**Question 8.1**

Describe a situation or problem from your job, everyday life, current events, etc., for which a linear regression model would be appropriate. List some (up to 5) predictors that you might use.

**Question 8.2**

# Using crime data from <http://www.statsci.org/data/general/uscrime.txt> (file uscrime.txt, description at <http://www.statsci.org/data/general/uscrime.html> ), use regression (a useful R function is lm or glm) to predict the observed crime rate in a city with the following data:

# M = 14.0

So = 0

# Ed = 10.0

Po1 = 12.0

# Po2 = 15.5

LF = 0.640

# M.F = 94.0

Pop = 150

# NW = 1.1

U1 = 0.120

# U2 = 3.6

Wealth = 3200

# Ineq = 20.1

Prob = 0.04

# Time = 39.0

# Show your model (factors used and their coefficients), the software output, and the quality of fit.

**Note** that because there are only 47 data points and 15 predictors, you’ll probably notice some overfitting. We’ll see ways of dealing with this sort of problem later in the course.