Coursera - Regression Models course - Course Project 1

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Executive Summary

Using the "mtcars" dataset provided within the R environment, answering the following questions:

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

Pre-Processing

```
##
## Attaching package: 'dplyr'
##
## The following object is masked from 'package:stats':
##
##     filter
##
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

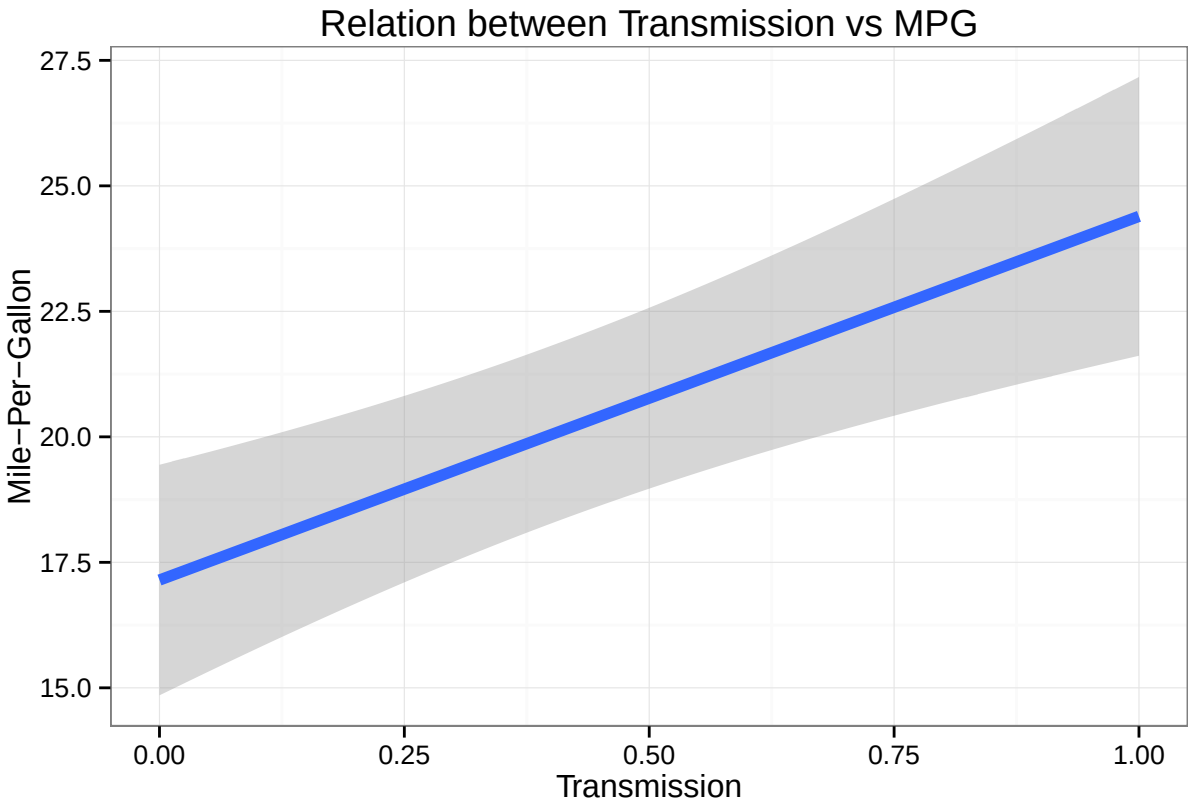
Exploratory Data Analysis

Is transmission (i.e. 'am', 0 = automatic and 1 = manual) a good predictor for the 'mpg'? Using a plot to demonstrate the relation and the linear regression between the variables.

```
# linear regression
lm(mpg ~ am, data=carsdata)
```

```
##
## Call:
## lm(formula = mpg ~ am, data = carsdata)
##
## Coefficients:
## (Intercept)           am
##      17.147        7.245
```

```
g <- ggplot(carsdata, aes(am, mpg)) +
  geom_smooth(size=2, method="lm") +
  xlab("Transmission") +
  ylab("Mile-Per-Gallon") +
  labs(title="Relation between Transmission vs MPG") +
  theme_bw()
g
```



Predictions and Correlation