Instructions

You work for *Motor Trend,* a magazine about the automobile industry. Looking at a data set of a collection of cars, they are interested in exploring the relationship between a set of variables and miles per gallon (MPG) (outcome). They are particularly interested in the following two questions:

- “Is an automatic or manual transmission better for MPG”
- "Quantify the MPG difference between automatic and manual transmissions"

Review criteria

Peer Grading

- The criteria that your classmates will use to evaluate and grade your work are shown below.
- Each criteria is binary: (1 point = criteria met acceptably; 0 points = criteria not met acceptably)

Criteria

1. Did the student interpret the coefficients correctly?
2. Did the student do some exploratory data analyses?
3. Did the student fit multiple models and detail their strategy for model selection?
4. Did the student answer the questions of interest or detail why the question(s) is (are) not answerable?
5. Did the student do a residual plot and some diagnostics?
6. Did the student quantify the uncertainty in their conclusions and/or perform an inference correctly?
7. Was the report brief (about 2 pages long) for the main body of the report and no longer than 5 with supporting appendix of figures?
8. Did the report include an executive summary?
9. Was the report done in Rmd (knitr)?

Question

Take the mtcars data set and write up an analysis to answer their question using regression models and exploratory data analyses.
Your report must be:

- Written as a PDF printout of a compiled (using knitr) R markdown document.
- Brief. Roughly the equivalent of 2 pages or less for the main text. Supporting figures in an appendix can be included up to 5 total pages including the 2 for the main report. The appendix can only include figures.
- Include a first paragraph executive summary.

Upload your PDF by clicking the Upload button below the text box.

Peer Grading

- The criteria that your classmates will use to evaluate and grade your work are shown below.
- Each criteria is binary: (1 point = criteria met acceptably; 0 points = criteria not met acceptably)
- Your Course Project score will be the sum of the points and will count as 40% of your final grade in the course.