

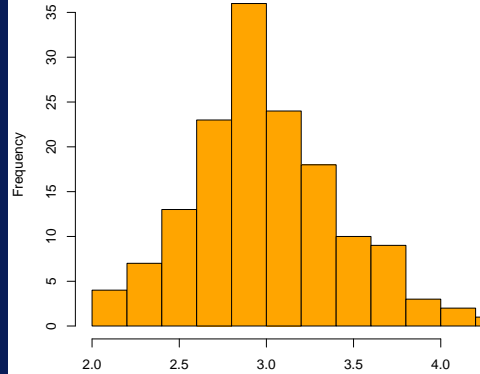
Exploring Data through Plots

After this video you will be able to..

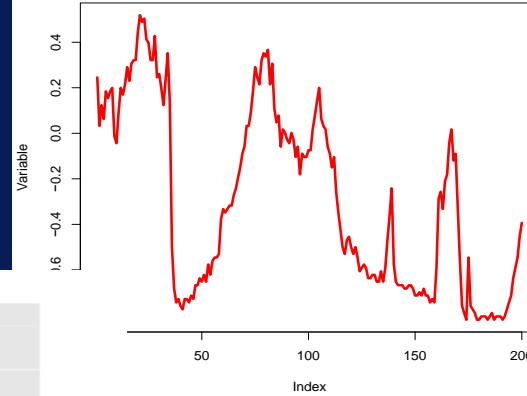
- Discuss how plots can be useful in exploring data
- Describe how you would use a scatter plot
- Summarize what a boxplot shows

