R Stats 4 nOObs - PMCB Retreat 2016

Danielle Robinson & Lilly Winfree

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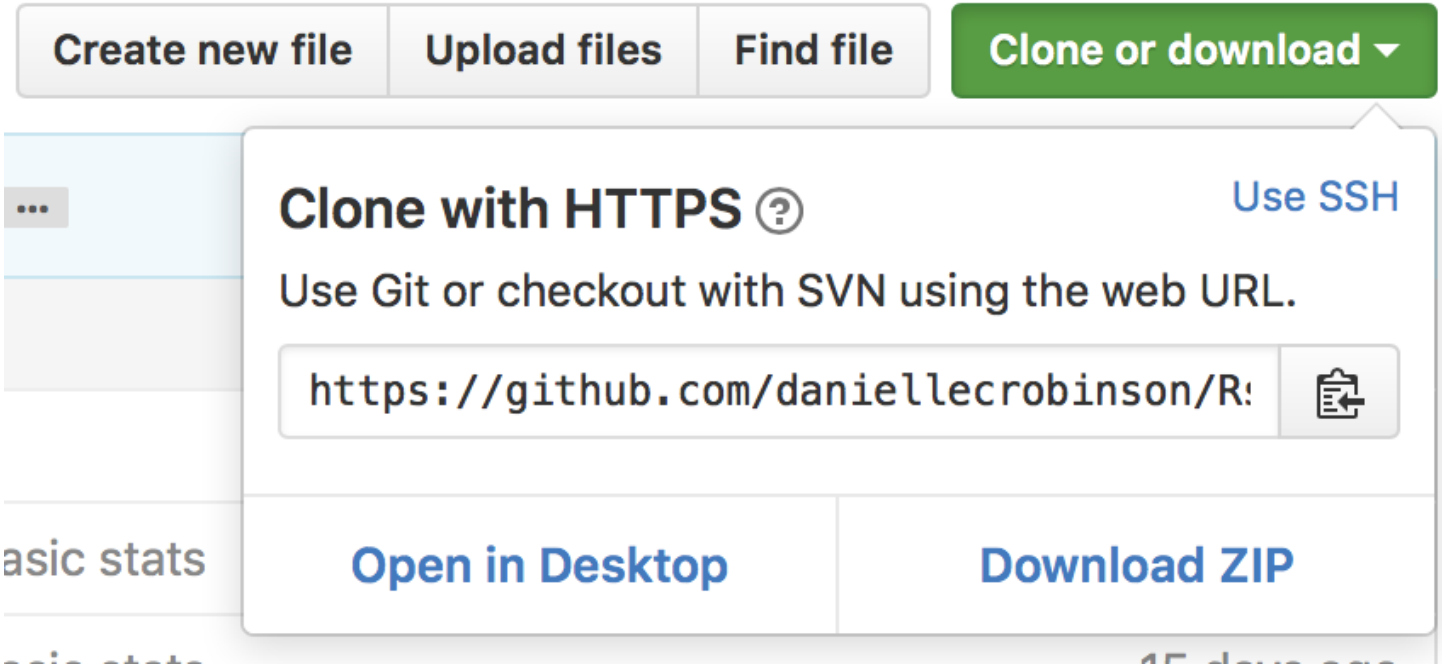
Before we begin

- Download R Studio
  - `https://www.rstudio.com/products/rstudio/download3/`
- Go to our Github page:
  - `https://github.com/daniellecrobinson/Rstats_4_n00bs`



- Click on "Clone or Download"
- Click on "Download Zip"

Why should you use R??

- Free!
  - unlike Prism, excel
- Open Source
  - Tons of support, packages, tools
  - Don't trap your file in proprietary format!
- Great for stats
  - Defaults not hidden, question assumptions

Basics (1)

- use # to comment
- "<-" assigns values to a variable

```
x<-1
x
```

```
## [1] 1
```

