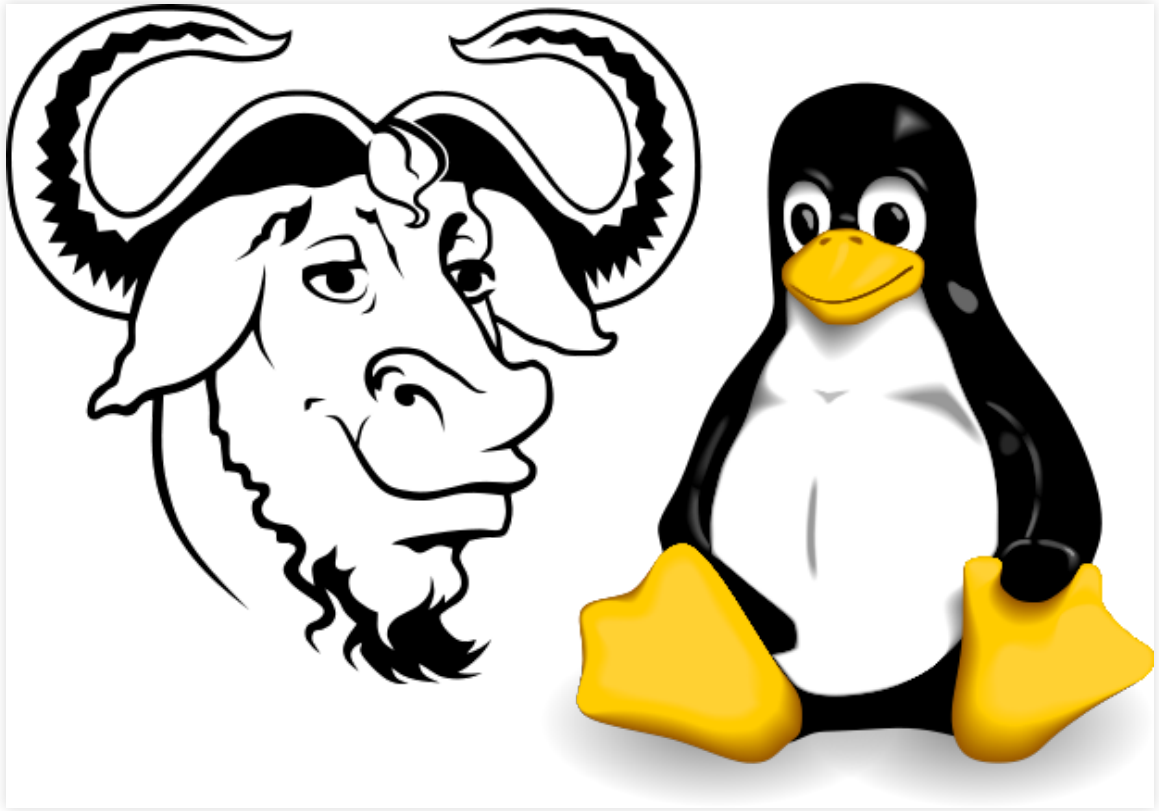
AGR5266 - Field Plot Techniques

Top 10 Programming Languages 2018

Freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques. It's GNU!



GNU Philosophy

R Overview

- Data Science/Statistics
- Modeling
- Graphics
- Programming language
- Free
- Open Source
- Extensible
- Apps
- Repeatability!
- Widely used in Life Sciences

R Theory

From Ihaca Speech:

R provides An interactive, extensible, vectorised language with a large run-time environment which provides a good deal of statistical functionality and good graphics capabilities. It comes with the the freedom to inspect, modify and redistribute the source code. Extensive “third-party solutions” are available through the CRAN websites. User support is available through community mechanisms.

Open R

Interfaces: RStudio

Different interfaces

Open RStudio

Practice

From here to where?

- Report (Rmd) on RStudio

https://rmarkdown.rstudio.com/gallery.html

- Presentation

RCourse.Rpres

More about R? Tutorials

- https://rstudio.github.io/learnr/
- https://www.coursera.org/learn/r-programming
- https://www.datacamp.com/courses/free-introduction-to-r
- http://swirlstats.com/

More about R? Tutorials

Old school

- Amazon Books
- https://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf
- https://cran.r-project.org/doc/manuals/R-intro.pdf
- Dr. Peng Books (pay as much as you want and my personal preference)

Debugging Code

- http://stackoverflow.com/
- http://rseek.org/
- Google!

Motivational - From here to where?

