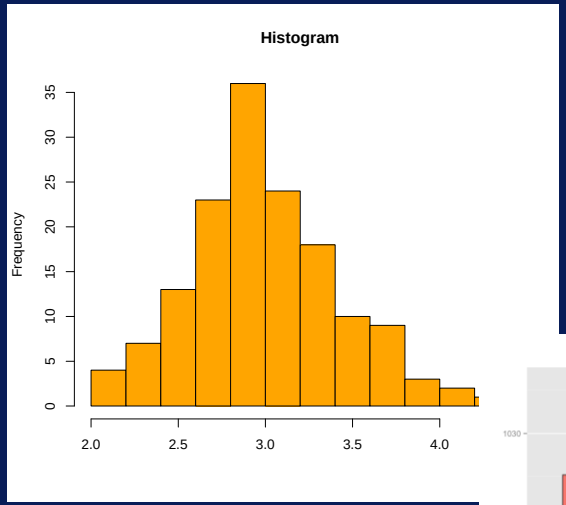
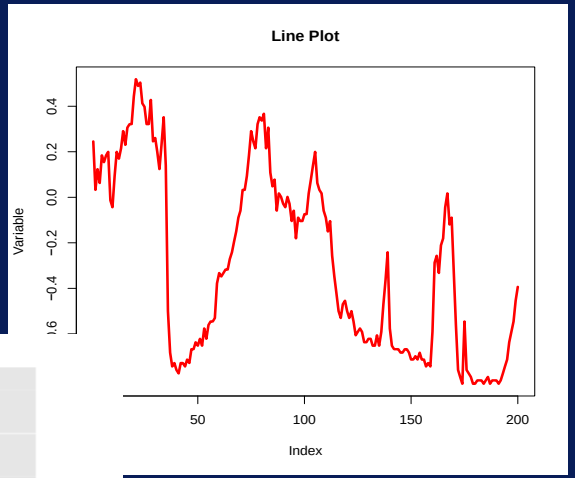
Exploring Data through Plots

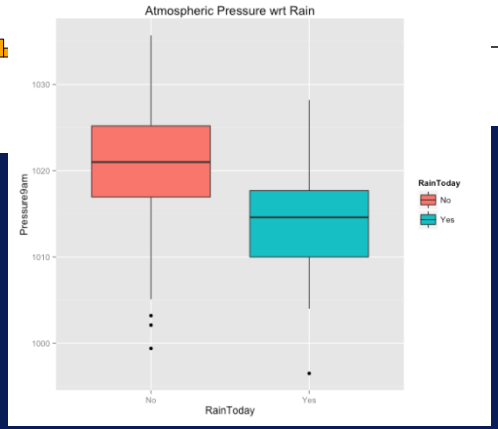
After this video you will be able to..

