CE687 Assignment 2

Total marks: 10

For the motorcycle crash database presented in lab on ordered response models (April 3, 2025), present an updated model (that includes more variables than what was included in the pre-populated code) based on the following procedures:

1. Identify at least 3 additional explanatory variables present in the database that were not included in the initial model that in your opinion can influence the injury severity of motorcyclists. Discuss your a priori expectations [3 marks]
2. Include the variables in the ordered response model to assess their influence on crash outcomes and evaluate the statistical significance of the coefficients and assess whether the estimates match your a priori expectations. [3 marks]
3. Compare the model performance when compared to the original model using pseudo-R^2, Likelihood, AIC and BIC. [2 marks]
4. Propose 2 additional variables that you would like to collect data on, and include in your model, and motivate their influence on injury severity. Also discuss whether the proposed explanatory variables will be added as numeric, count or binary variables. [2 marks]