1. Refer to problem **8.5** for a short explanation of the `BigMac2003` data set. Then do the following.

    a. Check the five diagnostics (either plots, tests, or both) on model assumptions in the linear model that includes `BigMac` as the response and all nine predictors (and no interactions). Based on these diagnostics, which model assumptions do not appear to be valid?

    b. Find the Box-Cox transformation for the response variable and make the nearest ladder-of-powers transformation to it. Recheck the five diagnostics with this transformed response. What is the transformation and which assumptions (if any) still appear to be invalid?

    c. Use the generalized Box-Cox transformation for the predictors (leaving the response untransformed) and find transformations from the ladder of powers to make the transformed predictors as close to linearly related as possible. Recheck the five diagnostics. What is the transformation for each of the nine predictors and which assumptions (if any) still appear to be invalid? (Hint: If at first you get an error using `powerTransform()` due to negative or 0 values in the data, make a change to those values such as setting them equal to a small positive constant.)

    d. Given the predictor transformations made in the last part, use the Box-Cox method to find a transformation of `BigMac`. Recheck the five diagnostics. What is the transformation and which assumptions(if any) still appear to be invalid?

    e. Are you satisfied with the final model? Why or why not?

2. Do problem **10.4**. Use whatever transformations (Box-Cox or otherwise) you prefer to satisfy your assessment of the diagnostics.

3. Do problem **4.6**.