Recitation Two Problems

Problem One

For this problem, consider the normal form game represented in the following bi-matrix:

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		L	C	R
1	U	12,8	8,10	0,4
	M	5,3	5,1	5,1
	D	0,10	6,12	12,9

a) Write down the set of players, each player's set of strategies, and the payoff function of each player.

b) Give an example of a mixed strategy for player 1 and write it as a function whose domain is the set of pure strategies for that player.

c) Does either player have either a strictly dominant or weakly dominant strategy? How about any strategies that are either strictly dominated or weakly dominated?

d) Consider a new game that is the same as the one above but where we do not include strategies that are strictly dominated. Does this new game have any dominant or dominated strategies for either player?

e) What do you think the outcome would be if two rational players played this game?

Problem Two

For this problem, consider the illustation below.

a) Convince yourself that the illustration is a valid game tree that represents an extensive form game.

b) Which of the following two options correctly describes a strategy for player 1?
    i)   play B
    ii)   play B and then play x if there is a need to choose between x and y

c) Suppose player 2 plays U if player 1 has played A and plays D if player 1 has played B. Is this a valid strategy?

d) Represent the game in normal form.