GEORGE MASON UNIVERSITY | School of Business

Instructions: Complete each problem on a separate worksheet in a single Excel file. Rename the separate worksheets with the respective problem number. You may have to copy and paste the datasets into your homework file first. Name the file with your last name, first initial, and HW 2. Label each part of the question. When calculating statistics, label your outputs. **Submit your completed file(s) in Blackboard**.

1. Problem #1 in the data set in the Excel file **210homework2data.xlsx**, contains data on the gender and national origin of the MBA incoming class in two successive years at the Kelley School of Business at Indiana University. For each year, create tables of counts of gender and of nationality. Then create column charts of these counts. Do they indicate any noticeable change in the composition of the two classes?

2. Problem #2 in the data set in the Excel file **210homework2data.xlsx**, contains data from a survey of 399 people regarding government environmental policy. Which of these variables in the data set are categorical? Which are ordinal and which are nominal? For each categorical variable, create a column chart of counts.

3. Problem #2 in the data set in the Excel file **210homework2data.xlsx**, contains data on monthly values of the Dow Jones Industrial Average from 1950 to July 2015. It also contains the percent changes from month to month. Create a new column for recoding the percent changes into six categories: 1) Large negative ($< -3\%$), 2) Medium negative ($-3\% < x < -1\%$), 3) Small negative ($-1\% < x < 0\%$), 4) Small positive ($0 < x < 1\%$), 5) Medium positive ($1\% < x < 3\%$), 6) Large positive ($> 3\%$). Then create a column graph of the counts. Comment on its shape. Then use the Histogram feature in Excel (you may need the Data Analysis Tool Pack or StatTools for some versions of Excel), and compare the graphs. What differences do you notice?

4. Go to https://www.google.com/publicdata/directory and explore the graphs for various US and international big data sources. Select one graph of categorical data, one graph of quantitative data. Copy the graphs, and write a paragraph for each explain the following: a) why the data is categorical/quantitative, b) what the graphs means (2-3 sentences minimum; do not just say what the variables are, but the story the graph tells), c) why the graph type is appropriate for the data being graphed, and if there are other graph types that could also be used (you can explore other graph types on the site).

Submit your Excel file (including your graphs and paragraphs for #4) in a single file to Blackboard under Homework #2. Alternatively, you can copy and paste and graphs and explanations into a Word document, and attach that, along with the Excel sheet, to Blackboard.