**Unit 5 Project: Are you Normal?**

Directions: Find a set of quantitative univariate data that you **suspect** is roughly normally distributed (some examples where to look include data from the worlds of sports, health, economics, weather, census). You will need approximately 40 observations.

**Organization –** Your project should be organized according to the sections listed below:

1. **Title page** – include the project title, student(s) names, due date, course name, and class period.
2. **Printout of the data** – print out a copy or neatly hand write a copy of your data set on one 8.5 x 11 sheet of paper
3. **Graphical Representation** **and Description**
4. Construct 2 graphical displays of your data distribution.

These may be hand drawn or created using software from the internet. If you make hand drawn graphs, be sure to make your graphs on graph paper. If you use internet software be sure to print out your graphs and include the source you used to create the graphs. Make sure all graphs (regardless of how they are created) are clearly and accurately labelled and scaled. (Possible internet sources to create graphs: <https://286078b1ecc387529e71d26ba7fd7dcc269692e2-www.googledrive.com/host/0BzZW9Sv9QtCDWnJ4MndFcGJhbkU/> and/or google sheets)

1. Describe your distribution (shape, center, spread, outliers) in a short paragraph.
2. **Analysis** – Based on the description of your distribution, assess the normality of your distribution. That is, calculate the proportion of your data that falls within 1, 2 and 3 standard deviations of the mean. Then compare the proportions with the Empirical Rule to see how closely your distribution matches. Show all your calculations neatly and state in a sentence whether your distribution is approximately normal.
3. **Conclusion** – Write a concluding paragraph that answers the question “Is your data normal”? Explain how your evidence and analysis of the Empirical Rule has led you to this conclusion. Be precise and specific.