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

Visualizing Data



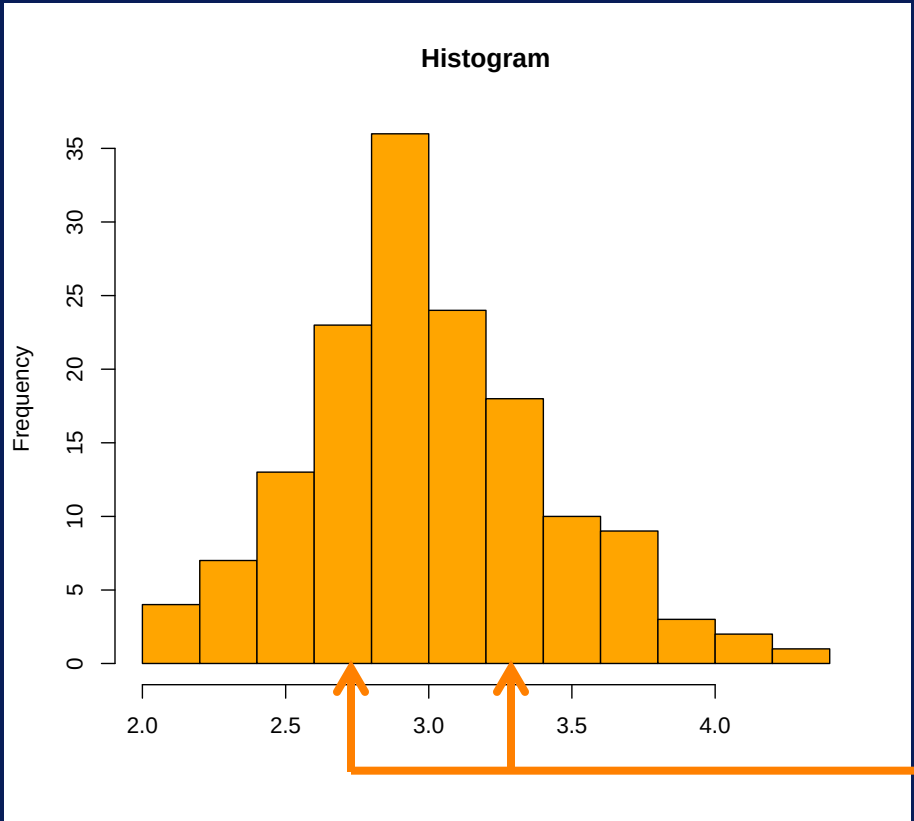




Types of Plots

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

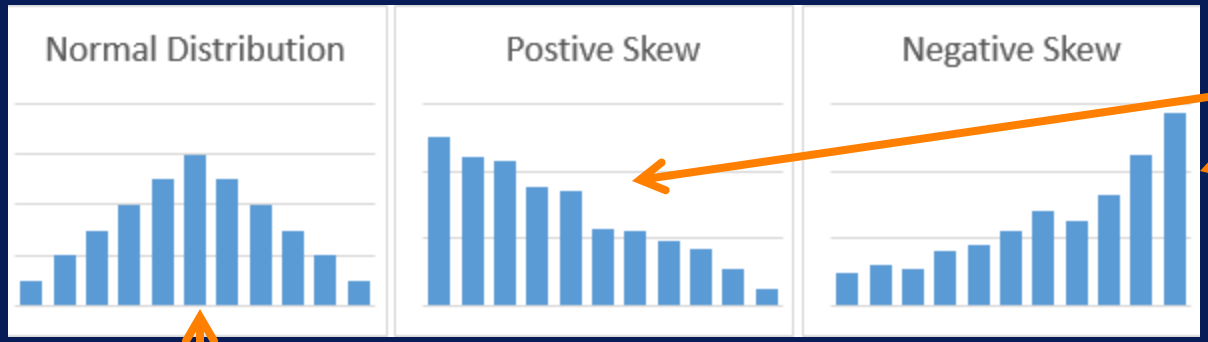
Histogram



- Shows distribution of numeric variable

Bins

