Problem session 7 PSYC 5301

A researcher is interested in how two drugs affect pulse rate in rats. Eighteen rats are randomly allocated to one of two drug treatment conditions. The first group receives drug 1, whereas the second group receives drug 2. For each rat, the weight in grams was also recorded. The data may be downloaded from https://bit.ly/395BMP9

Perform a Bayesian ANCOVA testing the impact of treatment condition on pulse rate, with weight as a covariate. Write up the results using the format given in lecture, being sure to include the following elements:

- a description of the analysis performed
- a list of potential models
- the models which increased their model odds after observing data
- a report of the model with highest posterior probability
- a comparison of this model (i.e.,  $BF_{10}$ ) against the next best fitting model
- the inclusion (or exclusion) Bayes factors for each predictor
- an estimate (with 95% credible interval) of the covariate effect.