ILRST/STSCI 2100 Discussion 3: Ch. 3 Graphing

Today: Review chapter 3 (graphing), use Minitab to make graphs

Different graphs for different types of variables:
- Categorical: Bar chart, pie chart (not recommended)
- Quantitative: Dot plot, histogram, stem and leaf, and boxplot
- Two categorical: grouped or segmented bar chart
- One continuous and one categorical: Side by side boxplot
- Two continuous: scatterplot

For two categorical variables, we can compare the distributions with a **cross-tabulation**

For Minitab, you can make a cross-tabulation by Statistics > Tables > Cross-Tabulation and Chi Square...

The titanic dataset includes three variables:
- Class: 1 = 1st class, 2 = 2nd class, 3 = 3rd class
- Sex: male, female
- Child: 1 = child, 0 = adult

Note: you may have to manually change the variable type, in case Minitab misinterprets your data. (Highlight the column, go to Edit > Measurement Type)

Histograms
- Use equal class widths
- If data point falls on a boundary, it is counted in the higher class.
- Make sure you can describe a histogram (mode,symmetry, skewness)
- Minitab: Graphs > Histogram; to change bins: Format > Binning

Stem and Leaf
- Must include a key
  Ex. Stem: Tens; Leaf: Ones
- Leaves should be single digit
- Minitab: Graphs > Stem-and-Leaf Plot

General scatterplot
- For 2 continuous variables, can include a categorical variable too

Guidelines for graphing by hand:
- Include titles - main title, axis title
- Include units on axis title, if needed
- Include scale
- Include key (if applicable- ex. stem and leaf, grouped histogram)
- Neatness