1. Suppose we are interested in the log odds between each pair of `MCQ` items. Calculate these log odds statistics, and p-values for the null hypothesis that they equal zero.

2. For every distinct pair of columns between 9 and 28 in the data, carry out the following two analyses:

   (a) Calculate the Pearson correlation between the two columns, and test whether it differs from zero.

   (b) Dichotomize the data at the column-wise median value, calculate the log odds statistic between the two columns, and test whether it differs from zero.

3. Suppose we are interested in whether males and females in each 5-year age window differ on the variables in columns 9 through 28. Carry out separate permutation Z-tests comparing these subsamples in terms of their mean, and in terms of their variance.

4. Suppose we are interested in whether lab results (columns 9 through 28) differ based on the fasting duration. Calculate Z-statistics comparing these values for every subsample defined by gender and age (by 5-year window). Use bootstrapping to construct a 95% confidence interval for each Z-statistic.