Visualizing Data

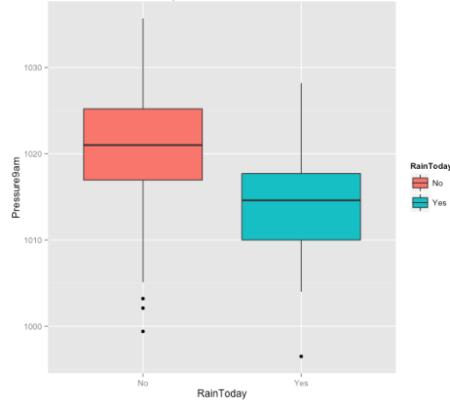
Histogram



Line Plot



Atmospheric Pressure wrt Rain

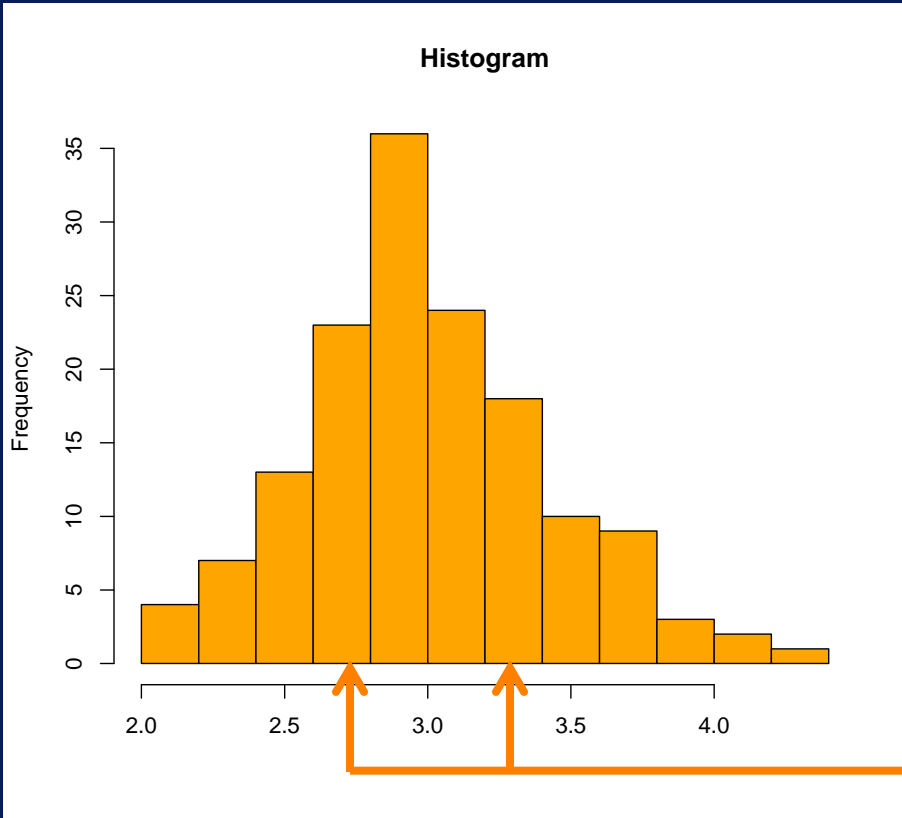


Types of Plots

- Histogram
- Line plot
- Scatter plot
- Bar plot
- Box plot
- others

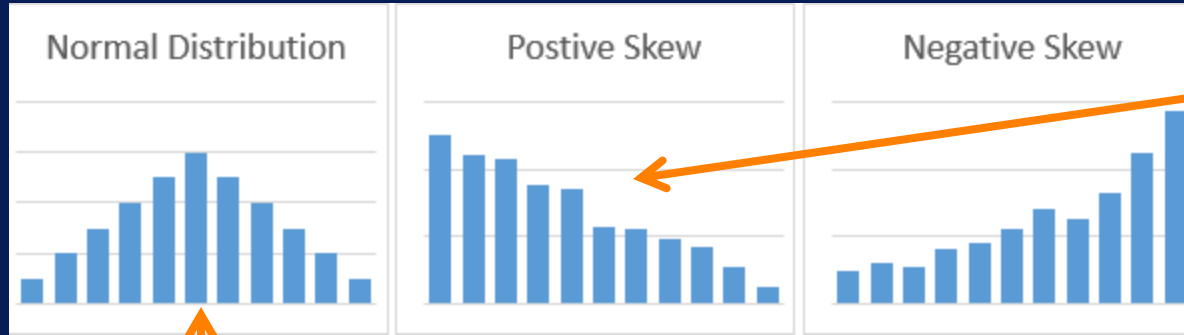
Histogram

