Exercise 5 Notes
Coin Flip

The purpose of this exercise is to reinforce learning objectives surrounding sample data and uncertainty, to strengthen a foundation in probability and build up to inferential statistics.

Let's work in our groups that we've been using for the Netflix exercises. Before beginning, each member must download Excel file "ex5worksheet.xlsx" located in our Week 8 module.

Part 1

(A) Flip a coin 10 times and record your observations in the Excel file under "Trial A" as follows:

1. Denote whether each respective toss was (H) heads or (T) tails (e.g., H, T, T, H, ..., T)

2. Recode your observations into numeric variables, where H = 1 and T = 0 (e.g., 1, 0, 0, 1, ..., 0)

3. Sum the number of Hs

4. Calculate a sample proportion: $\hat{p}H = \frac{\text{Number of Heads}}{\text{Total Tosses (10)}}$

5. Have one member of your group record each member's sample proportion on a piece of paper and turn this in to the instructor.

Part 2

(B) Flip a coin 30 times and record your observations in the Excel file under "Trial B" as follows:

Repeat steps 1 through 3 above

Adjust the denominator to calculate a sample proportion: $\hat{p}H = \frac{\text{Number of Heads}}{\text{Total Tosses (30)}}$

Have one member of your group record each member's sample proportion on a piece of paper and turn this in to the instructor.

Part 3

After your group has turned in their sample proportions for Trial B, complete the "Coin Toss" practice quiz available in our Week 8 module.

Part 4

As a class, we will collectively review the practice quiz results and sample statistics that will be analyzed and shared by the instructor.