ASSIGNMENT: ONE-WAY ANOVA

1. One-way ANOVA using EPA mileage data

In this assignment we build a linear model of the one-way ANOVA type (i.e., ANOVA with one factor) to compare the effect of 4, 5, and 6-speed automatic transmissions on highway gas mileage for cars.

First go to the course website and copy the URL for the EPA mileage data *.csv* file into the clipboard. The URL is:

`http://www.sandgquinn.org/stonehill/MA225/notes/09tstcar.csv`

To download the EPA data, start *R* and enter the command:

```
epa<-read.table("",sep=",",fill=TRUE,header=TRUE)
```

Now paste the URL for the file between the adjacent double quotation marks following the left parenthesis '('. The result should be something equivalent to:

```
epa<-read.table("http://www.sandgquinn.org/stonehill/MA225/notes/09tstcar.csv
,sep=",",fill=TRUE,header=TRUE)
```

Next select only records for highway driving for cars with 4, 5, or 6-speed automatic transmissions (the appropriate transmission codes are `L4`, `l5`, and `L6`:

```
epa456<-epa[ which(car.truck=="C" & C.H=="H" & trns %in% c("L4","L5","L6")),]
```

To make the syntax a bit shorter, attach the data frame `epq456`:

```
attach(epa456)
```

Now follow the example in the 4/29 class notes, which did a one-way ANOVA to compare `mpg` for 4, 6, and 8 cylinder engines (`vpc`).

The statements to run the linear model in this case (assuming you have attached epa456) are:

`lm0<-aov(mpg ~ trns)` and `lm0<-lm(mpg ~ trns)`

Use the results to answer the questions posted on eLearn.