INTRODUCTION TO EXCEL

In this exercise, we will familiarize ourselves with the basics of using Excel for statistics.

1. The 2014 World Cup soccer tournament reached a second stage where 16 teams competed in a bracket:

Table 1: Spread (winning score minus losing score) from 2014 World Cup second stage games

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>3</th>
<th>1</th>
<th>2</th>
<th>1</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(a) Use Excel to calculate the mean of this data. Start by entering all of the numbers, preferably in one column. Then find an available cell and type

=AVERAGE( )

While the cursor is still flashing right after that parenthesis, use the mouse to drag over the data cells. Then close the parenthesis and hit Enter. Should get 1.3125

(b) Find the (sample) standard deviation for this data. The command to use is

=STDEV.S( )  Should get 1.493039...

(c) Find the 5-number summary of this data. I would like you to become familiar with the Excel reference guide that I have posted in the course files on MyPCC, so please use it now to look up what commands would help you find the 5-number-summary.

(d) If we wanted to look at this data with the numbers arranged in order, it might be pretty tedious to do by hand. Excel provides a quick way. When you are on the Home tab, there is a Sort & Filter button.

![Sort & Filter button]

First highlight the data set you wish to sort, then click this button. Use the sorted data to make a histogram on paper.

(e) How many data points do we have? Well, it's easy to just count that we have 16. But instead of counting, try highlighting the data. Now look at the bottom of the screen. You can see the Count. Also this is a quick place to see the Sum and the Average.

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1Capital letters are not necessary.
2. Use the Firefox web browser, Google, and Wikipedia to grab some statistics about colleges and universities in Oregon.

(a) Type into Google:
\[ \text{wikipedia colleges and universities in Oregon} \]
and look for a link to List of colleges and universities in Oregon—Wikipedia.

(b) We will copy the column of enrollment data into Excel. You need to use Firefox for this to go smoothly. Hold down the [Ctrl] key, click on the top data cell, hold down the mouse button, and drag down until you have highlighted the entire column. Only one column should be highlighted—if not, ask me for help.

(c) Now you may either right-click on the highlighted data and choose Copy or you may use the keyboard command [Ctrl] [C]. In Excel, you may either right-click in an open cell and choose Paste or you may use the keyboard command [Ctrl] [V].

(d) Among colleges and universities in Oregon, what is the median enrollment? 1,615

(e) Give the five-number summary for the enrollment data.
\[
\begin{align*}
\text{min} &= 48 \\
Q_1 &= 658.75 \\
\text{median} &= 1615 \\
Q_3 &= 4013.75 \\
\text{max} &= 24505
\end{align*}
\]

(f) Make a histogram for this data set (on paper).

\[ \text{OR colleges & universities} \]

If you complete this exercises, log in to WeBWorK and work on either the Orientation or your first assignment.

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