- Shows distribution of numeric variable



Bins

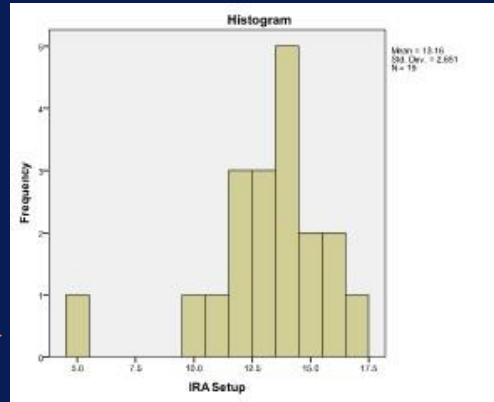
What a Histogram Shows



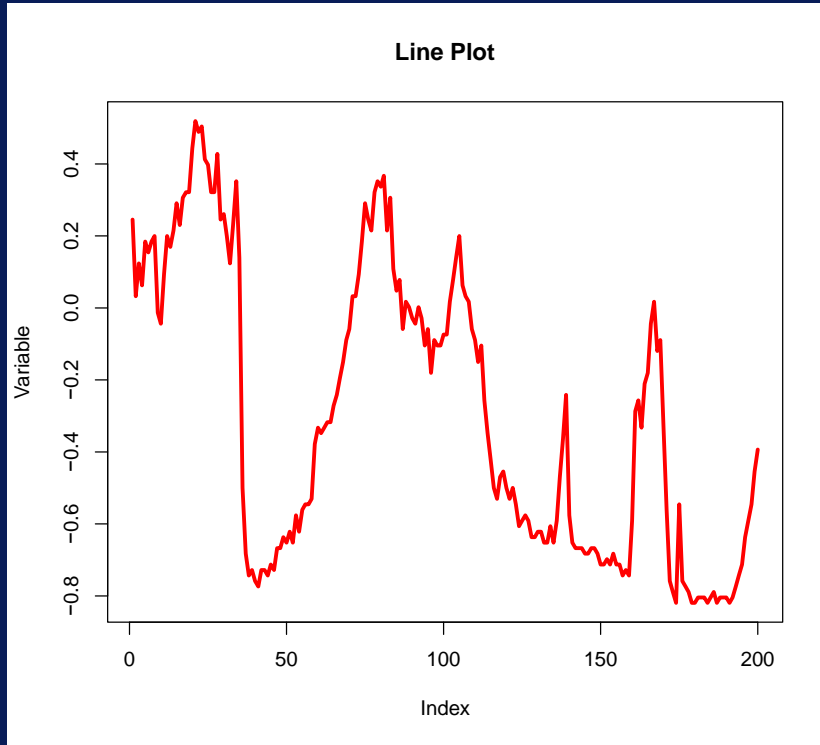
Skewness

Central Tendency

Outlier

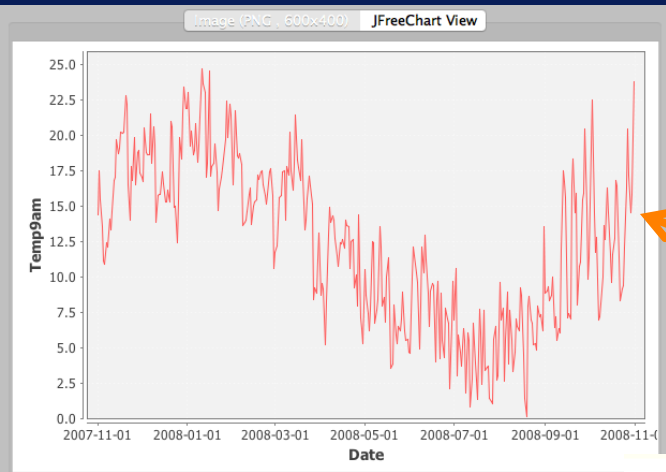


Line Plot



- Shows change in data over time