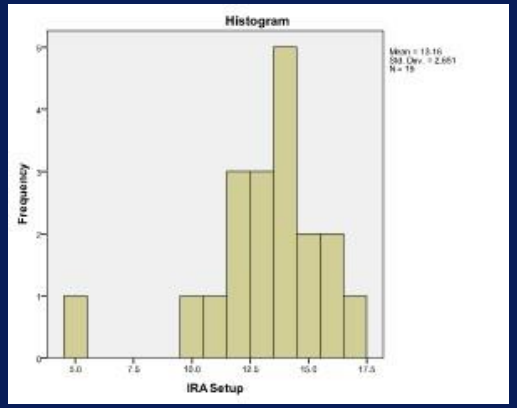
What a Histogram Shows



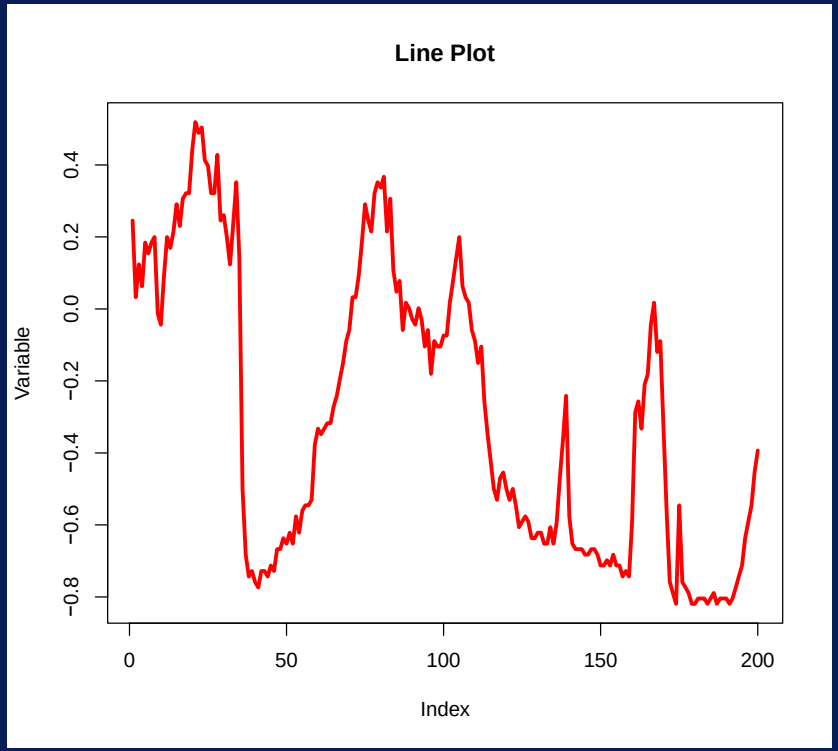
Skewness

Central Tendency

Outlier

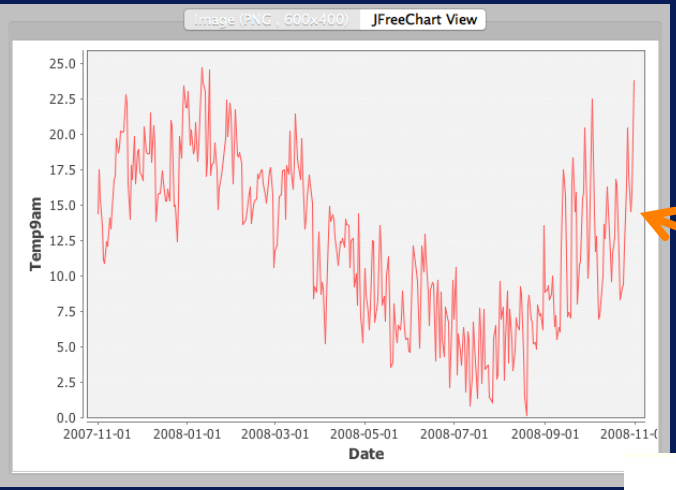


Line Plot



- **Shows change in data over time**

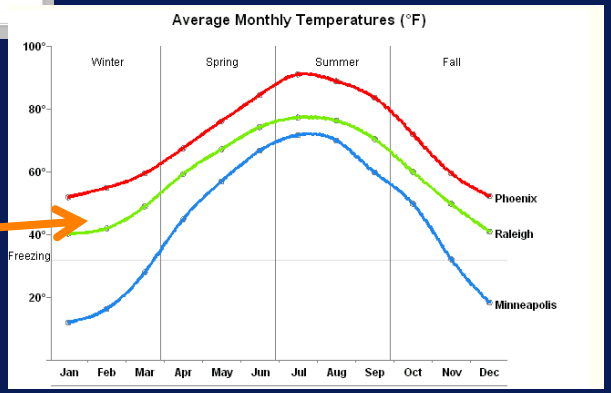
What a Line Plot Shows



