Introduction to R Day 1

Burcu Kolcak

January 12, 2021

Welcome!

- Very shortly about me
- About you, anything you want to tell about yourself:
 - Your major and minor fields
 - Your research interests
 - Statistical software experience
 - Any dataset you want to explore while you are learning R
 - Planned quantitative methods courses

About the Workshop

- Each day of the workshop will be divided into two sessions.
 - Morning session and the 1st half of the afternoon session: cover new topics and R commands followed by some short practice exercises
 - ► The 2nd half of the afternoon session: dedicated to practice exercises
- ▶ Slack: We will use Slack to communicate about everything
- ▶ Daily Problem Sets: Aim is to maximize the practice.
 - Optional, ungraded, and deadlines are flexible
- ▶ Office Hours: 7:00 9:00 pm throughout the workshop. We can also arrange by email.

Daily Outline

- ▶ Before the workshop: I will share a handout from Slack.
 - Include all the topics and R commands we will learn
 - Also include practice exercises without solutions
- ▶ **During the workshop:** Share my RStudio screen with you and everything we do will be consistent with the handout
 - You can either follow the handout and type the commands in RStudio with me at the same time.
 - Or, you can only try out the codes.
- ► End of the workshop: Post a handout with solutions to practice exercises from Slack

Why R?

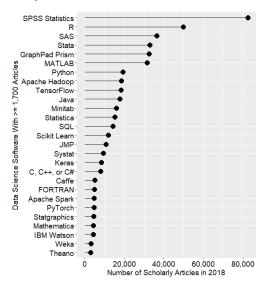
- ► It's free
- ▶ It's open source
- ► It's flexible
- It's extremely popular
 - Academics, industries, NYT, Facebook, Google, Twitter, FiveThirtyEight, nonprofits, governments all use R.
- ▶ Powerful and has great graphical capabilities
- Great for scientific workflow

What can you do with R?

- Everything!
 Seriously...
- ► Almost everything:
 - Statistical analysis
 - Text analysis
 - Geospatial analysis
 - Network Analysis
 - Machine learning
 - High-level visualization

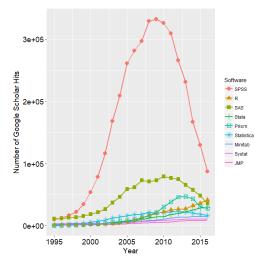
Adapted from Thomas Leeper's introduction to R tutorial

R and Scholarship: Citations



Source: http://r4stats.com/

R and Scholarship: Trends Over Time

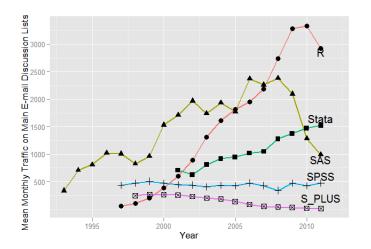


Source: http://r4stats.com/

Source: http://r4stats.com/

The Popularity of Data Analysis Software: R vs. SAS vs.

SPSS

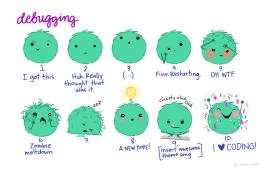


Source: http://r4stats.com/

Source: KD Nuggets 9/11

Some Challenges you might have with R

- Learning a programming language needs practice
- Lots of add-on packages (lightweight base software)
- ► Mistype or misspell commands → Cryptic error messages. Debugging will be a big part of the learning process



Source: Allison Horst

Endless Sources and a Huge Community

- ► Good news, you can find tons of good resources for R on the internet.
- ► Throughout the workshop, we will discuss these R resources