**Context**

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"

**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.