



Data Visualization

Why are We Here?



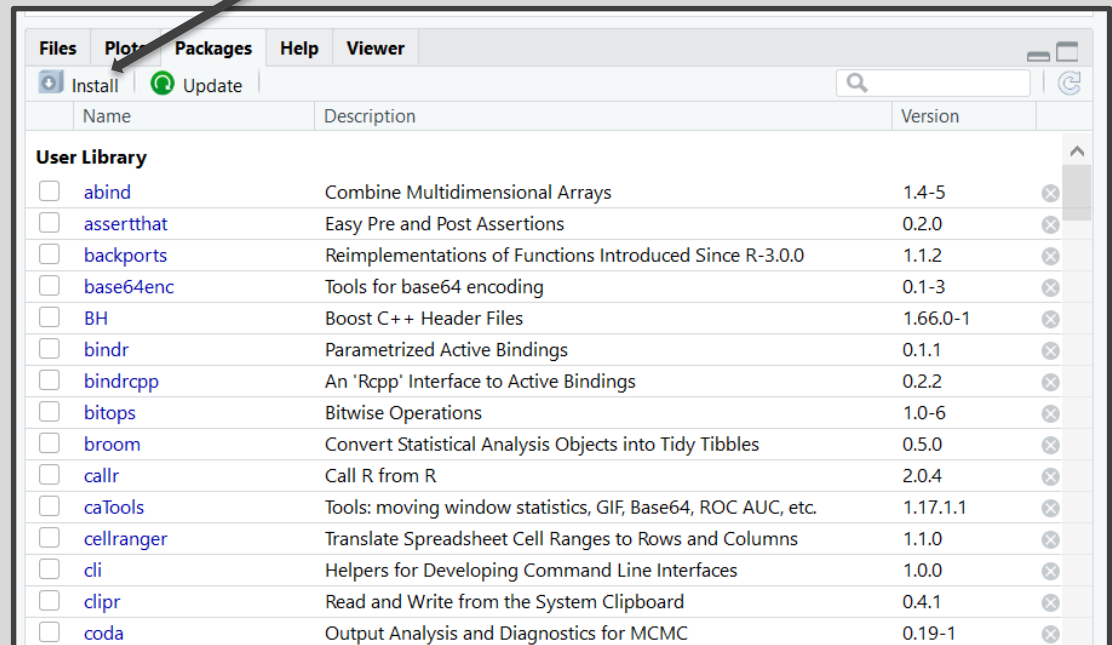
- To Develop a Personal and Intimate Relationship With R
- To Install Some Key R Packages
 - Tidyverse
 - Rmarkdown
- To Practice Coding via R Scripts
- To Learn Elements of ggplot2
- Practice Making Visually Stunning Pictures that Change Lives

Initial Steps in RStudio



- Install Tidyverse Package
 - > `install.packages("tidyverse")`
- Other Packages To Be Installed
 - RColorBrewer
 - Rmarkdown

Select Install and Search on CRAN



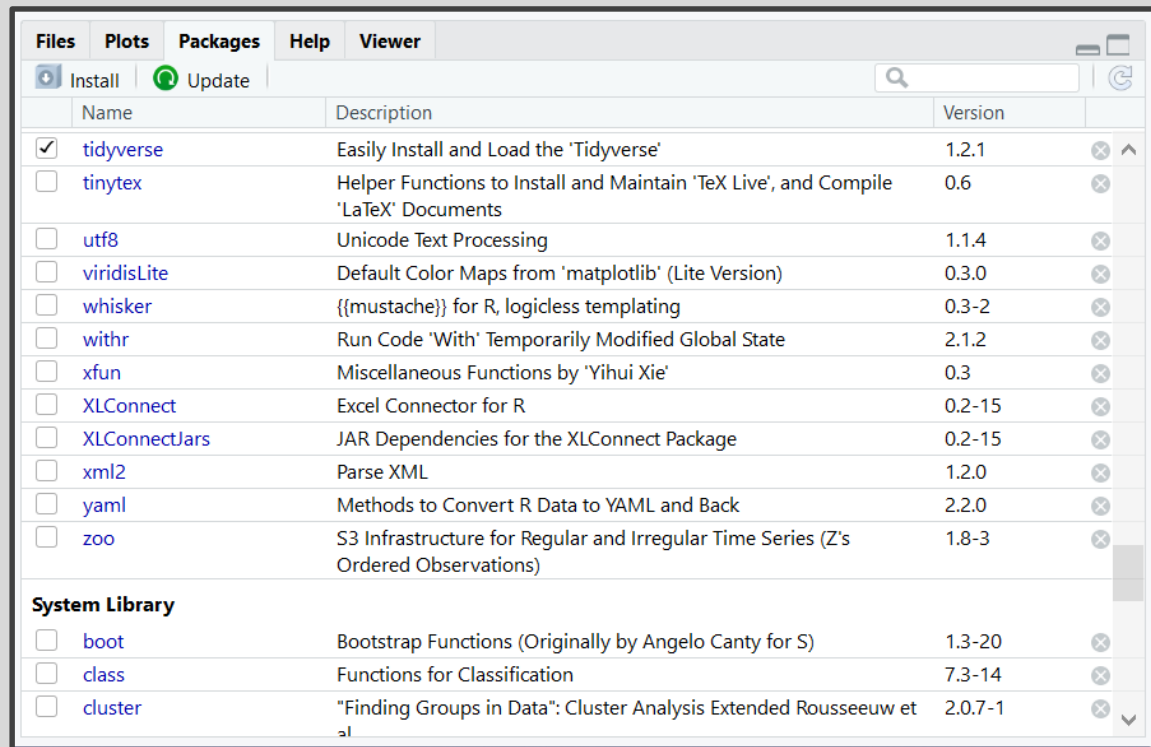
Initial Steps in RStudio

- To Use the Package

- Code

```
> library("tidyverse")
```

- Check Box for Tidyverse



ggplot2

- Help Page: [Link](#)

- Comes with Preloaded Datasets



ggplot2 part of the tidyverse

Reference

Data

ggplot2 comes with a selection of built-in datasets that are used in examples to illustrate various visualisation challenges.

diamonds

Prices of 50,000 round cut diamonds

economics

US economic time series

faithfuld

2d density estimate of Old Faithful data

midwest

Midwest demographics

mpg

Fuel economy data from 1999 and 2008 for 38 popular models of car

msleep

An updated and expanded version of the mammals sleep dataset

presidential

Terms of 11 presidents from Eisenhower to Obama

seals

Vector field of seal movements

txhousing

Housing sales in TX

luv_colours

`colors()` in Luv space

ggplot2



- Many Useful Plots and Charts Provided
 - See Cheat Sheet: [Link](#)
(Also on Course Website)
 - Called Geoms (Geometric Objects)
 - The Geom you choose Must Comply with the Type of Variables You are Analyzing
- Organized by Type of Data
 - Univariate
 - Bivariate
 - Mixtures of Categorical and Numeric

ggplot2



- ggplot2 General Form

Fill in Blank With
Name of Data in R

```
> ggplot(data=_____) +  
  geom_TYPE(mapping=aes(x=____,y=____, etc.))
```

Fill in Blanks
from Variables
in Data

ggplot2



Now, let us

PRACTICE

Start by downloading
Tutorial2.Rmd to Your Computer
from the Course Website and
open the file in RStudio

Closing



Disperse
and Make
Reasonable
Decisions