625.661 Statistical Models and Regression

Module 4 Discussion Questions

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In a multiple linear regression model, $y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$, where x_1 and x_2 are non-random independent variables, and ε is the random error. Now a set of n items give data, $(y_1, x_{11}, x_{21}), \ldots, (y_n, x_{1n}, x_{2n})$, which follow this model. Decompose SS_T into SS_R and SS_{Res} using the "hat" matrix, discuss and **state the assumptions** in your discussion.