A2: Analysis to Forced Expiratory Volume data

Last name: Akad
First name: Dogan
Student ID: 1001386083
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Q1: Fit a linear model to original data and looking for transformation using Box-Cox procedure

(a) Looking at the residual plot, residuals don't follow a pattern and they are randomly spread which indicates a linear relationship between age and FEV. Also the variance is not constant because residuals aren't spread across the fitted value. The points follow a line at the scatter plot which also indicates a linear relationship.

(b) For a simple transformation, the log of FEV(response variable) appears to be the most appropriate because the value of MLE is 0.18 which is close to 0.