CS378
Autonomous Multiagent Systems
Spring 2005

Prof: Peter Stone
TA: Nate Kohl

Department of Computer Sciences
The University of Texas at Austin

Week 10a: Tuesday, March 28th

Good Afternoon, Colleagues

Are there any questions?

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- how do you find NEQ?
- what if there are multiple NEQ?

T-test vs. Paired T-test

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- Did you weigh less after the class than before?
- Who's better at tetris? Gary or Andrew?
- Who's better at video games in general?

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- Test: Your team better than UvA vs. Brainstormers

T-test vs. Paired T-test

- Test: Your team better than UvA vs. Brainstormers
- Test: Your team better than UvA vs. a set of 20 opponents

T-test vs. Paired T-test

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

Bach/Stravinsky

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- 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

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

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		Player 2 H	Player 2 T
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Nash equilibrium?

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- Every day the worker works, the supervisor makes $VALUE from his work.
- Every day the supervisor does not catch the worker shirking, he pays $WAGE.

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- The supervisor can choose to spend the day inspecting, or not.
- Every day the worker works, the supervisor makes $VALUE from his work.
- Every day the supervisor does not catch the worker shirking, he pays $WAGE.
- It costs the worker $EFFORT_W to work.
- It costs the supervisor $EFFORT_I to inspect.

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- Every day, the work robot can choose to either work, or shirk.
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- Every day the worker works, the supervisor makes $VALUE from his work.
- Every day the supervisor does not catch the worker shirking, he pays $WAGE.
- It costs the worker $EFFORT_W to work.
- It costs the supervisor $EFFORT_I to inspect.

What are the payoff matrices?

Tom's matrices

worker:

	Inspect	NoInspect
Work	WAGE-EFFORT_W	WAGE-EFFORT_W
Shirk	0	WAGE

supervisor:

	Inspect	NoInspect
Work	VALUE-WAGE-EFFORT_I	VALUE-WAGE
Shirk	-EFFORT_I	-WAGE

Tom's matrices

worker:

	Inspect	NoInspect
Work	WAGE-EFFORT_W	WAGE-EFFORT_W
Shirk	0	WAGE

supervisor:

	Inspect	NoInspect
Work	VALUE-WAGE-EFFORT_I	VALUE-WAGE
Shirk	-EFFORT_I	-WAGE

The nash equilibrium is as follows:
p(I) = EFFORT_W / WAGE
p(W) = EFFORT_I / WAGE