Week 12 Individual Assignment 2

In this exercise you will replicate an earlier group assignment that performed a single-factor ANOVA, but this time with four levels. (the instructions for this exercise are the same as for exercise 1, the only difference is that we have four levels of the factor to compare instead of three)

- Your model should have a parameter alpha for each level of the factor representing the mean at that level
- Use a normal(0,50) prior for all of the alpha parameters
- Your model should have a parameter sigma for each level representing the standard deviation at that level
- Use a half-cauchy (0,20) prior for each sigma parameter
- Use a normal likelihood for y, with mean equal to the alpha parameter for that particular level, and standard deviation equal to the corresponding sigma parameter for that level.

Use the generated quantities block to compute every possible pairwise difference among the alpha parameters.

Use the 95% credible intervals for these differences to decide which pairs of differences are likely to be different from zero.

The individual datasets can be found on github in the file `MTH225_Week12_IA2_data.zip`