What a Line Plot Shows

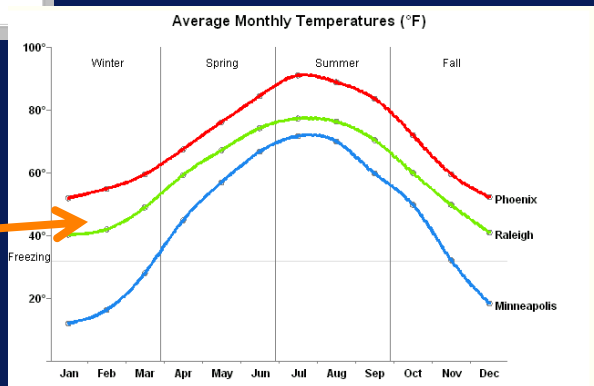


Trend

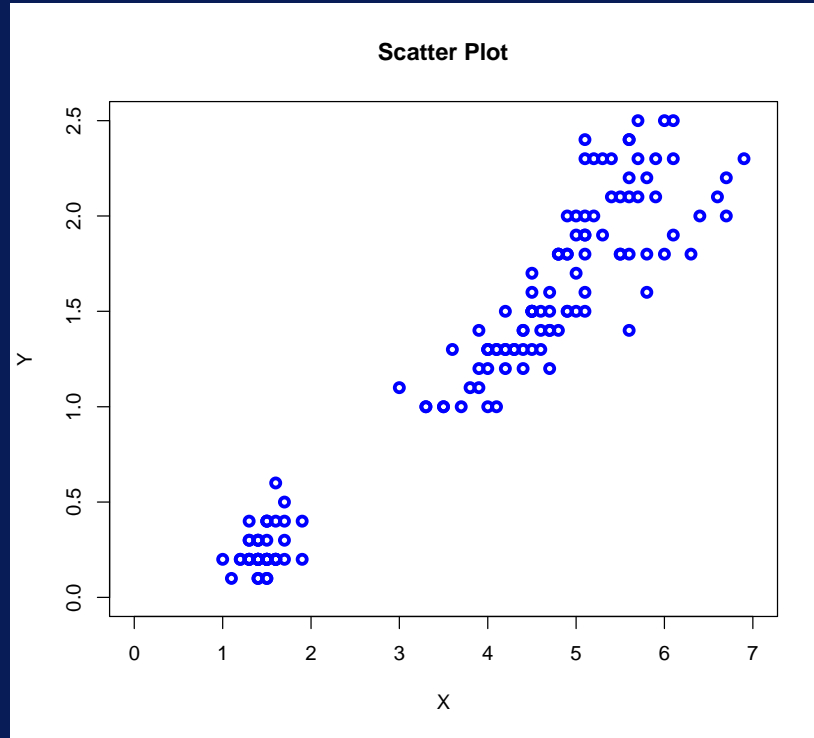
Cyclical pattern



Compare variables



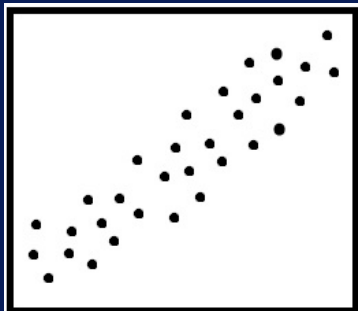
Scatter Plot



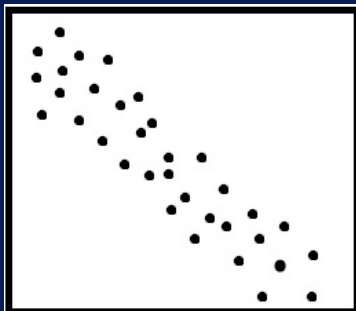
- Shows relationship between two variables