- functions ()

```
print(x)
```

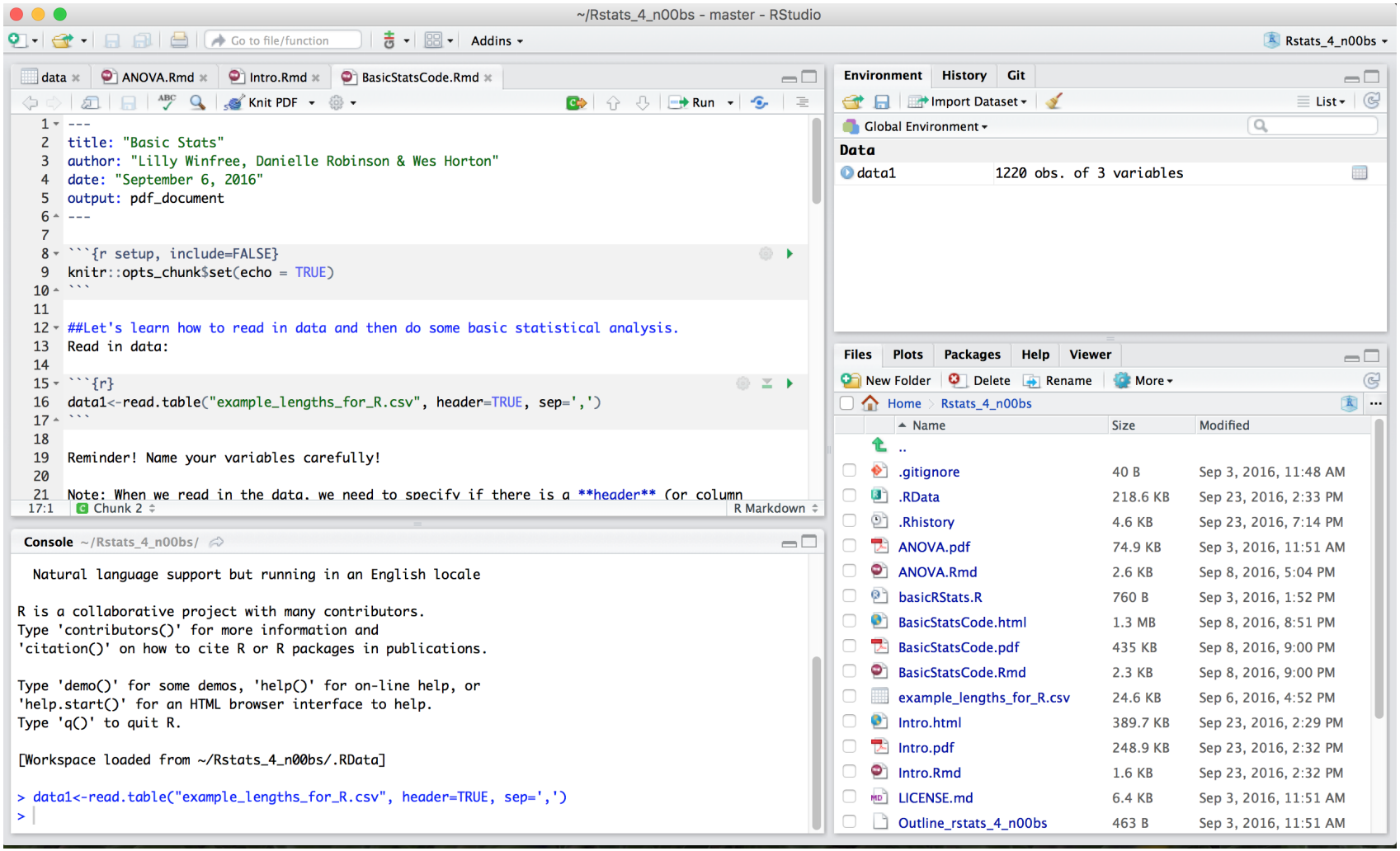
```
## [1] 1
```

Basics (2)

- help() and ?
- in R console, use up arrow to re-type what you just wrote
- variable names can't start with a number
  - eg Data1 not 1Data
- throwing errors is normal! You will create errors *a lot*

R is *stupid* and only knows what *you* input

This is what R Studio looks like:



Resources

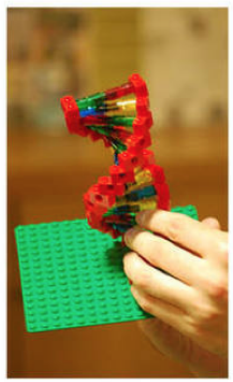
- CRAN: `https://cran.r-project.org`
- `http://stackoverflow.com` - like google for coding questions
- R Markdown cheat sheets (rmarkdown.rstudio.com)
- Ted Laderas' R bootcamp: `https://github.com/laderast/r-bootcamp`
- Mozilla study groups: `https://github.com/mozillascience/studyGroupLessons/issues`
- R Open Sci (`https://ropensci.org`)
- R meetup groups (`https://www.meetup.com/portland-r-user-group/`)
- additional plotting abilities with ggplot package (we're not going into this)

Fun Events:

