

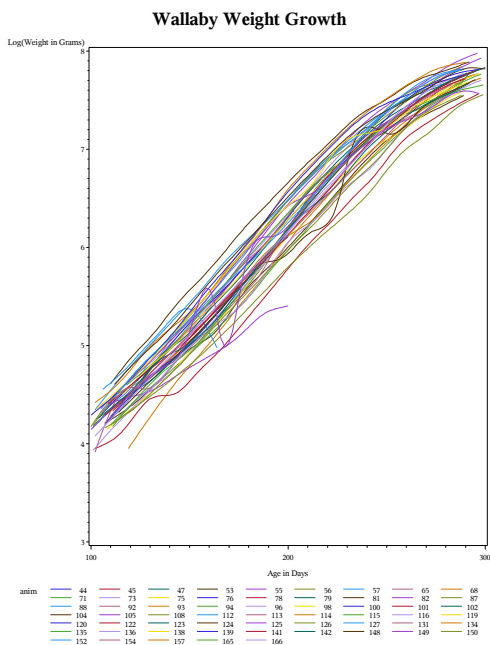
1. Fixing Breakout 17 (60 points)

You must use SAS for this problem!

Modify the code in wallaby.sas to load the wallaby data and to create a new outcome in the form of the log of the grams. Follow the model selection ideas of Handout 17 and Breakout 17 to select an appropriate random effects plus possible serial correlation model for the rich fixed effects model (using the default REML fitting method). Different from the handout, as your first model use pure fixed effects (no random or repeated statement). Be sure to use “TYPE=UN” on the RANDOM statement if you include more than one random effect. If you get a “0” standard error for a random effect, drop it regardless of what the BIC says.

Then use backward selection with method=ML to pare down the fixed effects model. Finish with a REML fit of the final model, including a residual vs. fit plot. Turn in the BIC values (labeled with a model description and the “METHOD”) for each model you fit, the final “Covariance Parameter Estimates” and “Solution for Fixed Effects”, the residual plot, and a paragraph or two describing what the final model says about wallaby growth.

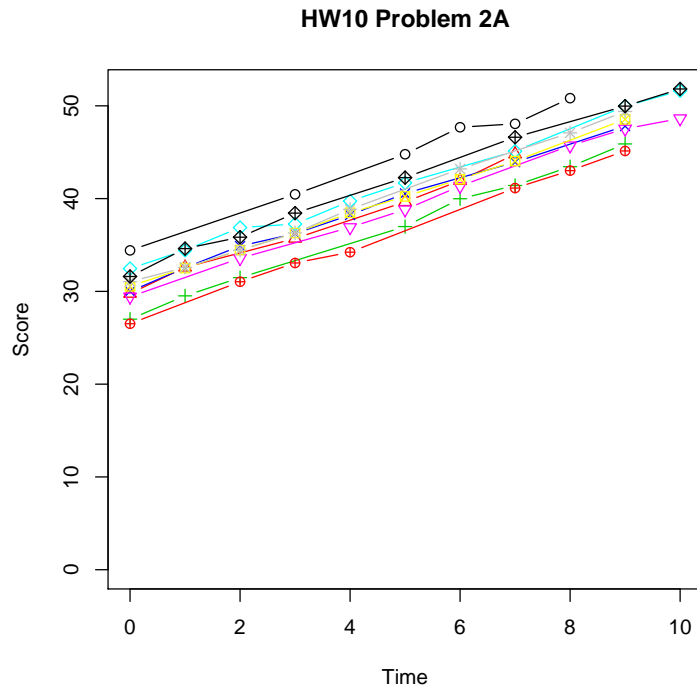
The EDA shown here (lowess curves per subject) may help in model choices.



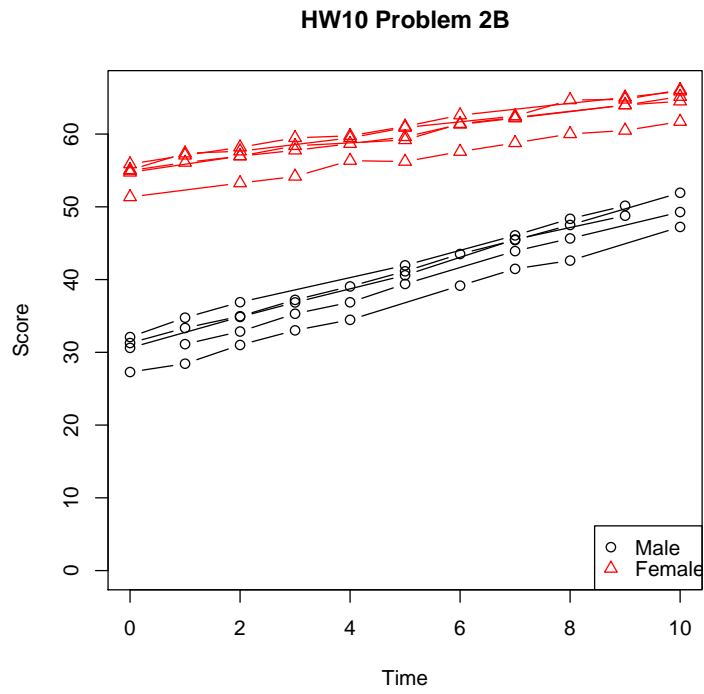
2. Mixed Model EDA (40 points)

For each EDA plot, give the most likely fixed and random effect models.

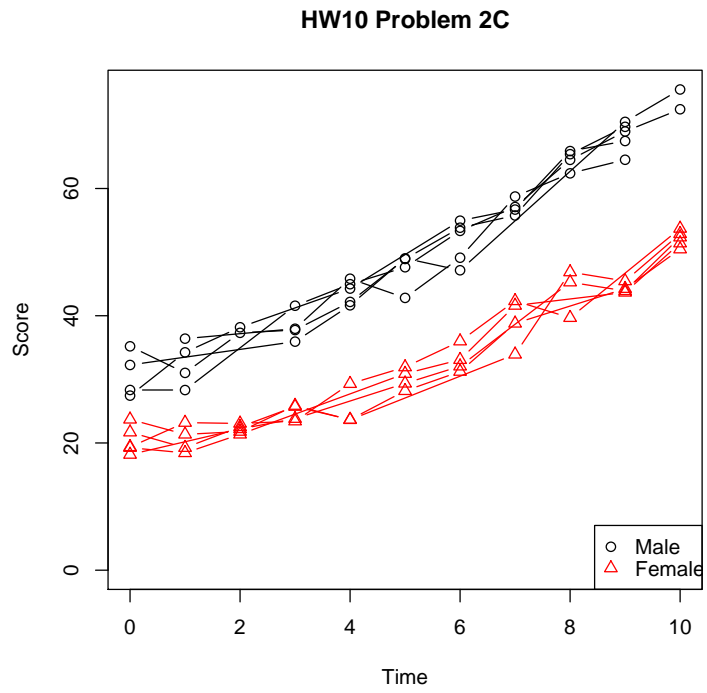
(a)



(b)



(c)



(d)