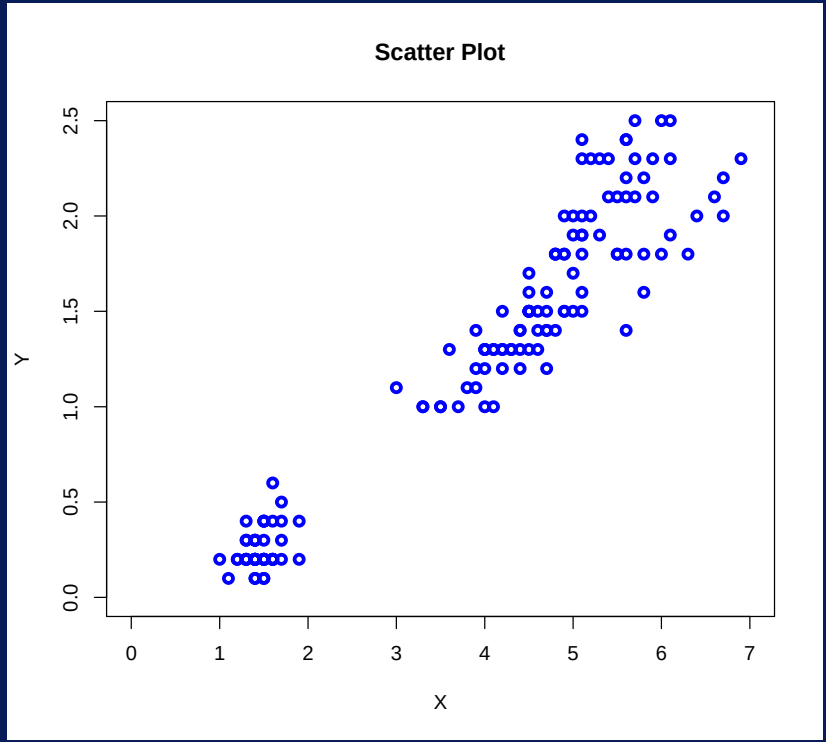
Trend

Cyclical pattern

Compare variables



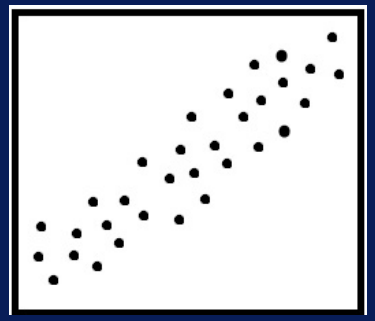
Scatter Plot

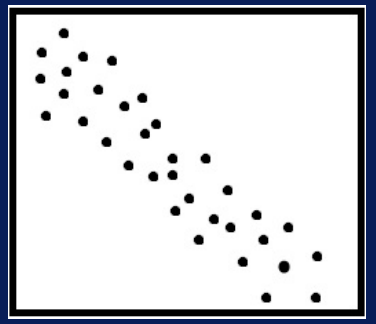


- Shows relationship between two variables

What a Scatter Plot Shows

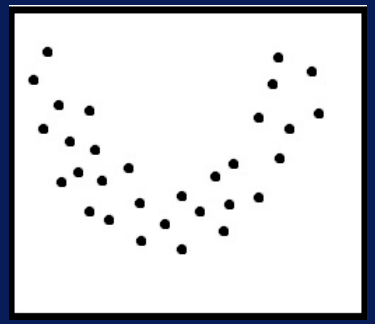
Positive Correlation