SCIENCE HACK DAY PORTLAND

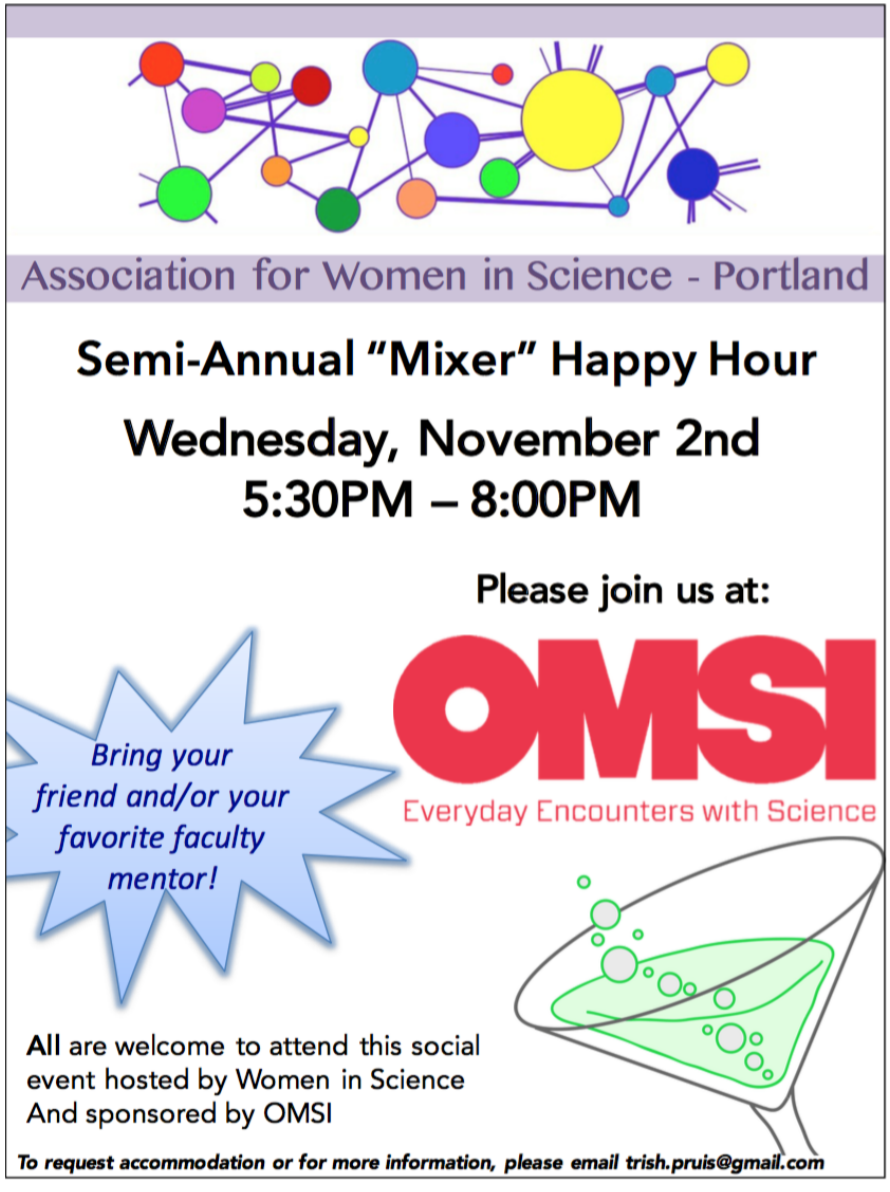
OCT 7TH-9TH
@XOXO OUTPOST
ALL AGES
FREE EVENT

Science Hack Day is a weekend-long event where anyone excited about making weird, silly or serious things with science comes together in the same physical space to see what they can prototype. Designers, developers, scientists and anyone who is excited about making things with science are welcome to attend – no experience in science or hacking is necessary, just an insatiable curiosity.



MORE INFO:
web: portland.sciencehackday.org
tweet: @sciencehack_PDX

Fun Events:


Association for Women in Science - Portland
Semi-Annual "Mixer" Happy Hour
Wednesday, November 2nd
5:30PM – 8:00PM
Please join us at:
OMSI
Everyday Encounters with Science
Bring your friend and/or your favorite faculty mentor!
All are welcome to attend this social event hosted by Women in Science And sponsored by OMSI
To request accommodation or for more information, please email trish.pruis@gmail.com

Let's go!

From the Github downloaded files, open:

- "example_lengths_for_R.csv"
- "BasicStatsCode.pdf"

We'll start with "BasicStatsCode.pdf"

PLEASE ASK US IF YOU ARE CONFUSED! :-)

~Use your **yellow** sticky note for "confused" and **green** for "ok"~