Week 13 Simulation Study Exercise

Stat 61

11/30/22

Group members:

Instructions

Choose one group member to complete this worksheet on behalf of your entire group discussion. Worksheet must be handed in to Prof Suzy at the end of class.

You are going to design a simulation study (similar to the one we did in class regarding the ANOVA model) to investigate what "random noise" can look like in the context of a chi-square test for homogeneity. Please answer the following questions to the best of your groups' ability as they are meant to guide you through this exercise.

1) What is the true, data-generating model that you will use to generate many observed data from? Recall, this model should reflect a scenario in which we would fail to reject the null hypothesis that the probabilities of each outcome are the same.

2) How many times will you generate new data sets and how will you summarize these (categorical) data?

3) Do you see (in any of your simulated data sets) patterns that look like they come from a non-homogeneous population model? How often does this occur in your simulations?