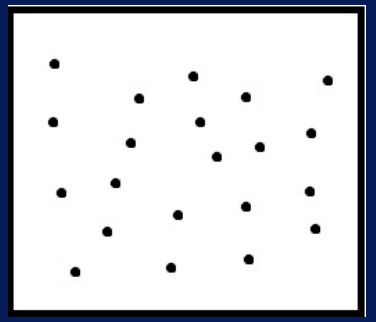




Negative Correlation

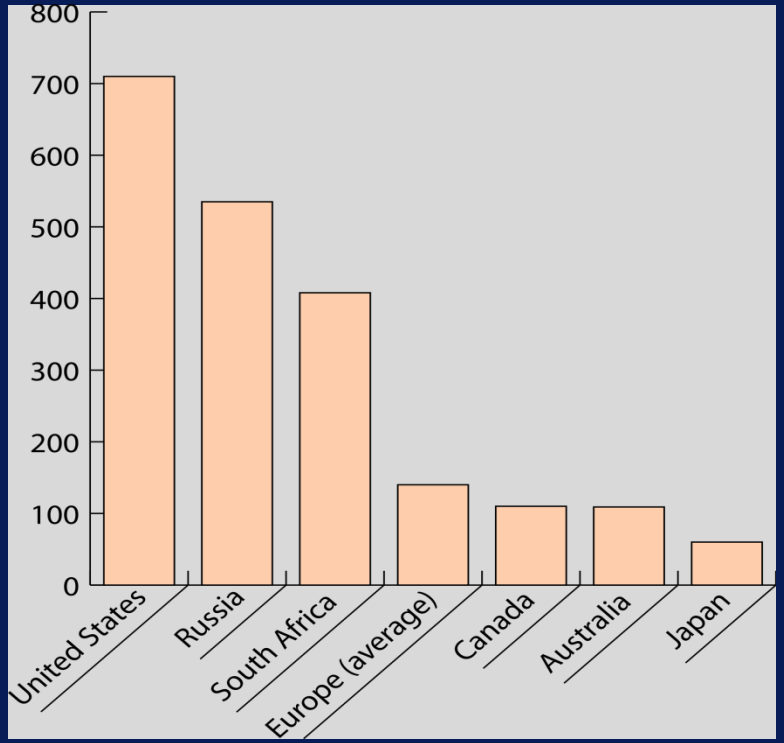
Non-Linear Correlation





No Correlation

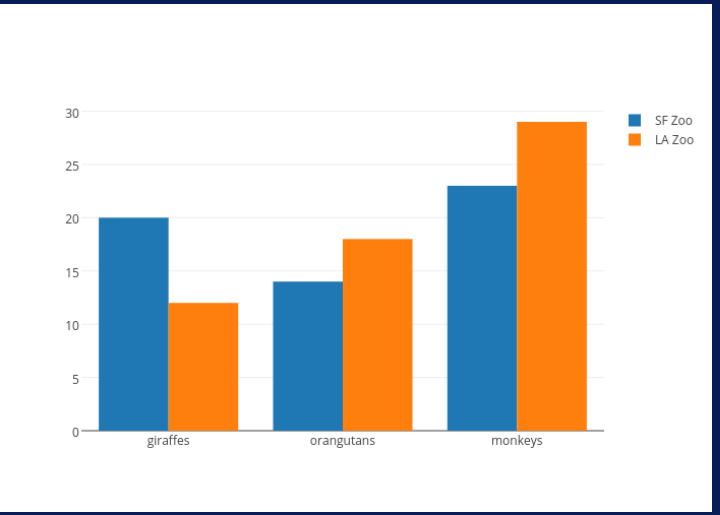
Bar Plot



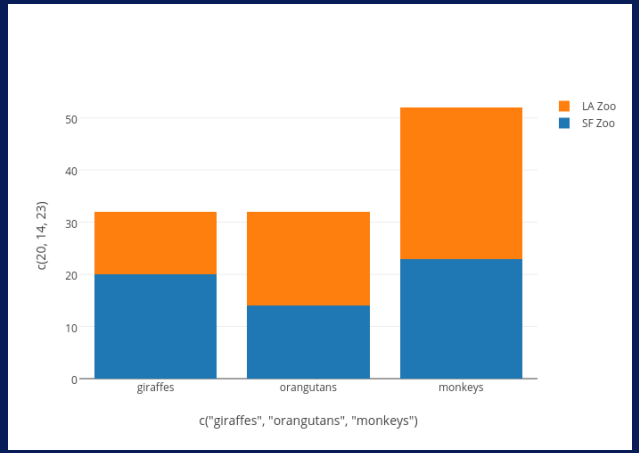
- Shows distribution of categorical variable

