# CS378 Autonomous Multiagent Systems Spring 2005

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Week 10a: Thursday, March 31st

# Good Afternoon, Colleagues

Are there any questions?

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- What if you don't know outcomes ahead of time?
- Can strategies in the iterated case be automated?

# Logistics

• Project progress reports due next week

#### T-test vs. Paired T-test

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- Test: Your team better than UvA vs. CMUnited
- Test: Your team better than UvA vs. a set of 20 opponents
- What if neither is significant?

#### Student-led discussion

Zac on real-world uses of game theory

# Mixed strategy equilibrium

			Player	2	
		Action	1	Action	2
Player 1	Action 1	2,2		2,0	
	Action 2	3,1		0,2	

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- Pure strategy Nash equilibrium?
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Want only S,S or B,B - 50% each

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- We both know that we will both be there on the 15th.

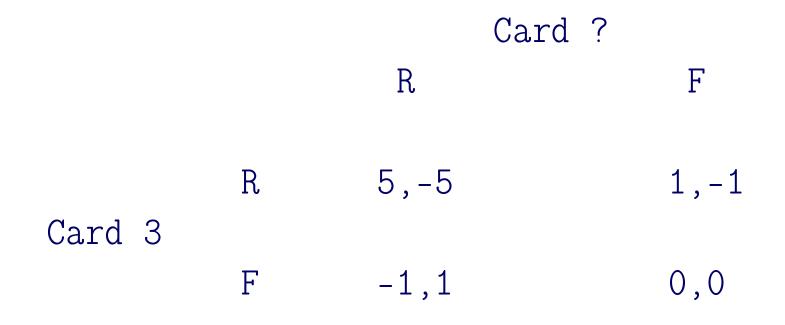
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- When and where?
- What are the Nash equilibria?

- We each get one of 3 cards: 1,2,3
- If we both fold, we both lose nothing
- If one raises and one folds, the raiser gets 1
- If both raise, the one with the higher card gets 5
- Zero sum

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Card ?

R

F

Card 3

R

5,-5

1,-1

F - 1, 1

0,0

Card? F R 5,-5 1, -1R Card 3 F -1,10,0 Card ? F R 1, -1R -5,5Card 1 F -1,10,0



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With more numbers and/or different payoffs, bluffing can be a part of the Nash Equilibrium