Part I (due at the beginning of class Friday, November 7, 2025)

Read Chapter 7.

Reading Questions

1. Exercise 7.7

Part II: Exercises (prepare for class Friday, November 7, 2025)

1. Consider the first two moves of the following games as a whole game in themselves. For each game, answer these three questions:

    (i) How many branches does the game tree have?
    (ii) How many strategies does Player 1 have?
    (iii) How many strategies does Player 2 have?

    (a) Regular Tic-Tac-Toe
    (b) "Infinite" Tic-Tac-Toe
    (c) Identity Crisis Tic-Tac-Toe

Part III: Homework Problems (due Wednesday, November 12 at the beginning of class)

1. Consider the 2×2 matrix game

$$
\begin{array}{cc|cc}
 & & \multicolumn{2}{c}{\text{Colin}} \\
 & & \text{A} & \text{B} \\
\hline
\text{Rose} & \text{A} & a & b \\
 & \text{B} & c & d \\
\end{array}
$$

in which $a, b, c, d \geq 0$. True or false: an increase in any one of a, b, c, or d cannot lead to a lower expected payoff for Rose. If true, prove; if false, give an explained counterexample.

Friday's mini-Celebration of Learning

Equalizing expectations (from a given matrix game) and matrix games in context: as in, given a description of a game, create a matrix for that game and then solve the game.