

Homework 2

1. Assume you have a CRD with a treatments and 1 control so that $N = \sum_{i=1}^{a+1} n_i$. Assume you are interested in the contrasts $\tau_i - \tau_{a+1}, i = 1, \dots, a$ and hence interested in minimizing $\sum_{i=1}^a V(\bar{Y}_i - \bar{Y}_{a+1})$. Simplify the expression as a function of σ^2 ; which values of n_i minimize this expression?
2. Problem 3-37—use equation (3-48) as your model for the normal equations (Estimability).
3. Problem 4-16a (RCBD and missing values)
4. Analyze the data from Problem 4-1 in SAS by entering missing values for chemical type 2 and bolt 3 and chemical type 4 and bolt 4. Compare your results from this analysis to analysis with the complete data and analysis when the two missing values are imputed. (RCBD and missing values)
5. Problem 4-19 (Latin Square Analysis)