Creating Data Visualizations

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Overview

Creating Data Visualizations

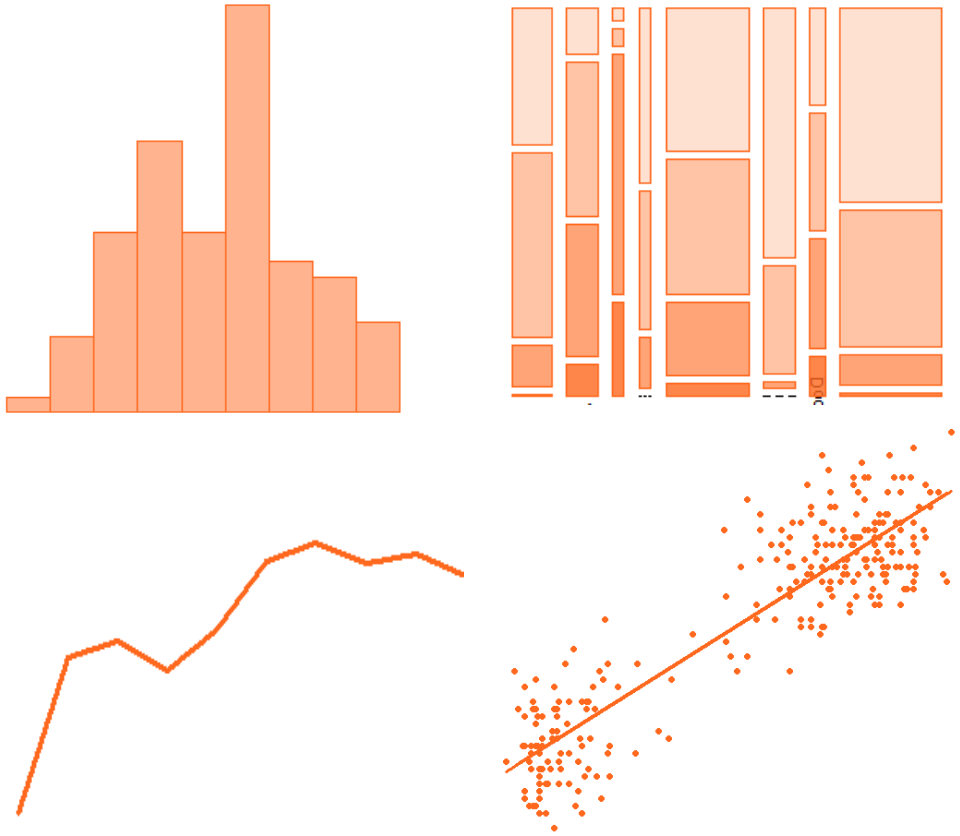
Demo

Data Visualization

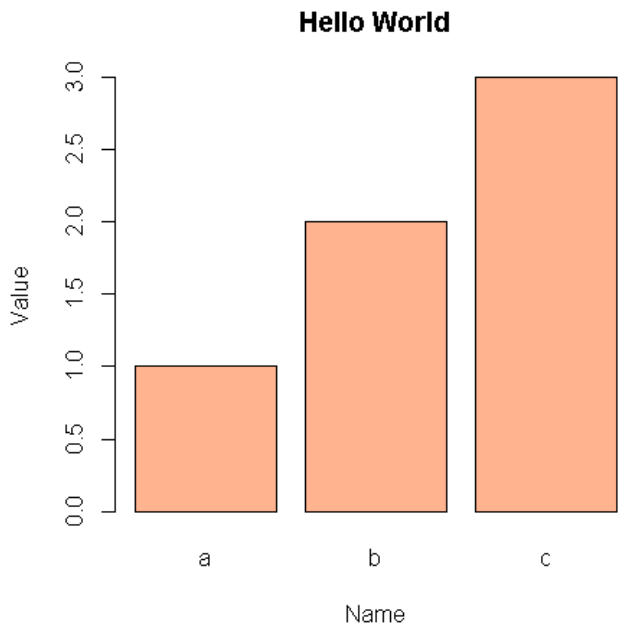
Visual representation

Pattern recognition

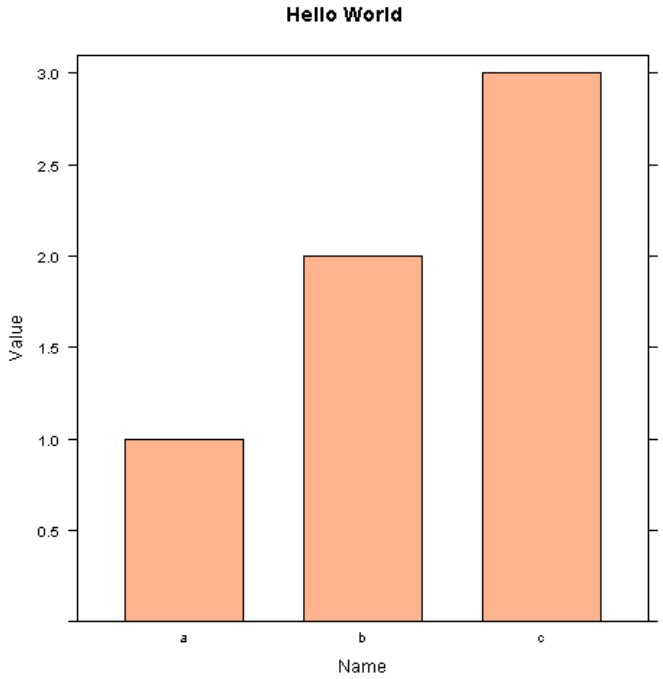
Map data to visual



