Larissa Final Exam

The dataset **experim2.csv** is a manufactured data set referring to a fictitious study that involves testing the impact of two different types of interventions in helping students cope with their anxiety concerning a forthcoming statistics course. Students were divided into two equal groups and asked to complete a number of scales (Time 1). These included a Fear of Statistics test scale (fost), Confidence in Coping with Statistics scale (confid) and Depression scale (depress). One group (Group 1) was given a number of sessions designed to improve mathematical skills; the second group (Group 2) was subjected to a program designed to build confidence in the ability to cope with statistics. After the program (Time 2) they were again asked to complete the same scales that they completed before the program. They were also followed up three months later (Time 3). Their performance on a statistics exam was also measured.

For each of the following, (a) identify the correct hypothesis test to run, (b) run the analysis in R (using all the steps we covered for each test), and (c) present your summary in a brief APA-formatted report.

1. Using the data file experim2.csv (found on Dropbox), find out if there is a statistically significant difference in the mean score for males and females on the Total Fear of Statistics (FostMean) measure. Present this information in a brief report.
2. Was the intervention effective in increasing students’ confidence in their ability to cope with statistics? You will need to use the variables, confidence time 1 (confid1) and confidence time 2 (confid2).
3. Perform a one-way between groups ANOVA to compare the average confidence level (ConfidMean) for the five different age groups (age\_group): 18-24yrs, 25-32yrs, 33-40yrs, 41-49yrs and 50+yrs. Make sure to assess for homogeneity of variance, eta-squared, and post-hocs (if appropriate). Also, create a source table. Include this information in your write-up.
4. Conduct a two-way between-subjects ANOVA to explore the effect of sex and age group on the mean fear of statistics (FostMean). Make sure to create the interaction plots, assess for homogeneity of variance, eta-squared, and post-hocs (if appropriate). Also, create a source table. Include this information in your write-up.