How to read the codes in the R and SAS files:

There is one R file and three SAS files. The one R file corresponds to the "Step 1" and "Step 3" below. The three SAS files correspond to the "Step 2" below.

Step 1. R (data preparation)

The first part of the R codes constructs the Jackknife replicate weights and some helper variables for the calculation of Jackknife variance. The replicate weights and new variables are all appended to the original data set as columns, and the new dataset is exported as an Excel file.

Step 2. SAS (NLMIXED models)

The full model and the Jackknife replicate models are fitted with the NLMIXED function in SAS using the Excel data set exported from R in Step 1. Results of the NLMIXED models are exported as Excel files. The three models with different distributional assumptions are coded in three SAS files separately.

Step 3. R (Calculation of dAIC and dBIC)

The second and third part of the R codes calculate dAIC and dBIC in R using the results of SAS's NLMIXED models stored as Excel files in Step 2.