Homework 7

Remember, you have to show your work to get credit.

1. Consider a SLR model without the intercept $Y_i = \beta_1 X_i + \epsilon_i$. Use the formulas from class to derive the formula for b_1, the matrix H and the formula for mean square error. Also derive the exact form of the t-test for $\mathcal{H}_0 : \beta_1 = 0$ vs. $\mathcal{H}_1 : \beta_1 \neq 0$.

SAS Import a data set SENIC data set (see lecture). Regress infection risk on length of stay, age, number of beds and number of nurses. What parameters are significantly different from 0? Then restrict the data set to the south region. Are there any differences from the overall picture?