

Recitation Four Problems

Problem One

Find all the Nash equilibria of the following games:

a)

1/2	L	R
U	3,2	1,1
D	1,1	3,4

b)

1/2	L	R
U	1,1	0,0
D	0,0	0,0

c)

1/2	L	C	R
U	3,2	5,0	1,1
M	0,5	10,2	0,3
D	1,1	4,3	3,4

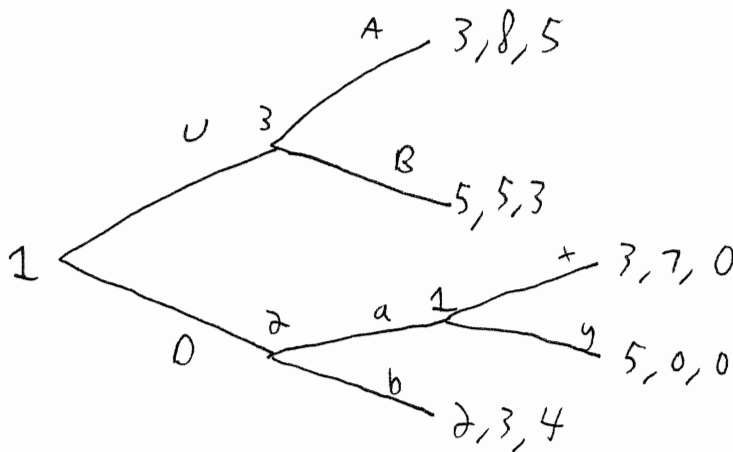
d)

1/2	L	C	R
U	1,1	0,0	0,0
M	0,0	1,1	0,0
D	0,0	0,0	1,1

Problem Two

Use backwards induction to find a Nash equilibrium for the following games:

a)



b) Two players play a game to decide how to divide one dollar. There are N rounds. In even-numbered rounds, player 1 is the proposer and player 2 is the responder. In odd-numbered rounds, the roles are reversed. The proposer of each round offers a division of the amount of money remaining, and the responder can either accept or reject this proposal. If the responder accepts, the game is over and the players split the money in the agreed-upon manner. If the responder rejects, the game goes to the next round and the amount of money shrinks to the fraction δ (where $0 < \delta < 1$) of whatever it is at (with the exception being that if the responder of round N rejects, the game is over and both players receive 0). Assume that the dollar can be divided in a continuous manner and that “ties” are broken in favor of accepting. The utility of each player is the amount of money he receives, regardless of what round it is received.