What a Bar Plot Shows

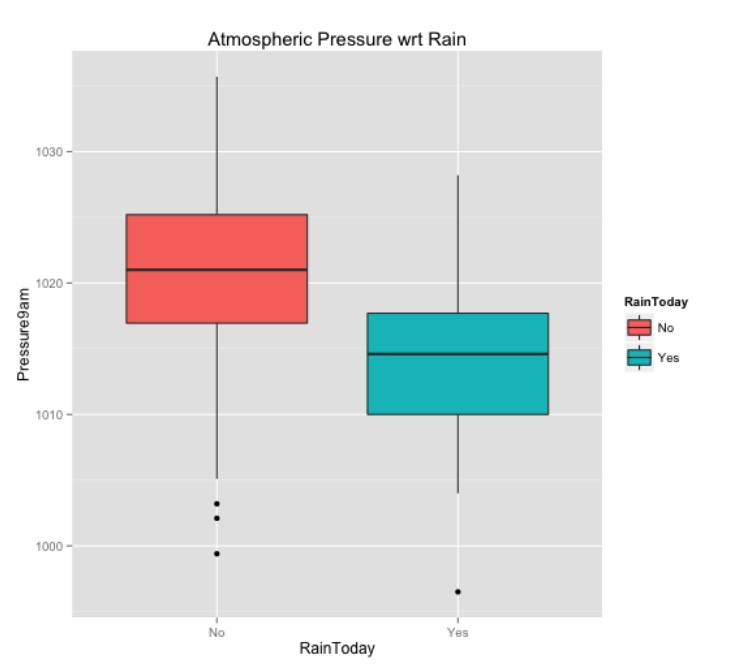
Grouped Bar Chart



Stacked Bar Chart

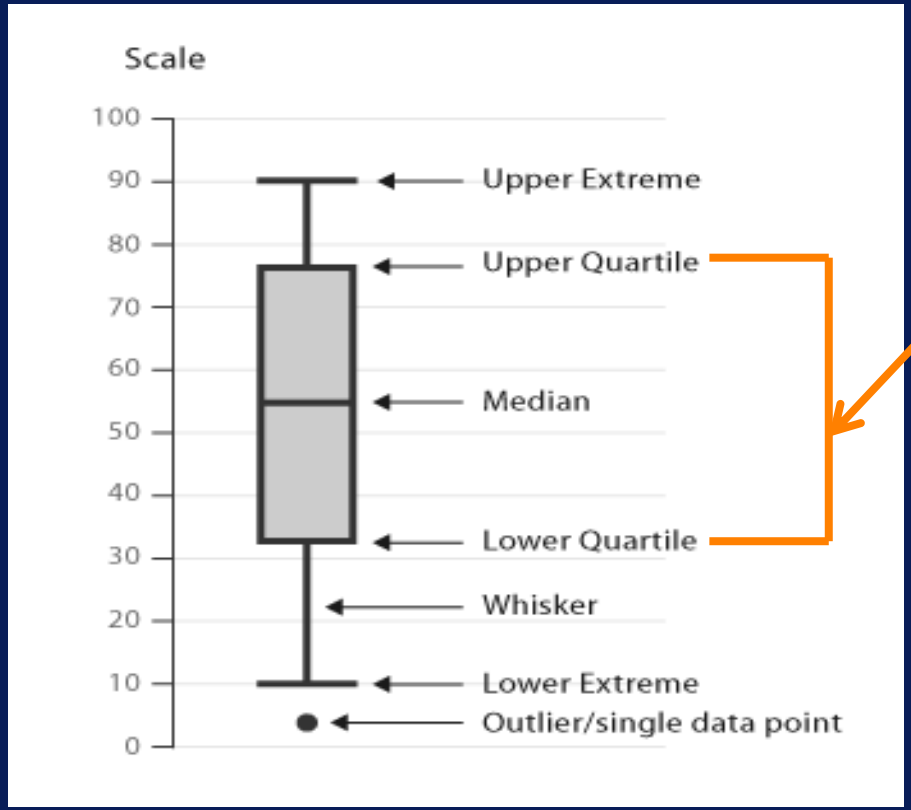


Box Plot



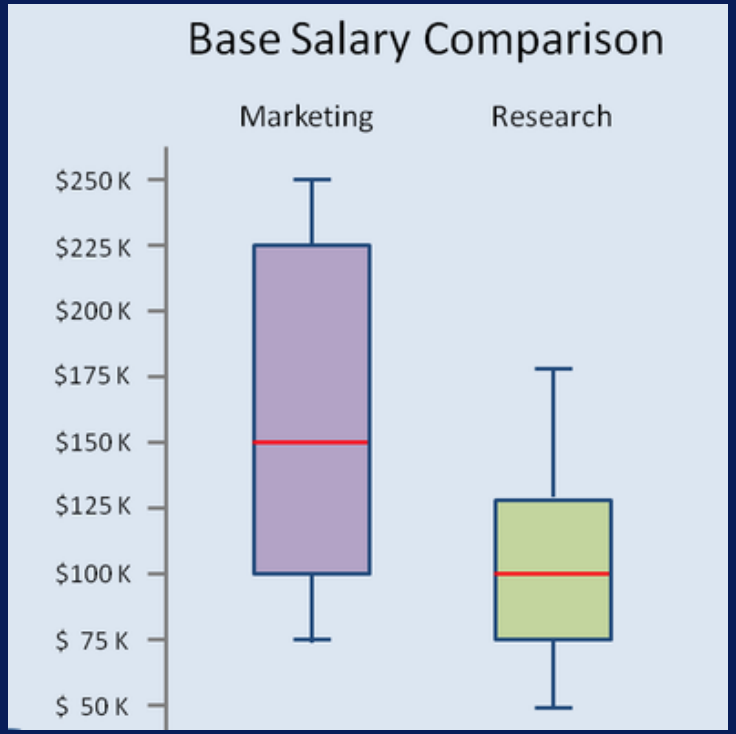
- Compares distributions of variables

Components of a Box Plot



