HW 22.2

Wednesday, November 11, 2020 11:32 AM

Passed Solution Review

2. Find conditions on the discount factor under which cooperation can be supported in the infinitely repeated games with the following stage games.

1 \ 2	C	D
C	2, 2	0, 4
D	4, 0	1, 1

(a)

1 \ 2	C	D
C	3, 4	0, 7
D	5, 0	1, 2

(b)

1 \ 2	C	D
C	3, 2	0, 1
D	7, 0	2, 1

(c)

Use the grim-trigger strategy profile.

a) $\frac{2}{1-\delta} \geq 4 + \frac{\delta}{1-\delta} \rightarrow \delta \geq 2/3$ Game is symmetric so δ is the same for both players

b) Player 1: $3/1-\delta \geq 5 + \delta/1-\delta \rightarrow \delta \geq 1/2$

Player 2: $4/1-\delta \geq (7-2) + 2/1-\delta \rightarrow \delta \geq 3/5$

$\rightarrow \delta \geq 3/5$

c) Player 1: $3/1-\delta \geq (7-2) + 2/1-\delta \rightarrow \delta \geq 4/5$

Player 2: C,C is already good, no reason to deviate

↳ $\delta \geq 4/5$