

1. DATA SMOOTHING

Assume that the data provided below can be modeled as a smooth function and a superimposed Gaussian noise component (possibly transformed).

Fit a smooth curve to the data (possibly after a transform) in such a way that the error sum of squares,

$$SS_e = \sum_{i=1}^n (y_i - \hat{y}_i)^2$$

is as small as possible (you should report the value of this quantity for the untransformed values).

A link of the numbers for 2009 is posted in the notes and handouts section of the web page.

If you are running R and connected to the internet, you can download this to a data frame called `df1` with the following statement:

```
df1=read.csv("http://www.sandgquinn.org/stonehill/MTH420/notes/project10.csv")
```