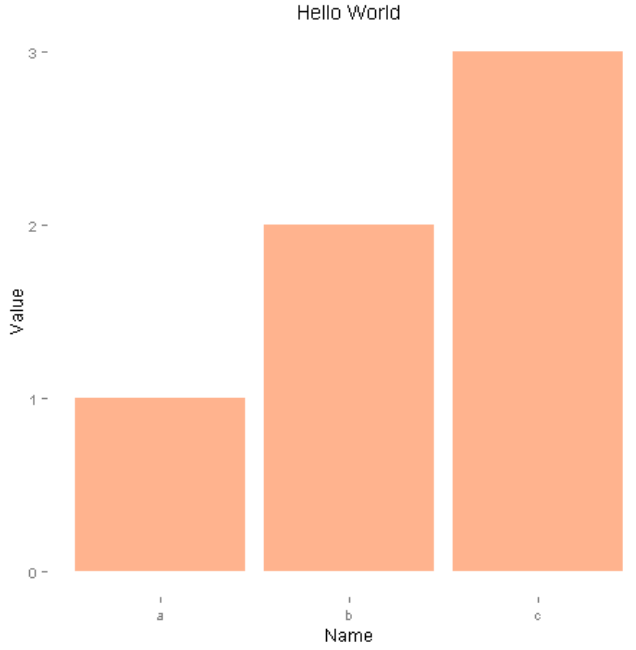
Plotting Systems in R



Base



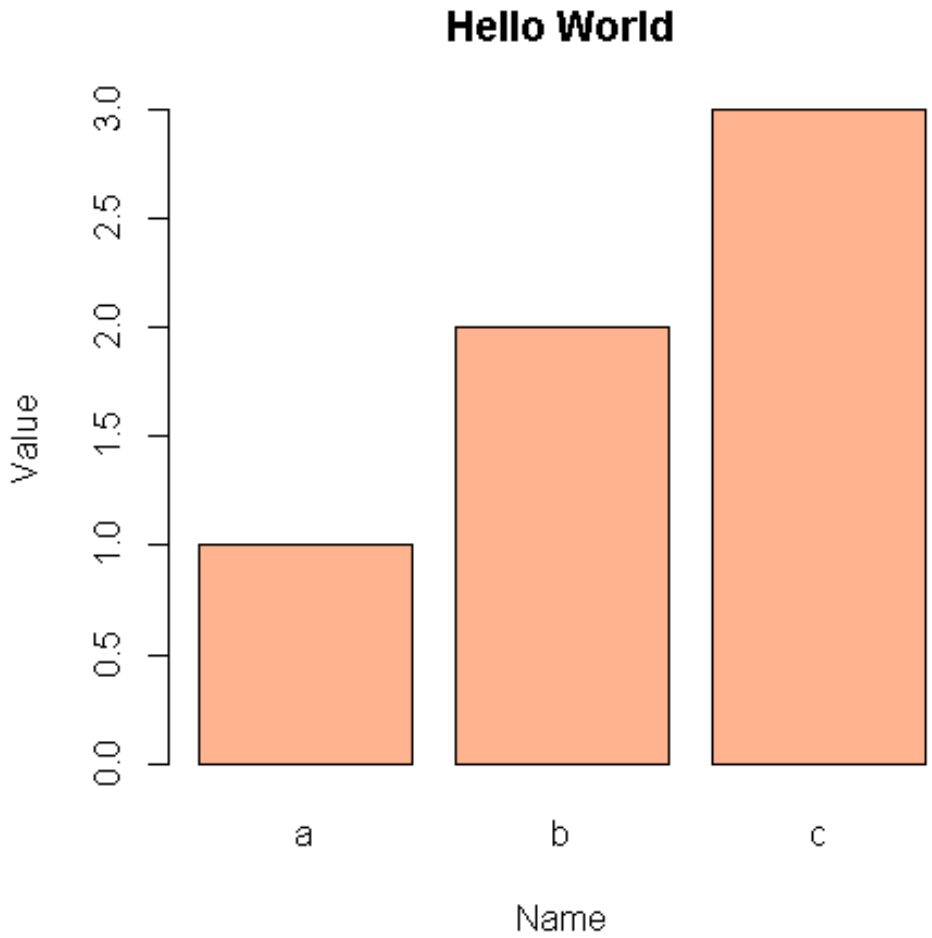
Lattice



ggplot2

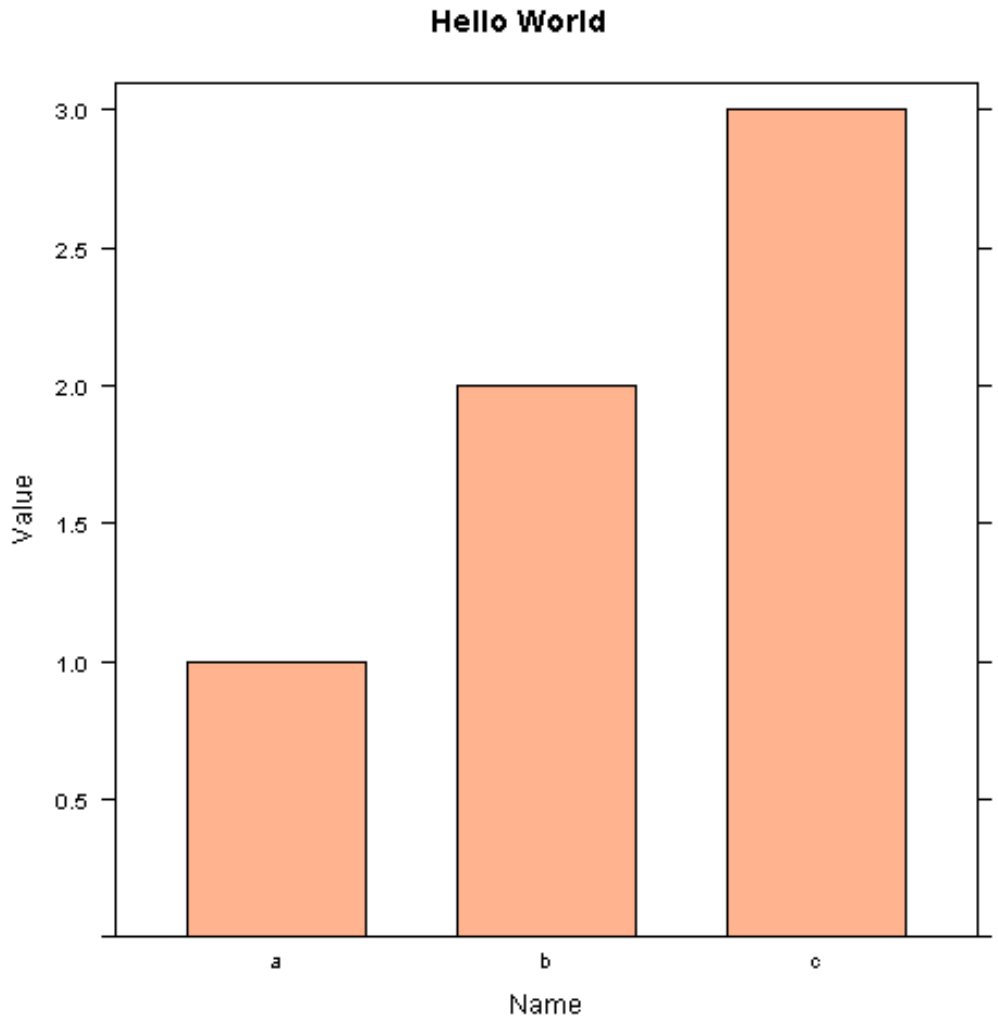
Base Graphics System

```
barplot(
     names = df$Name,
     height = df$Value,
     col = alpha("#FF681D", 0.5),
     main = "Hello World",
     xlab = "Name",
     ylab = "Value")
```



