The purpose of this assignment is to understand basics of statistical significance testing. We are interested in analyzing given datasets and performing T, Analysis of Variance (ANOVA) and Multivariate analysis of variance (MANOVA) tests. Please use the R programming language for this assignment.

Tasks:

Imagine that you're conducting user studies to evaluate several types of menus for their performance on navigating. Here, please compute ANOVA and pairwise-t-test for each scenario.

1. First dataset contains user id, type of menu and time. There are a total of 40 users, 10 each for a particular menu type. So, there are 4 group of users and it's an between-group design.
   ANOVA (**25pt**)
   Pairwise-t-test (**25pt**)

2. Second dataset user id, type of menu, error and time. There are a total of 10 users, each user testing each menu type. It's with-in subject design.
   ANOVA(**25pt**)
   Pairwise-t-test (**25pt**)

Bonus:
Visualization (**5pt**):
For each scenario, you need to report your results using graphs. For this part you can use any kind of graph plotter. It can be any relevant plot which visualizes data points, mean, sd etc..

Writing (**5pt**):
Please follow the conventional way of reporting results in the CHI community. You can go through HCI research papers to get an idea of how results are reported.

The assignment is to be done in groups of 2. However, each member needs to submit it separately. Each group will have separate datasets, so please make sure to fill out the google sheets form and select your group number by writing your and your team partner's name against the group number.
https://docs.google.com/spreadsheets/d/1tyuW9U46KPTjL6jVAJNdk-BVb1RoHX-nSdxxbQKOv8Y/edit?usp=sharing

Datasets:
https://drive.google.com/open?id=1UkJweOgCfi1fYQEH6r7b6p7gLJK0TEh5

Submission - Along with the code, you have to submit a report on what insights you gained from the data after performing the tests. You can go through HCI research papers to get an idea of how results are reported.