PSYC 2300 Assignment 2 Solutions and Rubric

General
- - 1 Don't remove time out trials.
- - 1.5 Don't do between-subject average.

Question 1
For the first 5 subjects in your data set (i.e, the ones with the five lowest subject IDs), calculate a ROC curve for each subject and plot the resulting curves. Include all 5 curves on a single plot with a legend showing the subject indices (which may not be numbered 1 to 5 since you have been given a random subset of the subjects to analyze).

2.5 points
- + 0.5 Work shown.
- + 0.5 Correct answers 1 subject.
- + 0.5 Correct answers all subjects.
- + 0.5 Axes labeled, legend, single plot.
- + 0.5 Explanation of analysis in write-up.
  - Credit as long as it is reasonable. The write up partly serves as an opportunity for students with mistakes in their analyses to earn points.

Question 2
Calculate a between-subject average ROC curve, averaged across all subjects. To produce the average ROC, first calculate the HR and FAR for each individual subject and then average across subjects.

2.5 points
- + 0.5 Work shown.
- + 1.25 Correct answers.
- + 0.25 Axes labeled.
- + 0.5 Explanation of analysis in write-up.
  - Credit if mainly re-iterating from question 1.

Question 3
Averaged across all subjects (i.e., "between-subject average"), plot the hit rate as a function of study-test lag. In your write-up, comment on the results – do we see a clear effect and does it match what you would expect? Make a hypothesis/draw a conclusion from the data.

2.5 points
- + 0.5 Work shown.
- + 1.25 Correct answers.
  - I would check trend of first 10 or so data points.
- + 0.75 Reasonable hypothesis/conclusion.

- o Expect Hit Rate to decrease with study-test lag, as it is harder to recognize items from longer ago.
    - We do see this trend for earlier data points. However, for later data points there is not as clear/clean a relation, due to the scarcity of trials at those higher lags. With the between subject-average, we get some noisy data points at higher lags (some will have HR = 1).

Question 4

Averaged across all subjects (i.e., "between-subject average"), report the mean reaction time for hits, false alarms, misses, and correct rejections. In your write-up comment on the results – do we see a clear effect and does it match what you would expect? Make a hypothesis/draw a conclusion from the data.

2.5 points
- + 0.5 Work shown.
- + 0.5 Correct answer for 1 of the categories.
- + 0.75 Correct answer for all the categories.
- + 0.75 Reasonable hypothesis/conclusion.
    - o Expect Hits and Correct Rejections to be faster than Misses and False Alarms. On trials where the participant is correct, we expect those to be easier, faster decisions, whereas the trials where the participant is incorrect, they may have to do more thinking.
        - May also expect Hits to be faster than Correct Rejections, since easier to recognize something you have seen than something you have not seen.