library(ggplot2)

library(tidyverse)

library(AppliedPredictiveModeling)

# Read in the cars datasets

data(FuelEconomy)

# Run the initial regression and look at the Global F-test and R-squared

cars\_lm <- lm(FE ~ EngDispl +

factor(NumCyl) +

Transmission +

AirAspirationMethod +

factor(NumGears) +

factor(TransLockup) +

factor(TransCreeperGear) +

DriveDesc +

factor(IntakeValvePerCyl) +

factor(ExhaustValvesPerCyl) +

CarlineClassDesc +

factor(VarValveTiming) +

factor(VarValveLift), data = cars2010)

summary(cars\_lm)

anova(cars\_lm)

# Rerun the model removing the VarValveTiming variable

cars\_lm2 <- lm(FE ~ EngDispl +

factor(NumCyl) +

Transmission +

AirAspirationMethod +

factor(NumGears) +

factor(TransLockup) +

factor(TransCreeperGear) +

DriveDesc +

factor(IntakeValvePerCyl) +

factor(ExhaustValvesPerCyl) +

CarlineClassDesc +

#factor(VarValveTiming) +

factor(VarValveLift), data = cars2010)

summary(cars\_lm2)

anova(cars\_lm2)

# Removing all variables ONE AT A TIME leaves you with the following model

cars\_lm3 <- lm(FE ~ EngDispl +

factor(NumCyl) +

Transmission +

AirAspirationMethod +

factor(NumGears) +

factor(TransLockup) +

#factor(TransCreeperGear) +

DriveDesc +

factor(IntakeValvePerCyl) +

#factor(ExhaustValvesPerCyl) +

CarlineClassDesc +

#factor(VarValveTiming) +

factor(VarValveLift), data = cars2010)

summary(cars\_lm3)

anova(cars\_lm3)