Homework #7

BSTA 519 Applied Longitudinal Data Analysis
Fall 2021
Due – Monday 11/29/2021 by midnight

Logistic Mixed effects model

Problem 14.1 from Fitzmaurice et al., 2nd edition, 2011.

The dataset used for this problem is toenail.txt. Use WordPad to open the file to show correct format.

- In addition to the questions from the textbook, fit a model with the same mean response as in 14.1.5, but with random intercepts and random slopes.
    - What conclusions do you draw about the effect of treatment on onycholysis? Provide results that support your conclusions.
    - Does this model provide a better fit than the model with random intercepts only?
    - Provide an interpretation to the magnitude of the estimated variance for the random intercepts and random slopes.

Extra reading

In this submission, you will also find an article by Hu. et al. (1998) "*Comparison of Population-Averaged and Subject-Specific Approaches for Analyzing Repeated Binary Outcomes*"**.** In addition to compare the population-averaged and subject-specific approaches, the article showed connection between these models and conventional epidemiologic methods. It was written with hardly any technical details, a good general reading for contrasting the two models. Read the article and state three new points you learned from it.