Continue on working on the Kaggle data set (Technology Usage, Stress and Welness) . You need to use the variables created in the first question to answer following questions.

a) Use the dataset in Q1. First create a categorical variable that has three levels from "sleep quality": "Low" (ratings of 1,2 and 3), "Medium" (rating of 4) and "High" (rating of 5). Assign the name "sleep_cat" to this factor. (0.5p)

b) Check the distribution of the variables "daily screen time hours", "mental health score" and "phone usage" for each age generation group and for each sleep quality categories. Interpret your findings. (1.5p)

c) Analyze whether the variables "phone usage" and "daily screen time" are affected from factor "generation (age_cat)" and from "sleep quality level (low, medium and high))" of the patients separately. First test the assumptions of the statistical method by using corresponding tests and plots. Write your conclusions. (6p)

d) Analyze the effect of sleep quality levels and age generation groups together on daily screentime hours. Analyze whether the interaction of two term is significant. Interpret your findings. (2p)

NOTE: Do not forget to confirm assumptions and to do multiple comparisons! Apply post hoc tests to see where the differences source from. Apply three different post hoc tests and compare their findings.