

## Lab 9: Diagnostics

1. Using the cars2010 data set, run the regression with the following explanatory variables:

EngDispl  
Transmission  
AirAspirationMethod  
TransLockup  
TransCreeperGear  
DriveDesc  
IntakeValvePerCyl  
CarlineClassDesc  
VarValveLift

- a. Let's assume that these observations are ordered throughout time (observation 1 was the first to be observed in time, observation 2 was the 2<sup>nd</sup> and so forth), check for 1<sup>st</sup> order autocorrelation using the Durbin-Watson test.
- b. Use plots to identify potential influential observations based on the suggested cutoff values.
- c. Are there any observations with a dffits larger than 1 AND studentized residuals larger than 3 in magnitude? If so, list the observations.