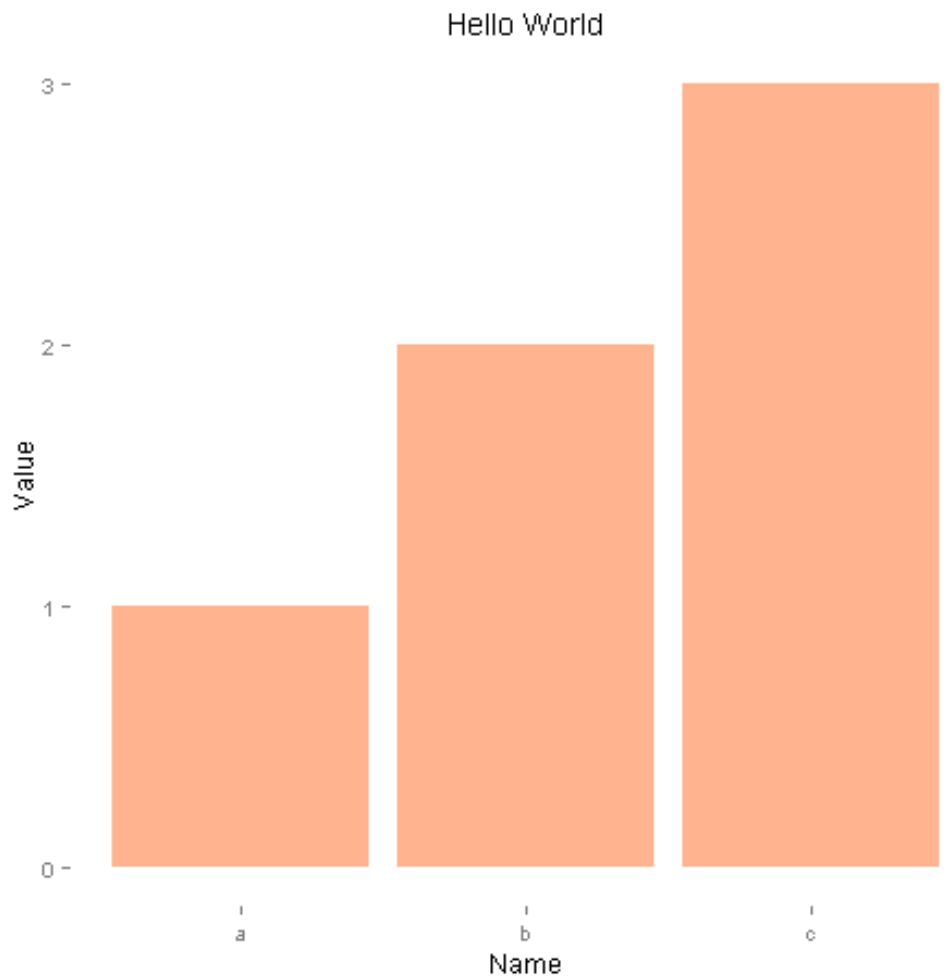
Lattice

```
barchart(
    x = Value ~ Name,
    data = df,
    ylim = c(0, 3.1),
    col = alpha("#FF681D", 0.5),
    main = "Hello World",
    xlab = "Name",
    ylab = "Value")
```

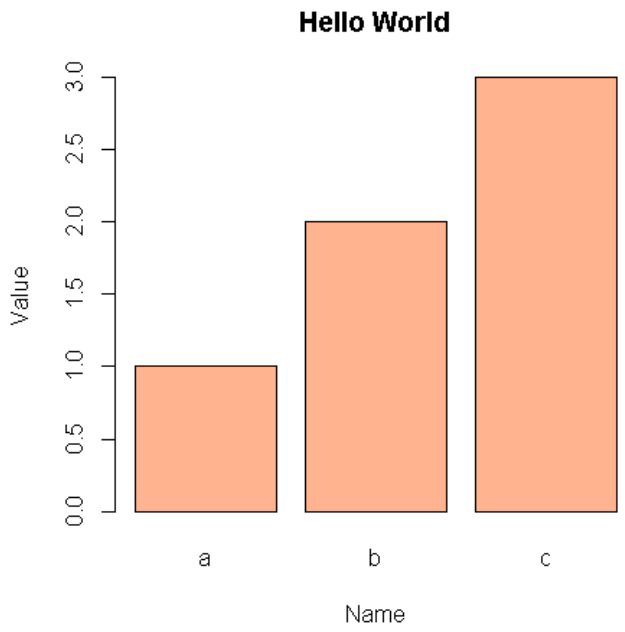


ggplot2

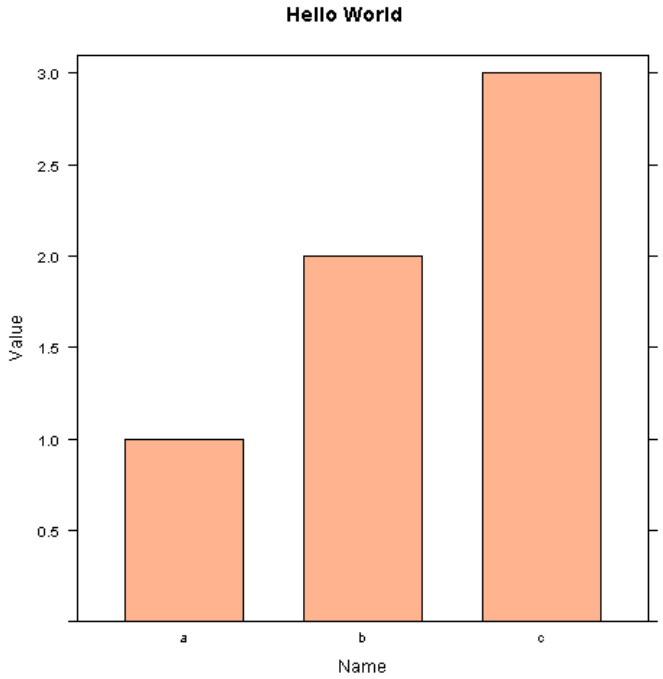
```
ggplot(
    data = df,
    aes(x = Name, y = Value)) +
    geom_bar(
        stat = "identity",
        fill = alpha("#FF681D", 0.5)) +
    ggtitle("Hello World") +
    xlab("Name") +
    ylab("Value")
```