The middle 50% of data are in this region

What a Box Plot Shows



What a Box Plot Shows

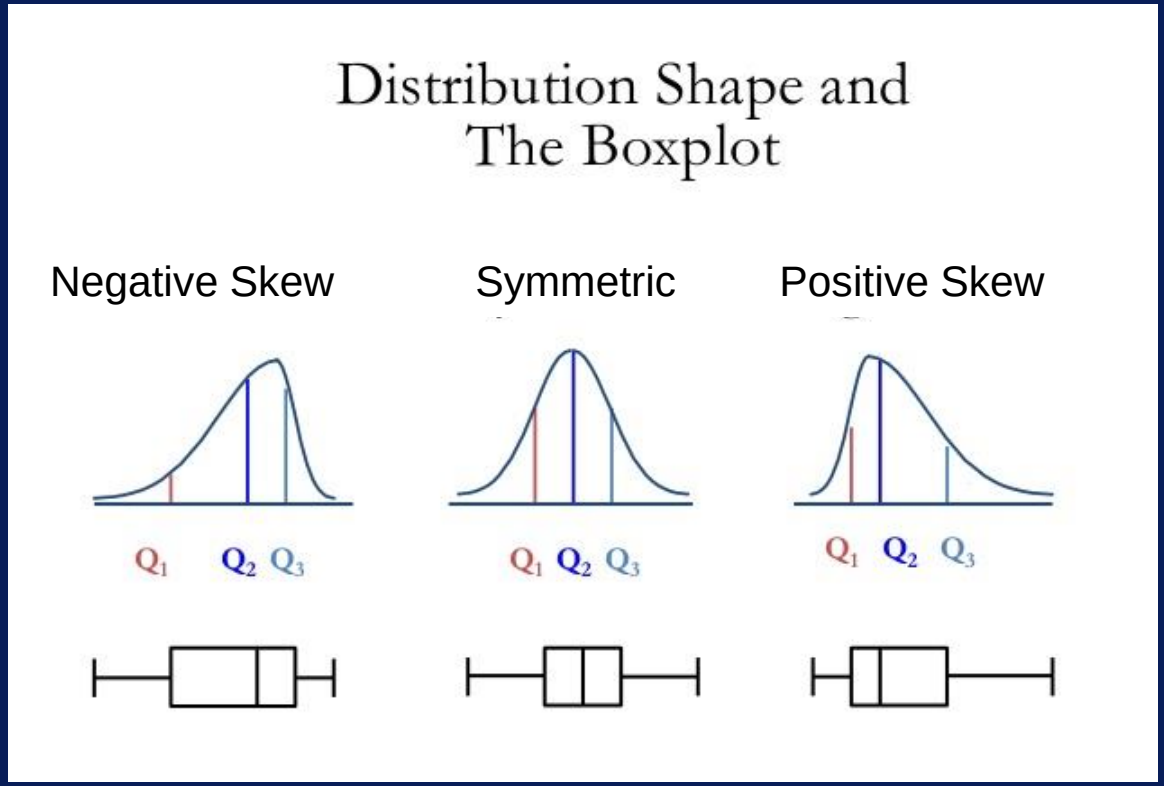


Image source: http://www.slideshare.net/mido02/chap-3gbu

Data Visualization

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