DATA 271 Spring 2025
Final Project Description

Overview:

You will work in groups of 3-4 to develop an in-depth analysis of a tabletop game and present your findings to the class.

Key steps include (1) choosing among a list of games to play, (2) creating a PostgreSQL database of the variables, parameters, strategies, and outcomes of interest, (3) populating the database through a minimum of 5 rounds of gameplay, and (4) mining that database for insights using descriptive statistics, data visualizations, and your choice of an explainable and predictive ML/AI model.

Project deliverables:

1. A **project proposal** that addresses key steps 1 and 2 above, **due April 3**.

2. A **draft R Markdown document** that includes most of the data and analysis from steps 3 and 4 above, **due May 1.** I will provide support and feedback to your team on this draft document before and after the due date.

3. A **10-minute final project presentation** that walks us through the game, the database components, the analysis, and any opportunities for further investigation. **Due in class May 12**.

Example games to choose from (no repeats; first come, first serve):

- Battleship
- Acquire
- Texas Hold 'Em
- Codenames
- Risk
- Ticket to Ride

Things to consider:

You'll likely have to play your chosen game a few times to come up with the feature and target variables you want to include in your final model. (Please note that these initial rounds are exploratory and as such may not count toward the minimum of 5 rounds of gameplay needed to populate the database.) Once you have settled on these variables (which must be part of your project proposal due April 3), I will develop a simple Shiny App that your team can use to collect and write the data to your team's PostgreSQL database. These apps will be available to your group no later than April 15.

Once the data collection app is available, you may recruit friends and family to play the games, as the more data generated the better. But at least one member of the group must be present at these games so they can record the data in the provided app. Most games take between 20-45 minutes, so play early and often to ensure you've got enough data to analyze.