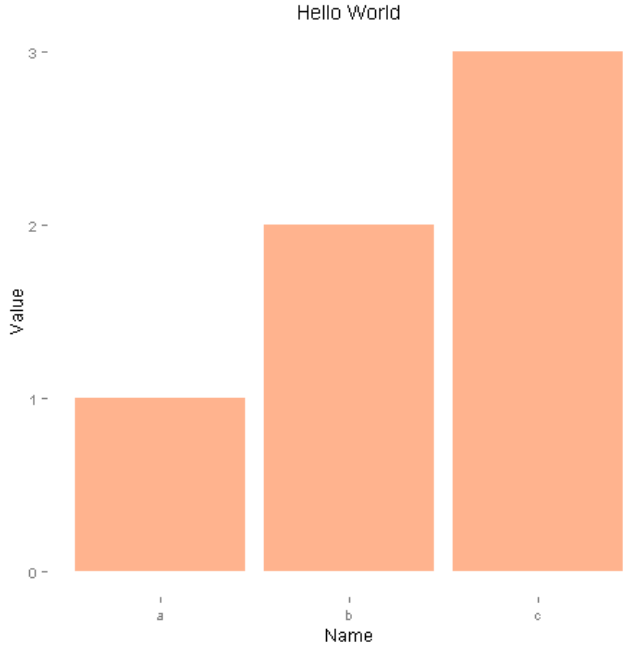
Plotting Systems in R



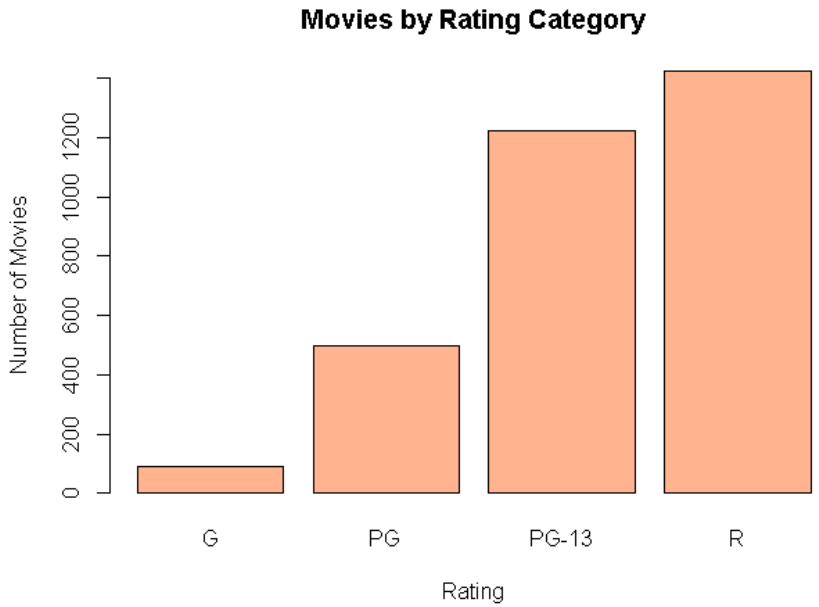
Base

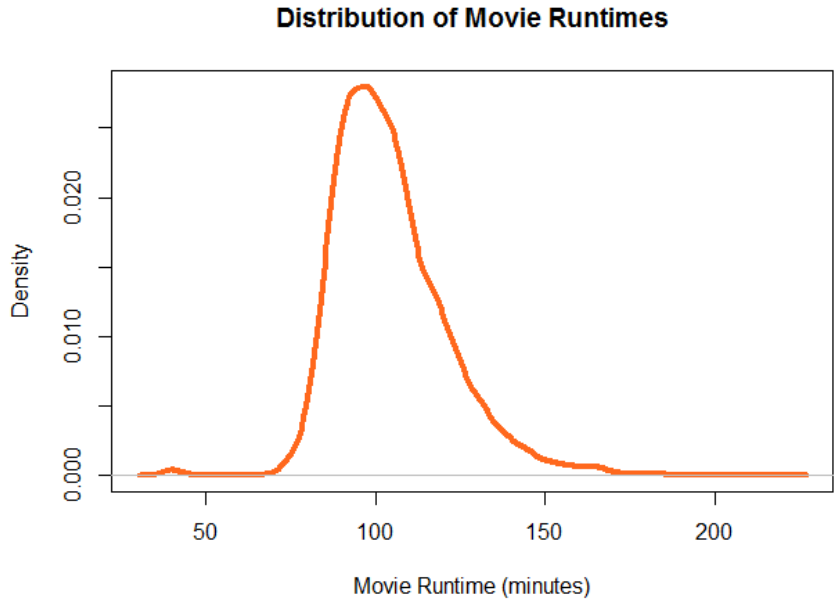


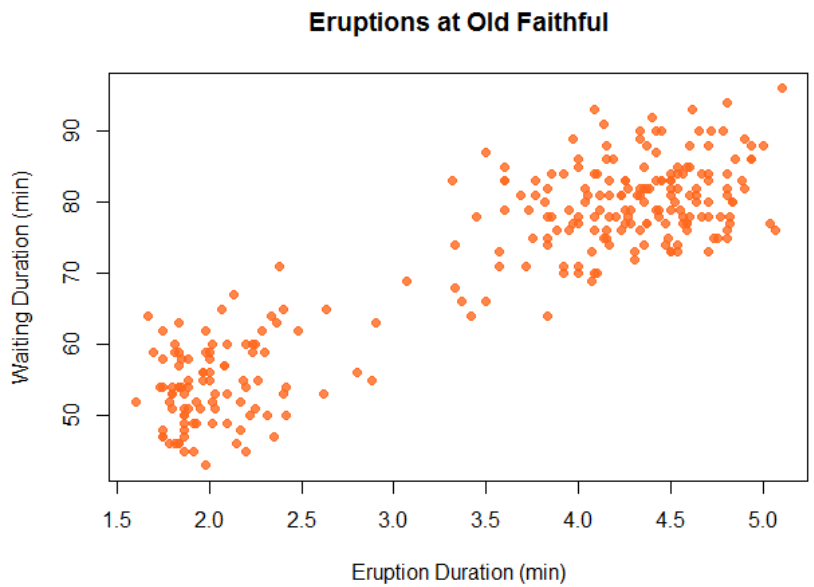
Lattice

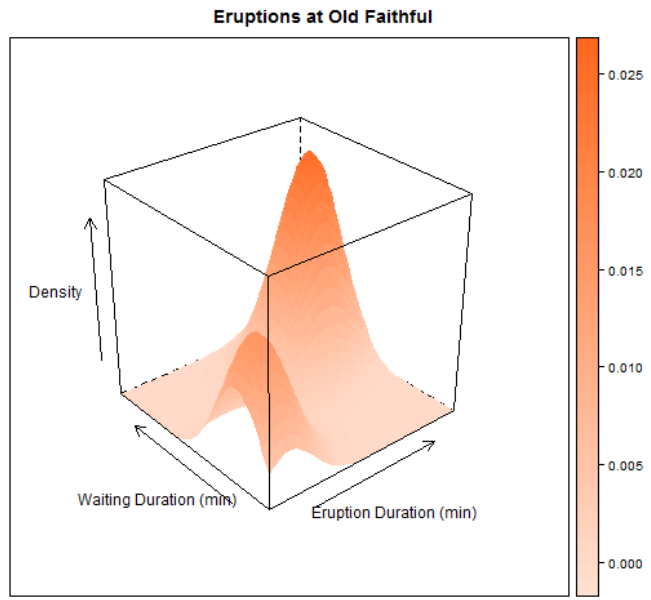


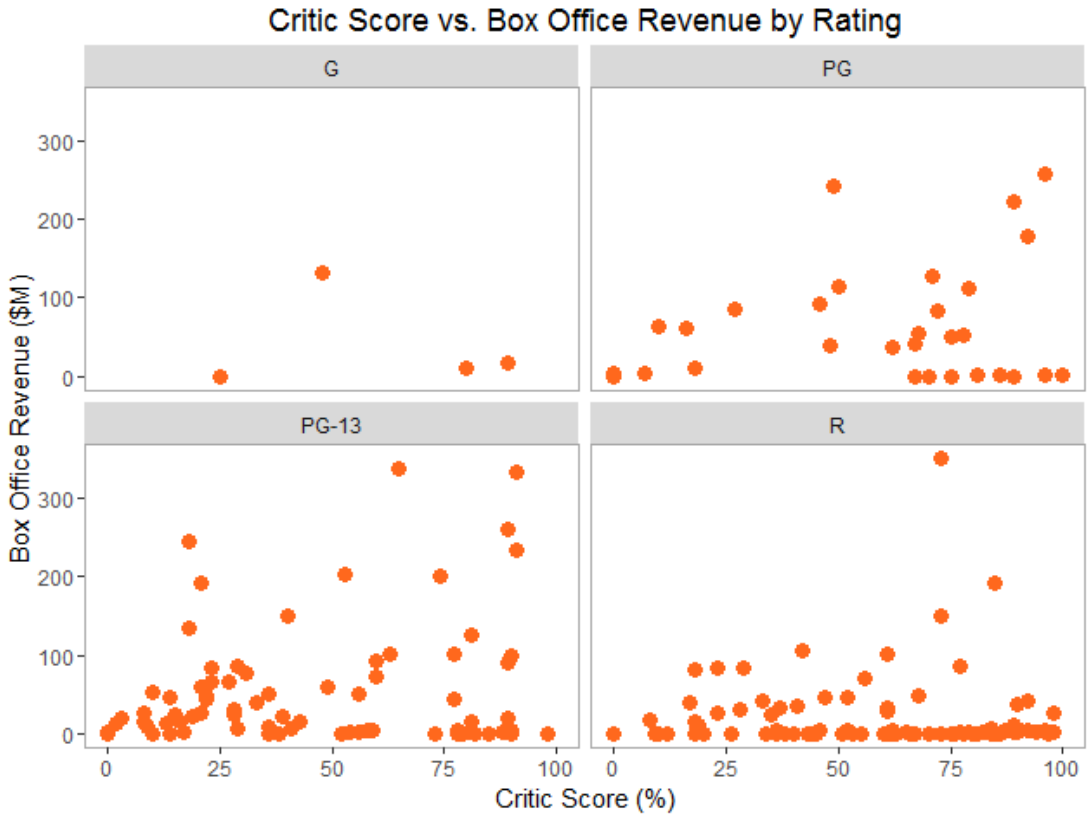