- Mastering Graphics By example

Gallery 1

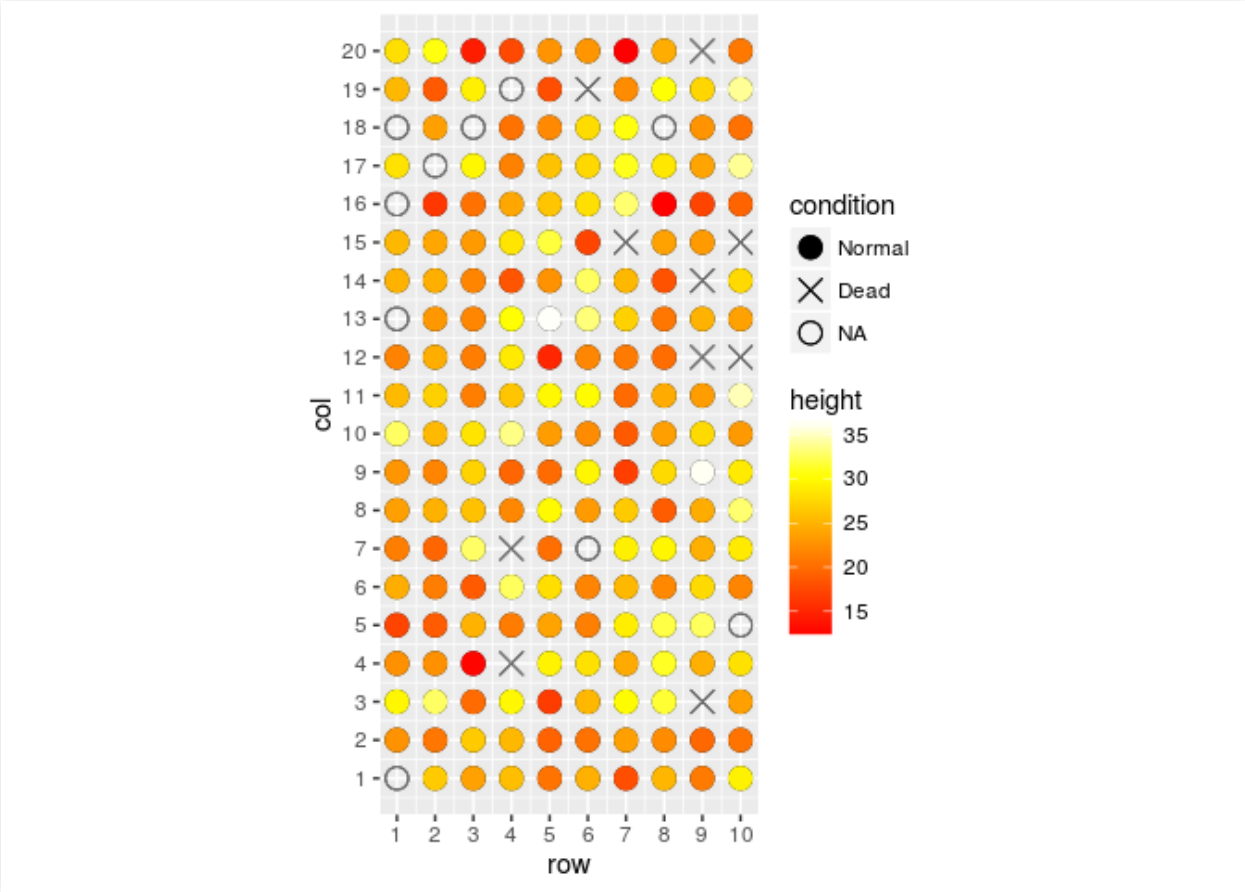
Gallery 2

By course

ggplot2: Elegant Graphics for Data Analysis, Hadley Wickham

R Graphics Cookbook: Practical Recipes for Visualizing Data, Winston Chang

From here to where? Field Map



From here to where? Apps

- QTL Mapping example
- https://plot.ly/r/3d-surface-plots/
- http://rosetta.ahmedmoustafa.io/drift/

Advanced R

- Dates? *lubridate*
- http://vita.had.co.nz/papers/tidy-data.pdf
- http://tidyverse.org/
- https://www.rstudio.com/resources/webinars/working-with-big-data-in-r/
- https://www.coursera.org/learn/advanced-r
- https://support.rstudio.com/hc/en-us/articles/200486488-Developing-Packages-with-RStudio

R Companion for Clewer & Scarisbrick (2001)

Link

It will be on Canvas!

Office hours?


THAT'S ALL FOLKS
imgflip.com