Finitely Repeated Games having Multiple Equilibriums

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One more example

- Consider the following stage game which repeated twice:

P1\P2	L	R	C
U	4,3 +(1,4)	0,0 ((1,4)	(1,4) +(1,4)
D	0,0	2,1	0,0

- NE?

- We know that in the last stage (the smallest subgames) players would take the actions that lead to the stage NE. In the earlier stage, can the players take the action which would not give NE in a stage game? (0,4) 2 (1,4)

- The role of pre-game talk?
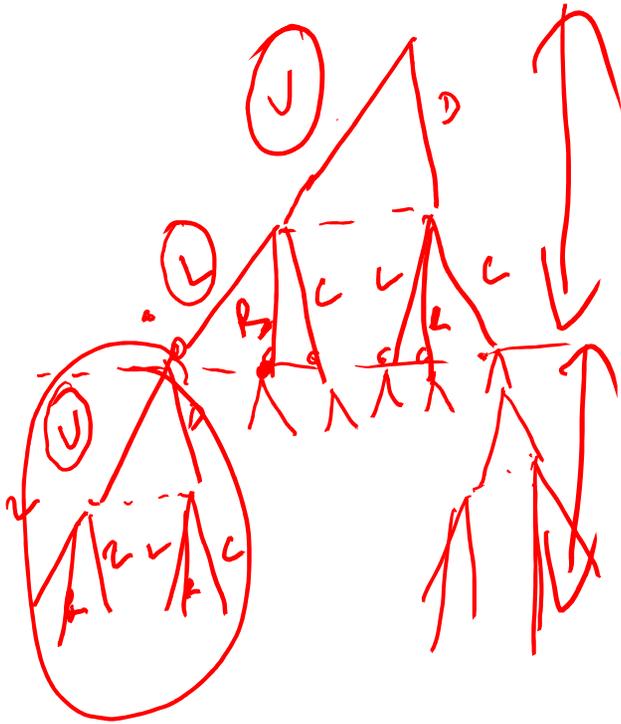
1) Player 1 always play U.
   Player 2 always play C

2) Player 1 plays U & in first
   stage (
   2 ——— C ———

   in second stage at P1 & P2
   they always play (D, R)

3)

One more example

=> 3+4=7

4+1=5

P1\P2	L	R	C
U	4,3	0,0	1,4
D	0,0	2,1	0,0

4+2=6

- SPNE giving Nash Equilibrium in all the subgames.

(D, R)

- Consider following strategy for players: or

(U,C)

  – Player 1: Play U in the first stage, play U in the second stage if player 2 Plays L in the first stage, play D otherwise.

  – Player 2: Play L in the first stage and then, play C in the second stage if she plays L in the first stage, otherwise play R in the second stage

Finitely Repeated Game

- Two different cases:

- For a simultaneous move game with unique Nash equilibrium, or a sequential move game with a unique subame perfect Nash equilibrium: Unique SPNE

- For a simultaneous move game with multiple Nash equilibria: Multiple SPNE.