Learning to Use TinkerPlots™

Preparation

Prior to completing this assignment, you should watch the following TinkerPlots™ videos:
- *TinkerPlots Basics*
- *Adding Data*
- *Making Common Graphs*

These videos can be accessed from TinkerPlots™ website (http://www.tinkerplots.com; select `Movies` on the left-side).

You should also work through the TinkerPlots™ tutorial called *TinkerPlots Basics*. (Note this is different than the video with the same name, although some of the skills are comparable.) This tutorial can also be accessed from TinkerPlots™ website (select `Tutorials` on the left-side).

The information in the movies and the tutorials will help you learn how to use many of the features of TinkerPlots™ that we will be using in the course. Use what you learn to complete this assignment.

Minnesota Colleges and Universities

Enter the data for the 10 colleges/universities (below) into TinkerPlots™. You can enter these using the case table.

| College	Tuition	Sector
Augsburg College	39294	Private
Bemidji State University	18057	Public
Carleton College	54265	Private
Gustavus Adolphus College	43800	Private
Macalester College	50984	Private
St. Cloud State University	17050	Public
St. Olaf College	47200	Private
UMN—Duluth	21404	Public
UMN—Twin Cities	23058	Public
Winona State University	19670	Public

1. Create a dot plot of the tuition values by dragging the tuition attribute to the plot's *x*-axis. Fully separate the cases (there shouldn't be any bin lines in the plot). Vertically stack the cases in the plot so they are organized. Highlight the plot by clicking on it, and select the Averages (Mean) button in the upper toolbar (the triangle). This should add a triangle to your plot underneath the mean value. With the plot still highlighted, choose the Averages Options in the upper toolbar (the upside-down triangle next to Averages) and select Show Numeric Value(s). This should display the numeric value of the mean in the plot. Copy and paste this plot (with the mean and the numeric value of the mean displayed) into your word-processed document.

2. In the plot, click on a case that is near the mean tuition value. Identify the school you clicked on and its tuition value.

3. Create a dot plot of the sector values by dragging the sector attribute to the plot's *x*-axis. Separate the values so that the cases are separated into the two sectors. Also vertically stack them so they are organized. Display the counts (Counts N) and percentages (Counts %) for each sector on the existing dot plot. Copy and paste this plot into your word-processed document.

Goodreads

Use TinkerPlots™ to open the *goodreads.tp* file (within TinkerPlots™ select File > Open…). These data include information about the books Albert Hoffman read from 2010–2015.

-   Create a dot plot of the book lengths (the *pages* attribute). Fully separate the values (no bin lines) and vertically stack them so they are organized.
-   Add a divider to the existing dot plot by highlighting the plot and clicking the Divider button in the toolbar. This will divide the plot into three distinct parts: a shaded middle part and two unshaded ends.
-   Once the divider has been added to the plot, display percentages on the plot. Percentages should be displayed for all three parts of the divided plot.

4. Move the endpoints of the divider so that the shaded part covers the middle 95% of the cases in the plot. Copy and paste this plot (with the divider and percentages) into your word-processed document.

5. Use the endpoints of the divider to complete this statement: *Most of the books Albert read had between ___ and ___ pages*.
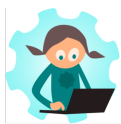
Fan Cost Index

Use TinkerPlots™ to open the *fan-cost-index.tp* file. These data include information about the cost of attending a game (for two adults and two children) for each of the 122 professional teams from the four major men's professional sporting leagues in the U.S. during the 2015/2016 seasons.

6. Create a dot plot of the fan cost index by dragging the fci attribute to the plot's *x*-axis. Fully separate the values and vertically stack them so they are organized. Then, drag the league attribute to the plot's *y*-axis. You should now have a plot of fan cost index by league. Copy and paste this plot into your word-processed document.

7. Based on the plot, comment on potential differences in the cost of attending a game between the four leagues. For example, does it look like the cost of attending a game is more expensive for some leagues? Less expensive? Are there some that are comparable in price?

8. Identify the team (and that team's league) that has the overall highest Fan Cost Index.

9. Add the leagues' means and the numerical values of the means to the plot. Find the FCI value for the Minnesota Twins (Minnesota's professional baseball team), and add a vertical reference line at the Twin's Fan Cost Index value. Copy and paste this plot (with the displayed means and the vertical reference line) into your typed document.

10. Based on the plot, how does the cost of attending a Minnesota Twins game compare with the average cost of attending a Major League Baseball (MLB) game? Explain.