Economics 147: Bargaining Theory and Applications

Fall 2011

Homework 3

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1. Trading houses:

Two neighbors are deciding whether to trade houses (T) or not (N). Both neighbors must agree to trade for a trade to take place and no money is involved (just an exchange of houses). Each house is equally likely to be good (G) or bad (B). This probabilities are independent. Each neighbor is bored of her house and would earn an additional utility of 0.25 if she moves. In addition, for both of them, the value of living in a good house is 1 while the value of a bad house is 0.

a. Find the payoff matrixes for the four possible states of nature.

b. What is the set of strategies for each neighbor?

c. Find the matrix of expected payoffs (a cell in the matrix provides the expected payoffs as a function of a pair of strategies).

d. Find the BNE.

e. Are these equilibria efficient?

f. How does this relate to the First Welfare Theorem?

1. Wait, wait, don't tell me!

Consider the following game:

State A (1/2)

	L	M	R
U	1, $\frac{1}{2}$	1, 0	1,$\frac{3}{4}$
D	2, 2	0, 0	0, 3

State B (1/2)

	L	M	R
U	1, $\frac{1}{2}$	1, $\frac{3}{4}$	1, 0
D	2, 2	0, 3	0, 0

a. Assume that neither player 1 or player 2 know the state. Find the normal form of the game and the Nash equilibrium.

b. Assume now that player 2 knows the state but player 1 does not. Find the Bayes-Nash equilibrium. (Tip: In this case it is easier to eliminate dominated strategies than to find the normal form of the Bayesian game).

c. Is more information always better in games?

2. Solve the following exercises from the textbook: 282.1 and 307.1.