Linear Regression Group 3, mammalsleep dataset 04/20/21 Project 7

(1) A precise description of the role and mathematical contribution of each member of the group. An indication of which components of the nal presentation are completed by which group members. This item should be identical for all members of the same group, the proceeding items, below, are individualized.

<u>Cody's contribution:</u> After the variable analysis done by Rachel i used the data set that had no NA values and set up a for loop with the suggested variables. This for loop was pre-transformation, and created 16 different combinations of variables coupled with predation being constant in all combinations. The loop then spat out the sorted standard error value for all combinations and the lowest standard error was then chosen for our model to work with.

<u>Rachel's Contribution:</u> I will present the initial data analysis, including the first observations of the data, narrowing of the variables used for our possible models, decisions regarding omission of particular data points, as well as the assessment of the missing values within the data set.

<u>Ryan's Contribution:</u> Presenting on transformations to biological predictors based on research from allometric scaling. Checked for potential transformation of the response variable using the box cox method.

<u>Nate's contribution:</u> Presenting which mammals most greatly effect the standard error of predation and why we choose to keep them in the data set. Also showing the difference between base and final model with PRESS to evaluate the magnitude our manipulations had on the model.

<u>Jonothan's Contribution:</u> Investigation and validation of the model assumptions regarding residual normality and constant variance as well as creation of some visual descriptive statistics. As with the other members I was also heavily involved with discussions involving choosing the final model and transformation considerations.

<u>Note:</u> In addition to the individual contributions discussed previously, all group members were heavily involved in discussions regarding model changes and assessment. Through this process a lot of work was completed, but sometimes became irrelevant and as a consequence was subsequently discarded.