ggplot2

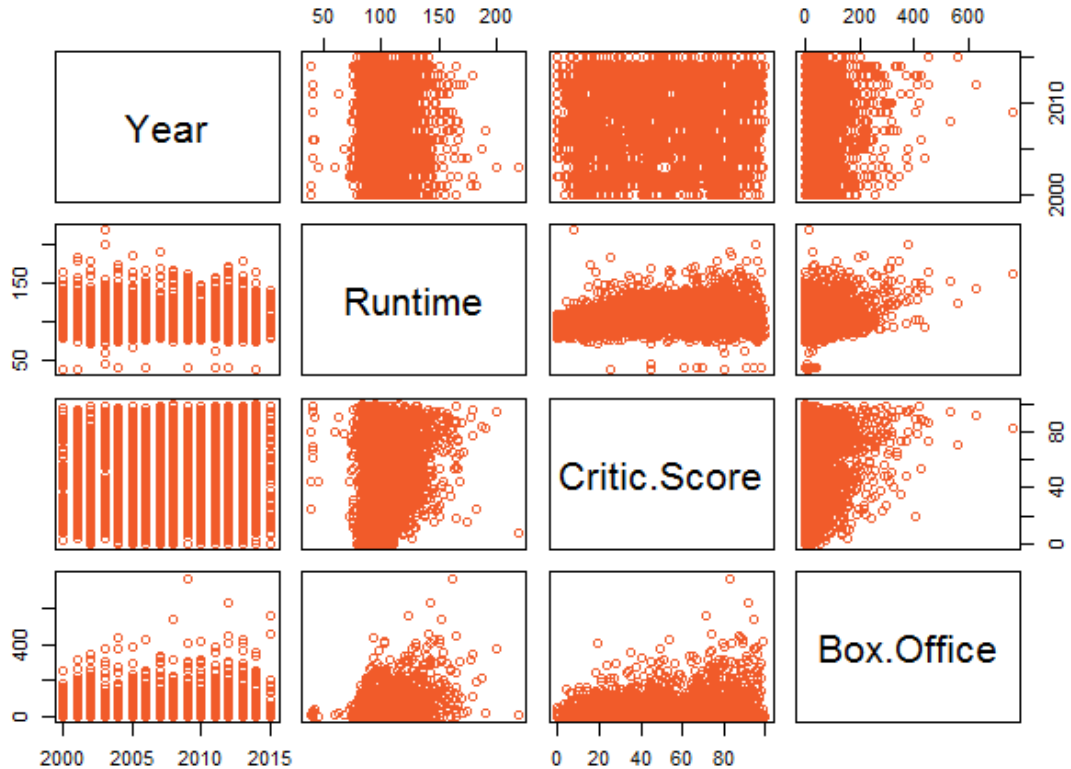

Movies by Rating Category
Number of Movies
0
200
400
600
800
1000
1200
G
PG
PG-13
R
Rating

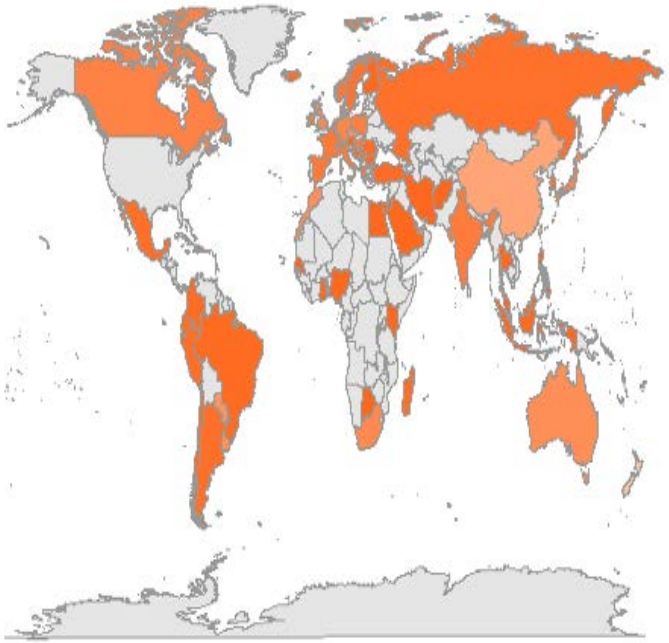

Distribution of Movie Runtimes
Density
0.000
0.010
0.020
50
100
150
200
Movie Runtime (minutes)

