Analysis of covariance, including lack of fit tests

(STATS545.4: Analyses of variance and covariance)

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Analysis of covariance

Analysis of covariance:

Factor and continuous variables together

Special case of general linear model

Analysis of covariance

Lack of fit tests

Simple linear regression: $y_i = \alpha + \beta x_i + e_i$

Want to test whether straight line is OK

Suppose have repeated measuresments at each (most) x-values: $y_{ij} = \alpha + \beta x_i + e_{ij}$

Can design new full model: $y_{ij} = \mu_i + e_{ij}$

Now test full vs reduced

For this SLR case we can write the table for the partitioned SSE (p. 119)