

Lab Crossover Event

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R: The Swiss Army Knife of Science

- ▶ The R project for statistical computing is a free open source statistical programming language and project. Follow these steps to get started.
- ▶ The main advantages of R are the fact that R is freeware and that there is a lot of help available online.

Why use R?

- ▶ Strengths

- ▶ free and open source, supported by a strong user community
- ▶ highly extensible and flexible
- ▶ implementation of modern statistical methods
- ▶ assists with replication and extension of your work

- ▶ Weaknesses

- ▶ slow with very large data sets ($>1\text{GB}$)
- ▶ non-standard programming paradigms

Why use R?

- ▶ RStudio is the primary Integrated Develop Environment (IDE) for R
- ▶ We will be using RStudio for the tutorial

Packages/Libraries

- ▶ Packages are the main R tools
- ▶ There are lots of packages. It's probable that if you have thought about the analysis, there is a package that is able to do it already. There are two basic steps to using a package:

Installing the package `install.packages("tidyverse")`

Loading the package `library(tidyverse)`

Slide with Bullets

- ▶ Bullet 1
- ▶ Bullet 2
- ▶ Bullet 3

Slide with R Output

```
summary(cars)
```

##	speed	dist
##	Min. : 4.0	Min. : 2.00
##	1st Qu.:12.0	1st Qu.: 26.00
##	Median :15.0	Median : 36.00
##	Mean :15.4	Mean : 42.98
##	3rd Qu.:19.0	3rd Qu.: 56.00
##	Max. :25.0	Max. :120.00

Slide with Plot

