

Multiple Regression and Model Building

Open the *Crash.dat* data file using the `r` command `"read.delim()"` and answer the following questions.

1. Build the best multiple regression model that you can for the purpose of predicting head injury severity, using all the other variables as the predictors.
2. Determine which variables must be made into indicator variables.
3. Determine which variables might be superfluous.
4. Build two parallel models, one where you account for multicollinearity, and another where you don't consider multicollinearity. For which purpose may each of these models be used?
5. Continuing with the *Crash* data set, combine the four injury measurement variables into a single variable, defending your choice of combination function. Build the best multiple regression model you can for the purpose of predicting injury severity, using all the variables as the predictors. Build two parallel models, one where you account for multicollinearity, and another where you don't consider multicollinearity. For which purpose may each of these models be used?