W2.summary

2020年6月11日 星期四　　下午1:46

Matching pennies – no pair of deterministic strategy

Play randomly – mixed strategy

prob. distri

i – S_i – A_i – $\frac{a_i}{z_i}$

S_i

S

support

– $s \in S$ payoff – Expected Utility $\Pr(a|s) = \prod_{j \in N} s_j(a_j)$

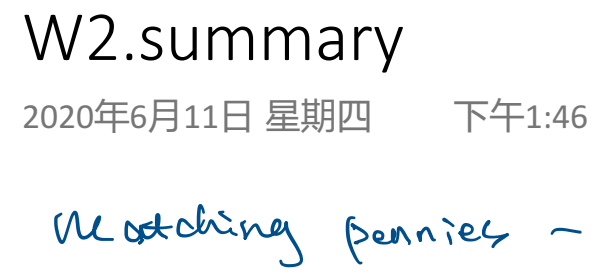
$u_i(s) = \sum_{a \in A} u_i(a) \cdot \Pr(a|s)$

Best response i – s_i^* s_i $u_i(s_i^*, s_{-i}) > u_i(s_i, s_{-i}) \Rightarrow s_i^* \in BR(s_{-i})$

Nash Equilibrium i – $s_i = BR(s_{-i}) \Rightarrow s = \langle s_1, \dots s_n \rangle$

finish game has Nash Equilibrium

– Battle of the Sex



player2 randomize → player 1 indifferent: B. F → $U_1(B) = U_1(F)$

player1 randomize → player 2 indifferent: B. F → $U_2(B) = U_2(F)$

– soccer penalty kicks

Kicker/Goalie		Left	Right
3/7	q	Left	0, 1	1, 0
4/7	1-q	Right	0.75, 0.25	0, 1

(Left: p, Right: 1-p; 3/7, 4/7)

kicker payoff change

- Goalie adjust – kicker indifferent – more vin
- ↳ kicker adjust, – more weak.

mixed strategy Nash equilibrium – randomize. indifferent.