The Modelling Process

1. Try to understand the context, the research question & the data. Do some EDA (exploratory data analysis) → use the graphics available in R
2. Consider the role of each of the variables in trying to address the research question.
3. Propose a plausible model and fit it to the data
   plot() Examine residual plots to assess the assumptions underlying the model
4. Is the model appropriate?
   Are the obvious problems with the assumptions? (may need to look at other diagnostics)
   - Yes, proceed ↓
   - No, go back to 3 (or even 1 or 2)
5. Examine the ANOVA table to consider what are the important terms in the model AND decide if the
   anova() model is an adequate model for answering the research question.
6. Are there redundant terms; missing terms; or other problems? (again you may need to look at other diagnostics)
   - Yes, refine the model (go back to 3)
   - No, proceed to next step ↓
7. Examine the summary output (the partial regression coefficients) ← β's
   summary() & attempt to use the model to answer the research question
   - if model exploratory → tests on the β's
   - if model good enough to use for prediction
     predict() → estimates PI, CI's