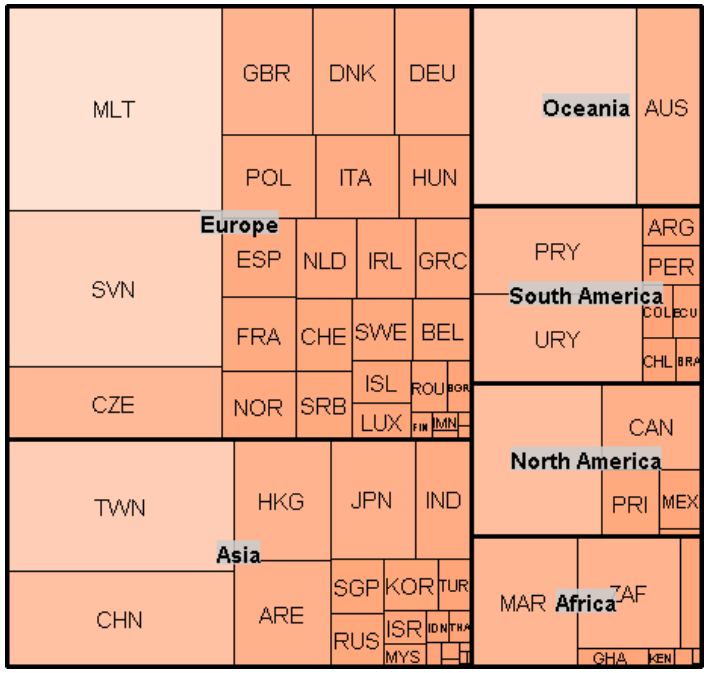

Eruptions at Old Faithful
Waiting Duration (min)
50
60
70
80
90
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Eruption Duration (min)

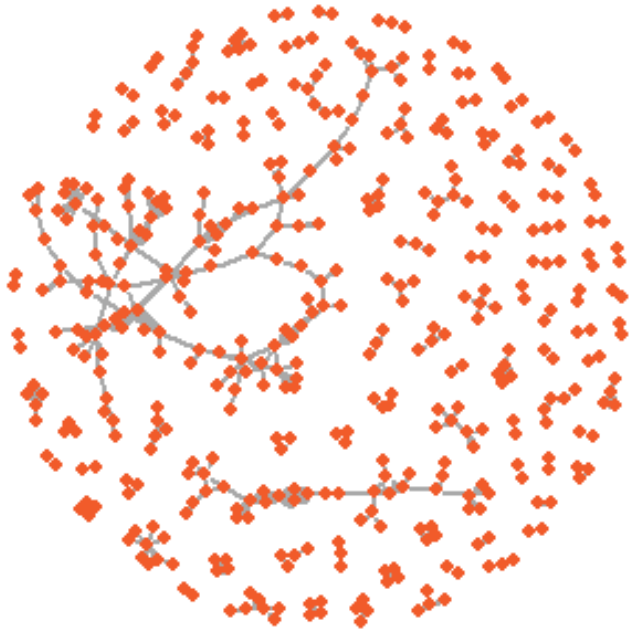

Eruptions at Old Faithful
Density
Waiting Duration (min)
Eruption Duration (min)
0.025
0.020
0.015
0.010
0.005
0.000


Critic Score vs. Box Office Revenue by Rating
G
PG
PG-13
R
Box Office Revenue ($M)
Critic Score (%)
0
100
200
300
0
25
50
75
100

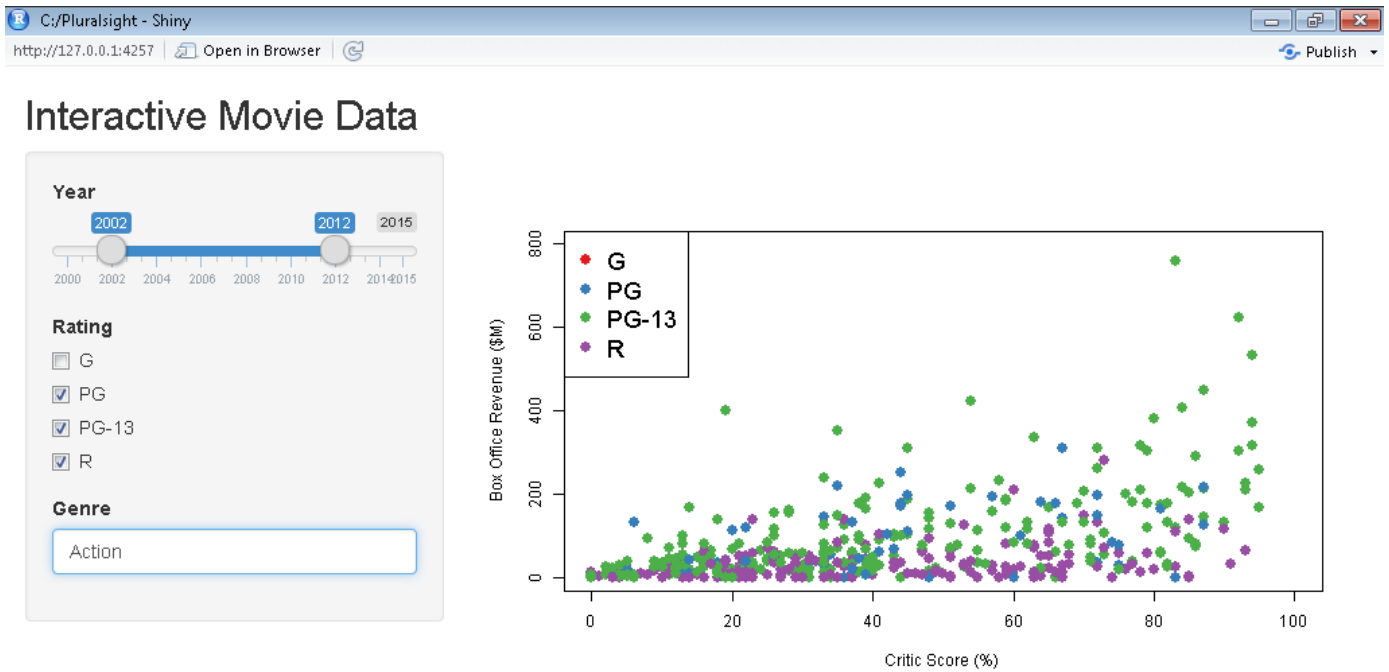

Year
Runtime
Critic.Score
Box.Office
50
100
150
200
0
200
400
600
2000
2010
50
150
0
40
80
400
2000
2005
2010
2015
0
20
40
60
80