What a Scatter Plot Shows

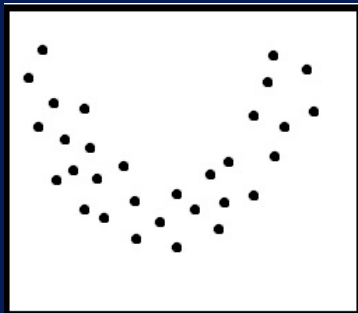
Positive
Correlation



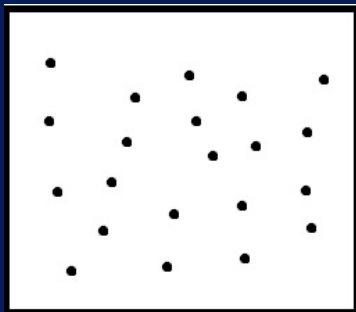
Negative
Correlation



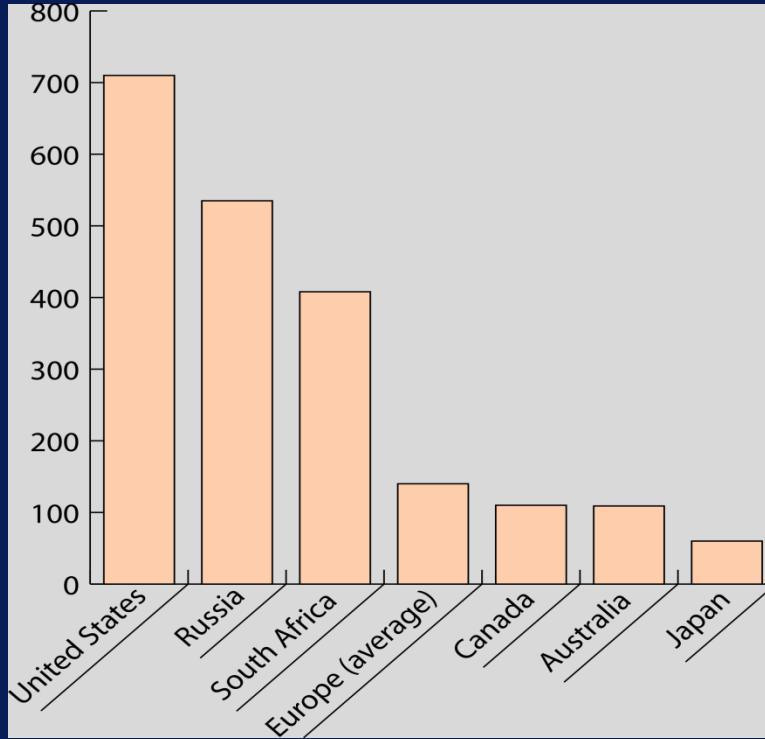
Non-
Linear
Correlation



No Correlation



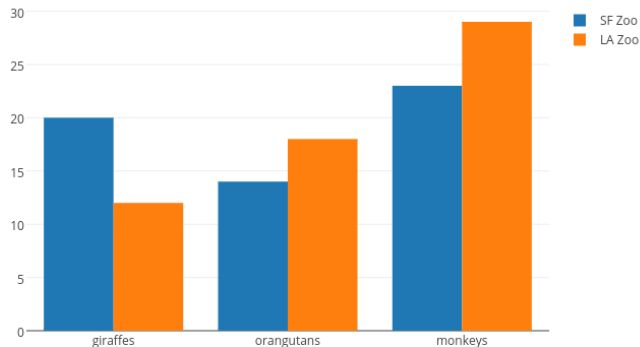
Bar Plot



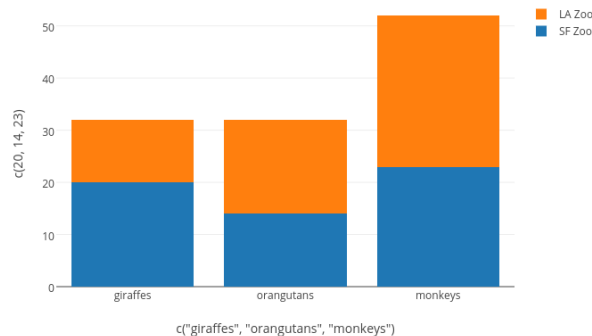
- Shows distribution of categorical variable

