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Module 6 Discussion

It is interesting to see you doing the discussion int Matlab. I have very little familiarity with the software, but I know that some people highly prefer it. I come from a statistics background, so in my undergraduate coursework we'd always use RStudio instead.

In the first part of the problem I also created two binary indicator variables for the two treatments. However, my model was not nearly as large, I see that including the cross terms that you have up to seven total coefficients. I am not sure exactly what your approach is, but you do reference a page from the textbook. In my model, I only had up to x_2 and β_3 to account for the interaction term. Looking at the expected values, however I had something similar, minus the additional coefficient that you have. However, I did also leave out the x_1 and x_2 term to show that it was still random for the case of when the expectation is conditioned on either A and B or a and b. Looking towards the last part of part a), I also did something similar where I just looked at all the possible pairs and took the difference between the expected values. I wasn't too sure on the interpretation of this step however.

In the second part, I see that you started out with the ANOVA model, but you seem to change it into the regression model as done in the textbook. I was considering this for a while also at the beginning. I am not sure which approach is ideal. However, similar to you, once I had derived some sort of way to show the expected value based on the ANOVA representation, I just repeated what was done in part a). I notice that you have quite a few ε terms, I am not sure if they are meant to be coefficients like τ. If you look at one of the homework problems, it shows a good example of the two-way ANOVA model, which I think is what this part b) is referring to. That is the source that I ended up using to work on this part of the problem. However, I can't say with certainty if it's correct or not.