



STOR 320 Data Visualization

Lecture 2

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Why are We Here?

- To Install Some Key R Packages
 - Tidyverse
- To Practice Coding via R Scripts
- To Learn Elements of ggplot2
- Practice Making Visually Stunning Pictures

Initial Steps in RStudio

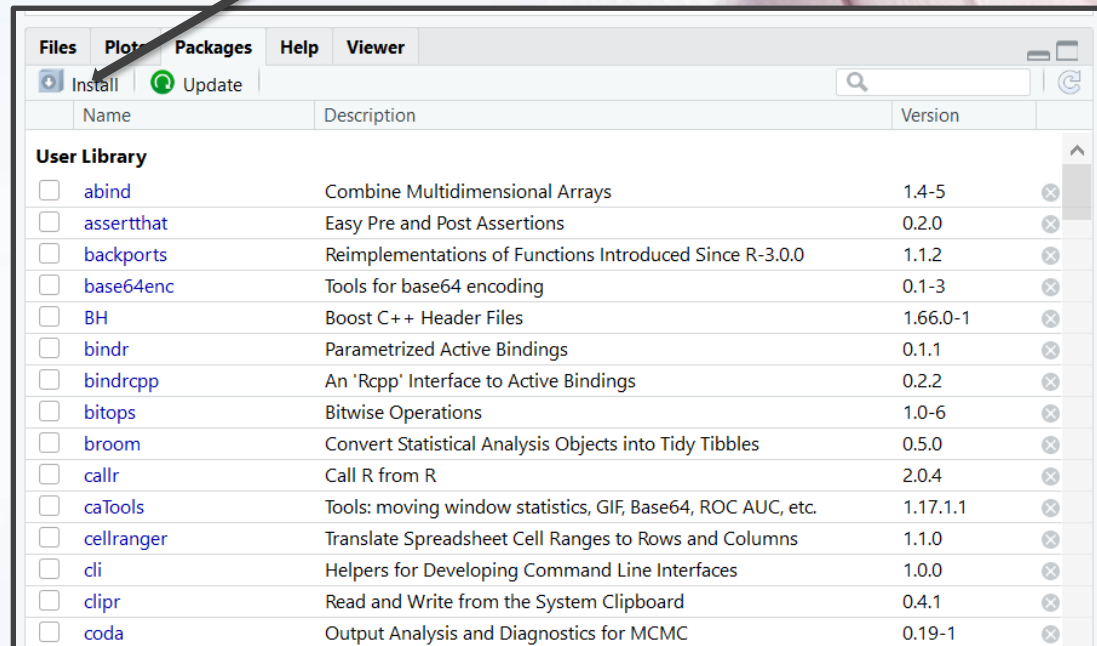
- Install Tidyverse Package

```
> install.packages("tidyverse")
```

- Other Packages To Be Installed

- RColorBrewer
- Rmarkdown

Select Install and Search on CRAN

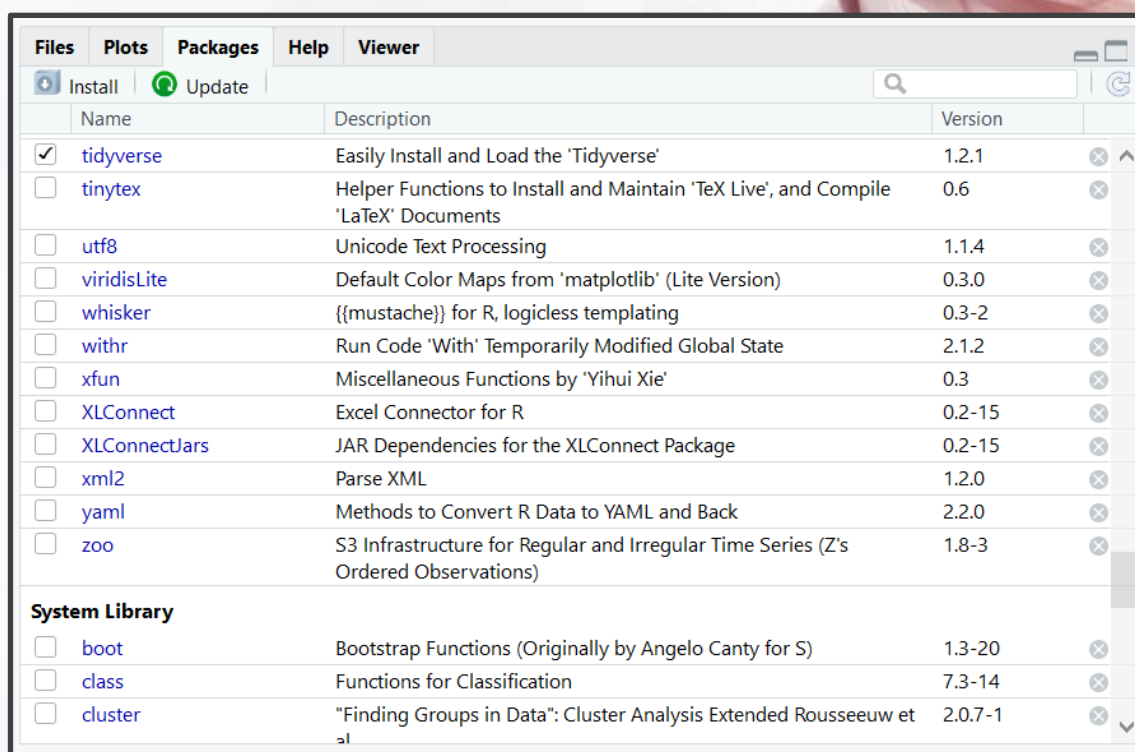


Initial Steps in RStudio

- 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	<code>colors()</code> in Luv space

ggplot2 Cheat Sheet

- 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 General Form

- ggplot2 General Form

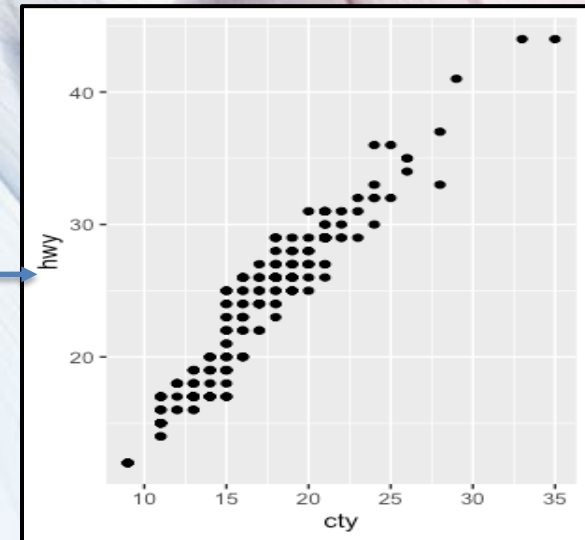
Fill in Blank With
Name of Data in R

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

- Example:

Fill in Blanks
from Variables
in Data

```
> ggplot(data=mpg) +  
  geom_point(mapping=aes(x=cty,y=hwy))
```



Tutorial

- Locate Tutorial 1 on Course Website
- Download Rmd File
- Open Rmd File on Computer
- Knit the Rmd File to PDF/HTML format
- View Graphs with Me