METHODS I: HOMEWORK 4 **DUE 26 SEP**

Instructions: You may consult with others but develop your own code and answers. Use packages and commands we used in lab for graphing here – artistic license is encouraged but optional. See this week on the class calendar for the data: https://sciences.ucf.edu/biology/d4lab/methods-1.
Your answer to each question should include (a) a graph &/or statistical result and (b) a sentence or two that clearly answers the question, based on the graph. Also provide your code, and submit your answers as a pdf, with your name in the file name. [2 pts. each question]

Questions 1-3 use the speciespH.txt data set available on our course web site's schedule, which represents the count of the number of species and their collective biomass in three pH treatments.

1. Make histograms and normality plots for the variable Species for each of Low, Mid, and High pH treatments in this data set. Do you think each data set looks normally distributed? Why?
2. Conduct Shapiro-Wilk tests on those same data – How do these results compare to your *visual* interpretations from Question #1 above? What does your answer tell you about graphs and stats tests for this subject?
3. Now evaluate homogeneity of variance. Explain your result in English.
4. Try a transformation – explain your choice of a transform, and then explain in English how it changed results (if it did), and make it clear what information you used to support your answer.
5. Based on course content this week, how should we proceed with this kind of data set if we were to keep trying get this to work?