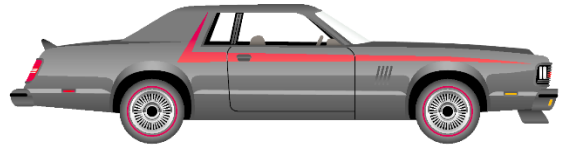


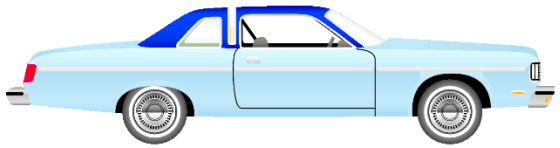

MLT
GBR
DNK
DEU
POL
ITA
HUN
Europe
SVN
ESP
NLD
IRL
GRC
FRA
CHE
SWE
BEL
CZE
NOR
SRB
ISL
ROU
BGR
LUX
FIN
IMN
Oceania
AUS
PRY
ARG
PER
South America
COL
ECU
URY
CHL
BRA
CAN
North America
PRI
MEX
TWN
HKG
JPN
IND
Asia
CHN
ARE
SGP
KOR
TUR
RUS
ISR
IDN
THA
MYS
MAR
Africa
ZAF
GHA
KEN

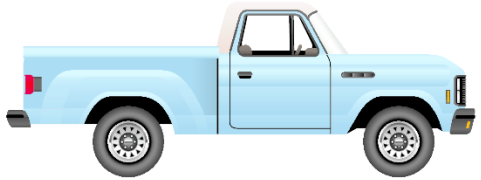
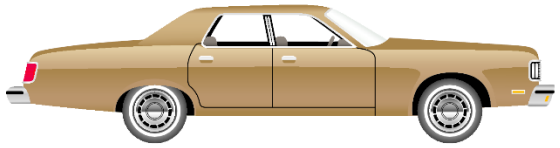


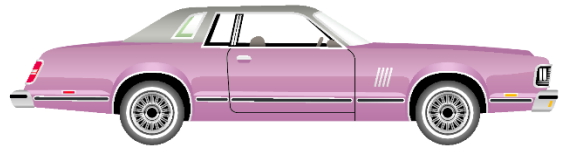
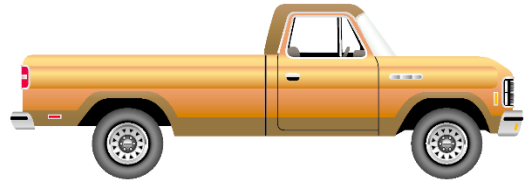
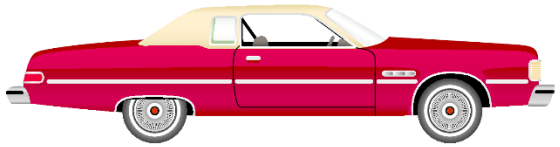
park
destroy
super
vengeful
final
lord
land
curse
prince
universe
killing
existence
sam
saring
harry
eight
ice
captain
threat
terrorist
humanity
mountain
games
princess
army

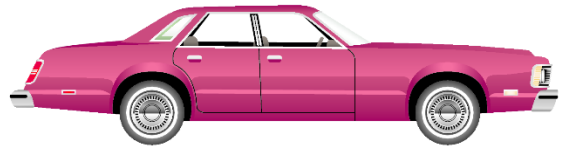
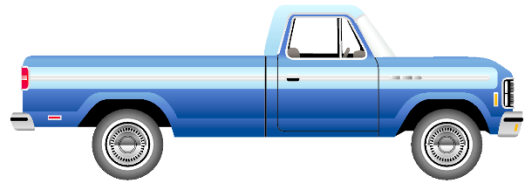
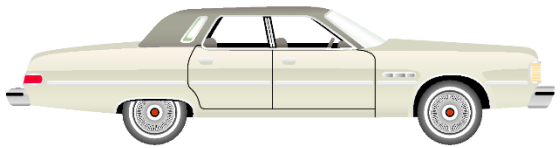

C:/Pluralsight - Shiny
http://127.0.0.1:4257
Open in Browser
Publish
Interactive Movie Data
Year
2002
2012
2015
2000 2002 2004 2006 2008 2010 2012 2014 2015
Rating
G
PG
PG-13
R
Genre
Action
Box Office Revenue ($M)
0 200 400 600 800
G
PG
PG-13
R
0 20 40 60 80 100
Critic Score (%)

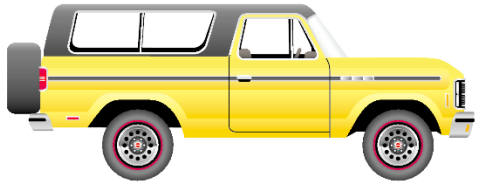


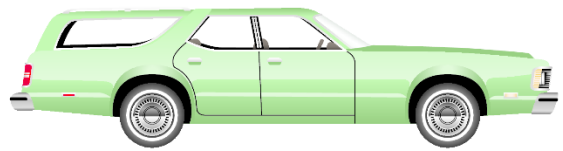
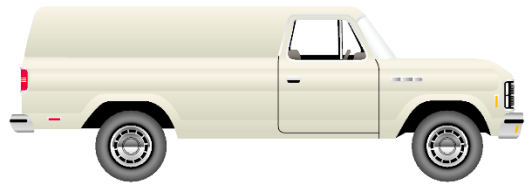


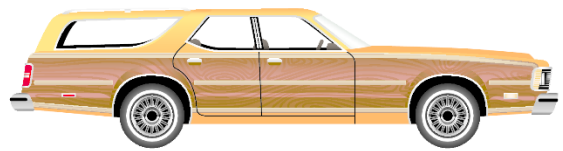
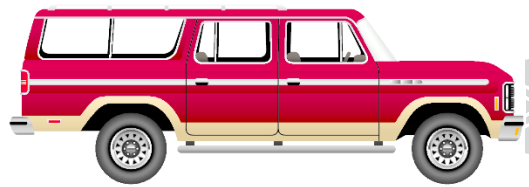



