# Assignment 5: Making Graphs in “ggplot2”

For this assignment, you will practice making graphs in the ggplot2 package in R. Question 1 uses a prepackaged data set, Question 2 will ask you to use a data set of your own.

**Question 1**: The “msleep” data set in ggplot2 describes sleeping habits of mammals. Data is taken from the proceedings of the National Academy of Sciences (2007). The data set includes animal name, genus, vore (carnivore, omnivore, or herbivore), order, conservation status, sleeping characteristics, and brain and body weight. Use the qplot() function to create all graphs.

1. Plot a histogram of the total hours of sleep. Set a reasonable binwidth for number of hours. Group your observations by eating habits (vore). Do you notice any patterns in the data?
2. Make a scatterplot describing the relationship between total hours of sleep and hours of REM sleep. Your plot characters should depend on eating habits. Use a + statement to change the color palette and rename your legend. Interpret your plot.
3. Add a boxplot to your scatterplot in part (b). What do you notice about the graph?
4. Use a facet option to make your graph in part c more readable. Your facets should be eating habits. Comment on the variability of each type of mammal.

**Question 2**: The purpose of this question is for you to compare a plot you’ve made in the base R packages to a plot made in ggplot2. You can use a plot from a prior class, research project, or a paper you’ve worked on. Your plot should include at least three different variables.

1. Attach the original plot and all code required to make it. Include a short description of what’s graphed in your plot.
2. As closely as you can, recreate that plot in ggplot2.
3. Write a paragraph comparing the length of the code, ease of coding, and final graphs.