MAT 140 Lab 01

Read all the directions first!

Objectives: To conduct simple data analysis and simple interpretation of results

Practice: **Do this FIRST but this is NOT to be submitted**

1. Use the data in the file Lab01Ex.xls (file on BB9) to make a histogram with the first class of (0, 1000]. (make sure the Data tab is open)
2. Find the mean, standard deviation, median, first quartile and third quartile of the data set (I used QUARTILE function).
3. Find the interval (mean – standard deviation, mean + standard deviation) $(\bar{x} - s, \bar{x} + s)$ and the percentage of observations that fall within that interval. (You need to count how many observations fall in the interval. Sorting first may help.)
4. In one or two sentences, describe the data.

You can check your answers with the file posted: **Lab01Ex.xls** (answers tab) and **Lab01ExAns.pdf** on Blackboard.

You can sort data very easily, under the **Data** menu.

There are many built in functions like AVERAGE() and MEDIAN(). You can search for the one you want by hitting the f_x button next to the edit bar near the top of the screen.

Some tips to help you! READ THESE!

1. Go to the Blackboard website. SAVE the data file, **Lab01Ex.xls** DO NOT CLICK TO OPEN! Remember where you saved it. (you should have 47 observations)
2. SAVE the file you are working on often.
3. Sort the data. Data menu and Sort button
4. In column C, type the bounds of the classes: (0, 1000] …
5. Count the number of observations in each class and put the frequencies in column D.
6. Insert a Column Chart.
7. Choose (highlight) the appropriate values.
8. When saving your final report, you need to copy output to Word or equivalent and save the file as a doc, docx, odt, pdf.

Lab #1 To be submitted:

The data set in **Lab01DataS19.xls** (file on BB9) contains the percentage of student loan defaults in each of the 50 states and Washington DC. NOTE that the dataset is **not** sorted!

1. Use the data to make a **frequency table and histogram** with the first class of (0, 3]. Note that all histogram classes must be the same width! Include the frequency table.
2. Find the mean =$\bar{x}$, standard deviation = s, and median = M, minimum and maximum of the data set.
3. Find the following three intervals: $(\bar{x}-s, \bar{x}+s)$,$(\bar{x}-2s, \bar{x}+2s)$, $(\bar{x}-3s, \bar{x}+3s)$. Find the percentage of observations that are in each of the above intervals.
4. In one or two sentences describe the data set. Include the shape, modal class and any potential outliers. Does the data set seem to be Normally Distributed? Justify.

Your submission should be in report form. Copy and paste any spreadsheet output into a word processing document. You must submit electronically through BB 9. You should be able to fit the report on 1 or 2 pages. You may also submit the Excel file **in addition** to the report file.

DO NOT include the data set in the report file! Note that the example and submitted problems are slightly different!

Do not email to mugnor1@southernct.edu.

You must name the report file:

<Your last name>_MAT140_Lab01.doc or <Your last name>_MAT140_Lab01.pdf

For example, if your name is John Smith your file would be called:

smith_MAT140_Lab01.doc or smith_MAT140_Lab01.pdf

You may NOT submit an Excel spreadsheet as your lab report! But you may include it in addition to your report.

Do not type sentences in the Excel file!