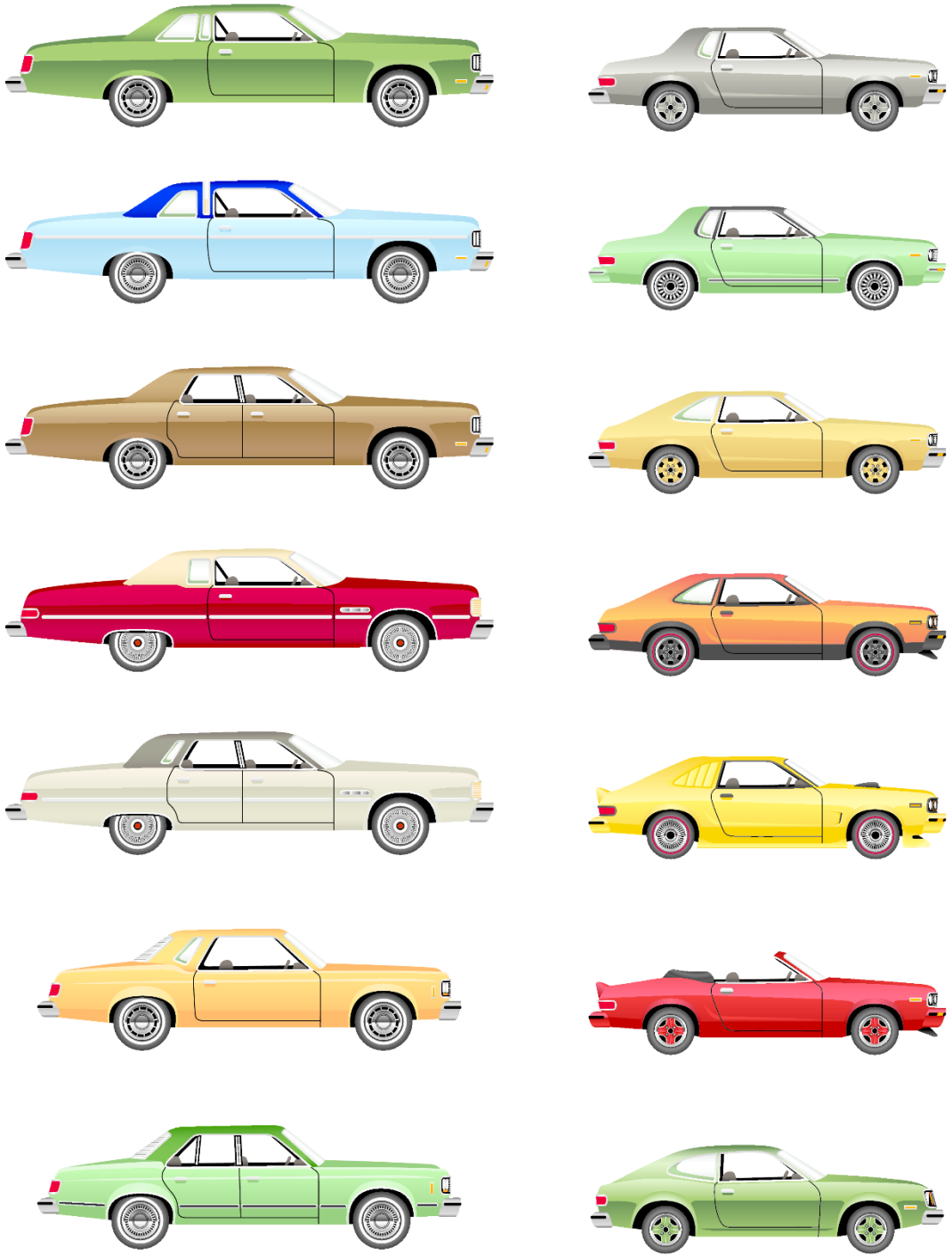








1. How many cars of each type of transmission?
2. What does fuel economy look like?
3. How do cylinders and fuel economy relate?

Load the Data

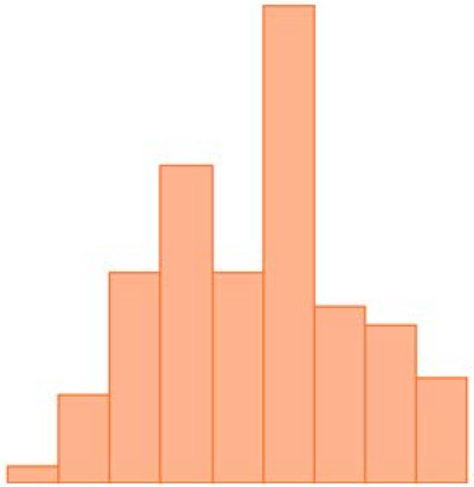
Load ggplot2 package

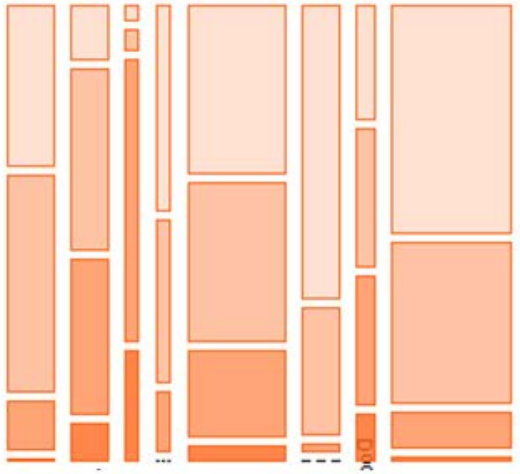
Create a Frequency Bar Chart

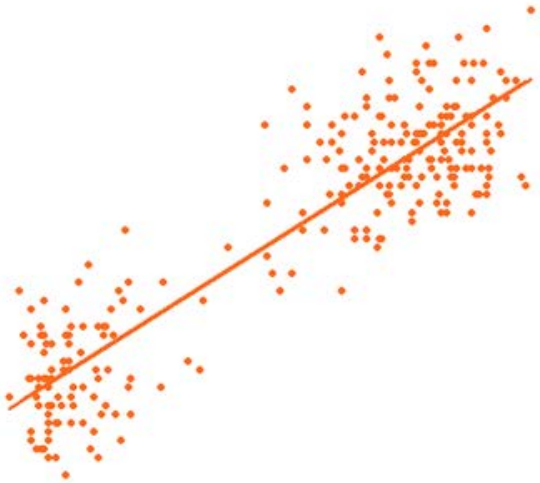
Create a Histogram

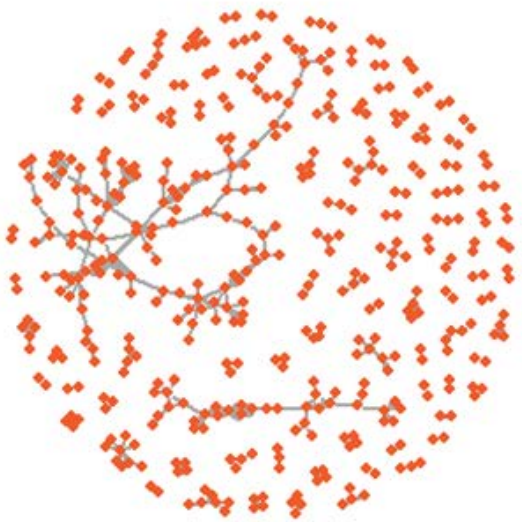
Create a Density Plot

Create a Scatterplot









park
destroy
super
vengeful
final
lord
land
curse
prince
universe
killing
existence
sam
ring
harry
eight
ice
captain
threat
terrorist
humanity
mountain
games
princess
army

Summary

Creating Data Visualizations

Demo