

1-8-Examples-2



2020年6月5日 星期五 下午2:26

$$a_{-i} = \langle a_1, \dots, a_{i-1}, a_{i+1}, \dots, a_n \rangle$$
$$a = \langle a_{-i}, a_i \rangle$$



1-8-Example...

Best Response $a_i^* = BR(a_{-i})$
 \downarrow x know a_{-i} iff. $\forall a_i \in A_i, U_i(a_i^*, a_{-i}) \geq U_i(a_i, a_{-i})$
Nash Equilibrium $\forall i, a_i \in BR(a_{-i})$



Game Theory Online

Nash Equilibrium of Example Games

Game Theory Course:
Jackson, Leyton-Brown & Shoham

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Nash Equilibrium of Example Games

Nash Equilibria of Example Games

both cooperate - both higher payoff

$\rightarrow C$	-1, -1	-4, 0
$\rightarrow D$	0, -4	-3, -3

$C \vee$ punish $C \times$ free
both \times coop
most severe punish

U_i Defect other \vee (\times) only Nash equilibrium - strong
 $(\text{better} > C)$

Game Theory Course: Jackson, Leyton-Brown & Shoham

Nash Equilibrium of Example Games

Nash Equilibria of Example Games

	C	D
C	-1, -1	-4, 0
D	0, -4	-3, -3

	Left	Right
Left	1, 1	0, 0
Right	0, 0	1, 1

both = - both fine
mis - collapse \geq Nash 1 left - U_i left
Right - U_i right

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	Left	Right
Left	1, 1	0, 0
Right	0, 0	1, 1

	B	F
B	2, 1	0, 0
F	0, 0	1, 2

both happy $w \rightarrow H$
diff. (\times) happy
both happy $H \rightarrow w$
 \geq Nash $B \rightarrow F$ $F \rightarrow B$
 F goes to go so movie select by other party

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	Left	Right
Left	1, 1	0, 0
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	B	F
B	2, 1	0, 0
F	0, 0	1, 2

	Heads	Tails
Heads	1, -1	-1, 1
Tails	-1, 1	1, -1

cycle - no Nash

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Nash Equilibrium of Example Games