PRACTICE PROBLEMS, Fall 2022

Load the sulphur.dioxide.txt data set from the class web site. It includes data among a number of cities for atmospheric sulphur dioxide levels:

Pollution	mean annual [SO2], ppm
Temp	mean annual temperature, ^{o}F
Industry	Hectares industrial land use
Population	Population count, 1000's
Wind	mean annual wind speed, km/h
Rain	mean annual rainfall, mm
Wet.days	mean annual number of days with precipitation

1. Evaluate potential predictors of Pollution and justify your choices to be used in models below.

2. List & justify your potential models, including how you adjusted models for collinear terms.

3. Select among your models to ID a most-plausible version. How well does it work? Which variable(s) are most important?

4. Graph your model, where Pollution is a function of your strongest predictor(s) and color is a second predictor from your model

5. Evaluate residuals of your model to consider how well the model matches assumptions, and show your predicted Pollution values relative to observed.