STA 198F, Fall 2020: Probabilities Everywhere

Class activities for Week 5

Homework whole-class discussion: As a group, we will discuss last week's homework readings and questions. Be sure to participate actively, and raise your hand often!

"Gambler's Ruin" Mathematical Solution. (Continued from last week.)

Homework assignment:

1. Ask <u>at least</u> ten (hopefully more) first-year U of T students the poll question "Do you think online classes are easier to manage than in-person classes?" (Try to sample students "randomly" if possible, but it is okay if you ask your friends / classmates / social media contacts / etc. Above all, do not make up any answers, only take <u>genuine</u> samples.) Keep track of the total number of "Yes" and "No" and "Neither" (i.e., Don't Know or Not Sure or Can't Answer or Refuse to Answer) responses. Make note of any other observations, like how quickly students answer, how certain they seem, whether students in different classes seem to answer differently, etc. Record your totals on your homework, and also <u>upload</u> your totals to the Google Spreadsheet linked from: **www.probability.ca/sta198poll**

Then, read the beginning of Chapter 4, from page 44 to the end of page 51, and also from the middle of page 60 ("Patience, Patience") to the end of page 62. While you read, consider (and make brief notes about) the following questions:

2. What is the point of the Larry Bird and bowling examples?

3. Do you play bridge? Poker? Other games of chance? Do you enjoy them?

4. In bridge, what is a "finesse"? How do expert players differ from novices when it comes to finesses?

5. What is duplicate bridge? To what extent does duplicate bridge eliminate luck from bridge? Explain. How is this related to the "Bridge Bickering" story?

6. In poker, what is the probability of successfully drawing to a Flush? How does this depend on the opponents' face-up cards?

7. What is the difference between drawing to an Inside Straight and an Outside Straight? How are the probabilities related? Why?

8. Explain the probability calculation in the "Showdown" story on page 50.

9. What are "pot odds"? How can they help make decisions when playing poker? Explain the pot odds calculation on page 51.

10. Why is "patience" required to be successful at games of chance? How is this related to the Portuguese Postal Puzzle story?

11. Think of <u>at least</u> one example from your own life in which you had a high probability of winning or succeeding at something, but you still didn't win due to bad luck and insufficient repetition.