What a Bar Plot Shows

Grouped Bar Chart

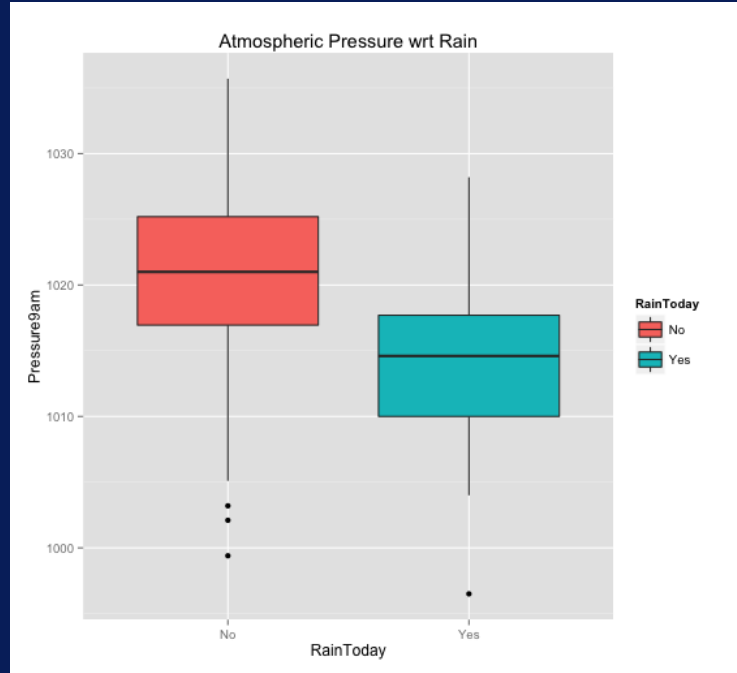


Stacked Bar Chart

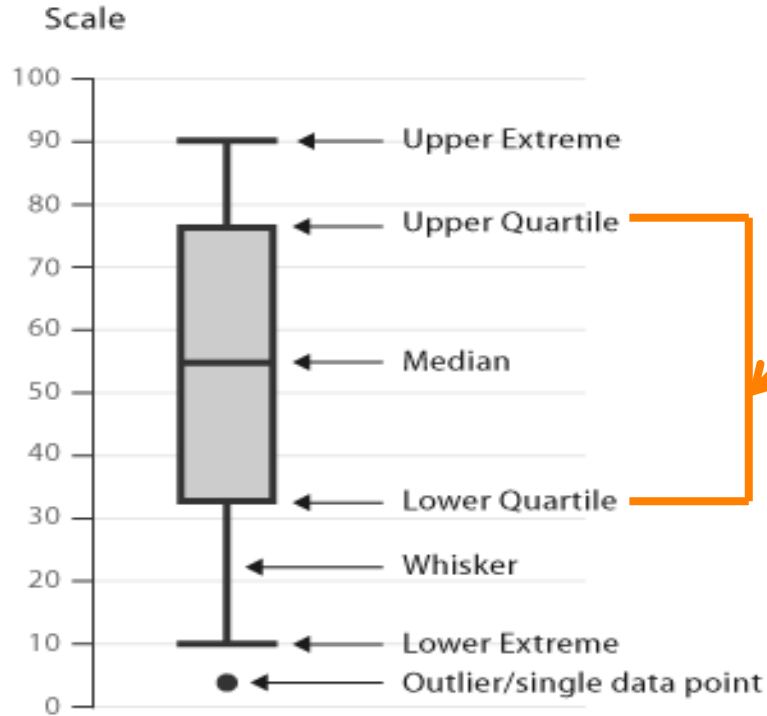


Box Plot

- Compares distributions of variables

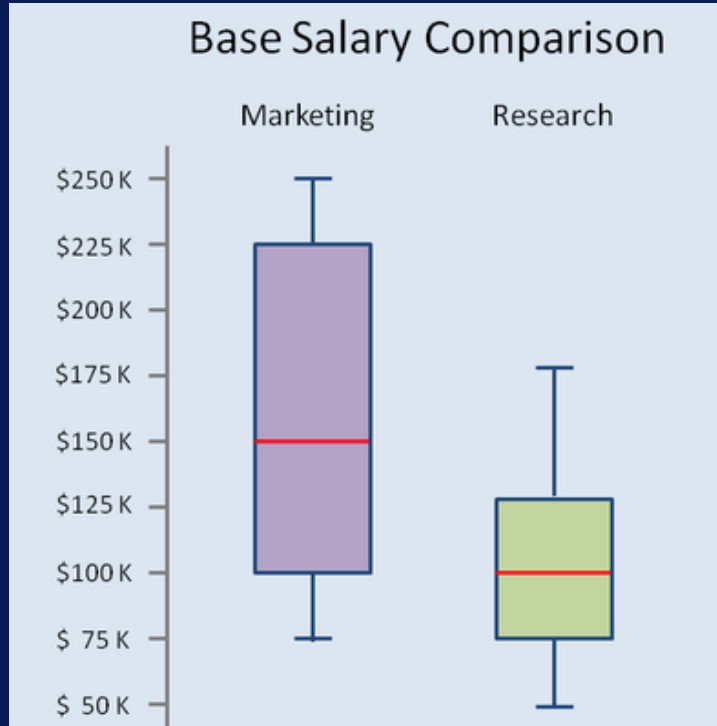


Components of a Box Plot



The middle
50% of data
are in this
region

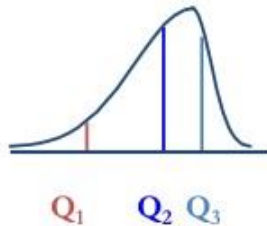
What a Box Plot Shows



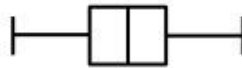
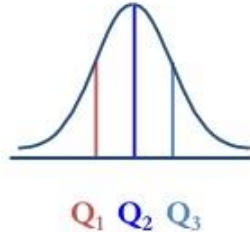
What a Box Plot Shows

Distribution Shape and The Boxplot

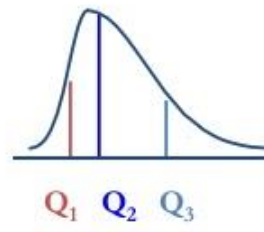
Negative Skew



Symmetric



Positive Skew



Data Visualization

- Provides intuitive way to look at data
- Should be used with summary statistics for data exploration
- Are also useful for communicating results

