Fall 2023
14.12 Game Theory
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Problem Set 3

Due: Monday, October 2 (10:00am EST)

You are encouraged to work together on the problem sets, but you must write up your own solutions. Consulting solutions from previous semesters (released by the instructor or written by other students) is prohibited. Problem sets must be submitted electronically through Canvas.

Late problem sets submitted within 24 hours of the deadline will be accepted with a 50% penalty. Problem sets more than 24 hours late will not be accepted. Make sure to allow yourself enough time to complete the submission process. (If you have technical difficulties, you may email your problem set to the TA by the deadline.)

Problem 1 (Nash equilibria in extensive form games)**.** Exercise 5.6.

Problem 2 (Nash equilibria in strategic form games)**.** Compute all Nash equilibria (both pure and mixed) in the following two-player game:

	L	C	R
T	$1,3$	$1,0$	$3,2$
M	$3,0$	$1,3$	$3,2$
B	$0,4$	$-1,0$	$2,3$

Hint: Eventually, you may want to separate into cases according to the probability with which Player 1 plays T.

Problem 3 (Insider trading, revisited)**.** Reconsider the insider-trading setting of Problem 3 on Problem Set 2.

1. Compute the set of Nash equilibria (in pure strategies), and briefly discuss your finding.

2. Assuming $v_E > \frac{1+\delta}{2} v_I$, can you find a price p^* for which there is a Nash equilibrium in which the players may trade? (The price p^* need not satisfy the inequality imposed on p in the problem statement.)

Problem 4 (Tariffs)**.** Exercise 6.1.