Part I (due at the beginning of class Wednesday, October 29, 2025)

Read pages 13–19 (most of Chapter 3).

Remember that what you turn in for Part I should have 3 parts, as mentioned in the syllabus:

(a) Your responses to the reading questions below.

(b) Your own questions/comments on the reading.

(c) The amount of time you spent on Part I (including the time spent reading).

Reading Questions

1. Using the reduced game from Exercise 2 in Chapter 2, find the following:
   (a) The expected value for Colin C if Rose plays A $\frac{3}{4}$ of the time and D $\frac{1}{4}$ of the time.
   (b) The expected value for Colin E if Rose plays A $\frac{3}{4}$ of the time and D $\frac{1}{4}$ of the time.
   (c) The expected value for Rose A if Colin plays C $\frac{2}{3}$ of the time and E $\frac{1}{3}$ of the time.
   (d) The expected value for Rose D if Colin plays C $\frac{2}{3}$ of the time and E $\frac{1}{3}$ of the time.

   Here's the reduced game for your reference:

		Colin C	Colin E
Rose	A	1	2
	D	2	0

Part II: Exercises (prepare for class Wednesday, October 29, 2025)

1. Chapter 2 Exercise 4
2. Chapter 2 Exercise 6
3. Find the oddments for Rose and Colin in the reduced game from Chapter 2 Exercise 2
4. Chapter 3 Exercise 3

Part III: Homework Problems (due Wednesday, November 5 at the beginning of class)

1. We had examples in class of a game that had 3 saddle points and all the saddle points were in the same row (and we agreed they could be in the same column).
   (a) Is this always the case? As in, if a game has 3 saddle points, must those saddle points be all in the same row or all in the same column? Prove or disprove (give an explained counterexample) your answer.

(b) Generalize your answer to part (a): if your answer was yes, then for what numbers of saddle points must the saddle points all be in the same row/column? If your answer was no, what configurations are possible for saddle points? Form as strong a conjecture as you can and prove it or form as many conjectures as you can and disprove all of them with explained counter examples.