

CS378

Autonomous Multiagent Systems

Spring 2004

Prof: Peter Stone
TA: Mazda Ahmadi

Department of Computer Sciences
The University of Texas at Austin

Week 9b: Thursday, March 25th

Good Afternoon, Colleagues

Are there any questions?

Good Afternoon, Colleagues

Are there any questions?

- Where do the numbers come from? Do they matter?

Good Afternoon, Colleagues

Are there any questions?

- Where do the numbers come from? Do they matter?
- Proportional games

Logistics

- Schedule overview
- Be working towards progress reports!

Game Theory

- Multiagent systems
- Economics
- Social science, law, etc.

Bach/Stravinsky

- My wife and I agree to meet at a concert

Bach/Stravinsky

- My wife and I agree to meet at a concert
- Unfortunately, there are 2: Bach and Stravinsky

Bach/Stravinsky

- My wife and I agree to meet at a concert
- Unfortunately, there are 2: Bach and Stravinsky
- No time to get in touch with each other

Bach/Stravinsky

- My wife and I agree to meet at a concert
- Unfortunately, there are 2: Bach and Stravinsky
- No time to get in touch with each other
- I prefer Stravinsky, she prefers Bach

Bach/Stravinsky

- My wife and I agree to meet at a concert
- Unfortunately, there are 2: Bach and Stravinsky
- No time to get in touch with each other
- I prefer Stravinsky, she prefers Bach
- But most of all, we want to be together

Bach/Stravinsky

- My wife and I agree to meet at a concert
- Unfortunately, there are 2: Bach and Stravinsky
- No time to get in touch with each other
- I prefer Stravinsky, she prefers Bach
- But most of all, we want to be together
- Propose a payoff matrix

Bach/Stravinsky

		Wife	
		S	B
Me	S	2, 1	0, 0
	B	0, 0	1, 2

Matching Pennies

- We each turn put a penny down covered
- If they match, I win, if they don't, you win

Matching Pennies

- We each turn put a penny down covered
- If they match, I win, if they don't, you win

		Player 2	
		H	T
Player 1	H	1, -1	-1, 1
	T	-1, 1	1, -1

Matching Pennies

- We each turn put a penny down covered
- If they match, I win, if they don't, you win

		Player 2	
		H	T
Player 1	H	1, -1	-1, 1
	T	-1, 1	1, -1

Nash equilibrium?

Mixed strategy equilibrium

		Player 2	
		Action 1	Action 2
Player 1	Action 1	4,8	2,0
	Action 2	6,2	0,8

Mixed strategy equilibrium

		Player 2	
		Action 1	Action 2
Player 1	Action 1	4,8	2,0
	Action 2	6,2	0,8

Do actual numbers matter?