

CS378
Autonomous Multiagent Systems
Spring 2004

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Week 12a: Tuesday, April 13th

Good Afternoon, Colleagues

Are there any questions?

Logistics

- Final tournament times
 - M-F 10:30am, 12:30, 2:30pm?

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- Questions required on Thursday!

Distributed Rational Decision Making

Self-interested, rational agent

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The protocol is key

Evaluation Criteria

- Social welfare
- Pareto efficiency
- Stability

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- Pareto efficiency
- Stability
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- Efficiency (computational, communication)

Voting vs. auctions

- Voting: maximize social good
 - result affects all

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- Voting: maximize social good
 - result affects all
- Auctions: maximize profit
 - result affects buyer and seller

Class Discussion

Irvin Hwang on auctions (and candy bars)

Auctions

- Valuations:

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 - first-price sealed-bid
 - descending (Dutch)
 - second-price sealed-bid (Vickrey)

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Revenue equivalence: private-value, risk-neutral

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 - Vickrey

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- You value a bunch of flowers at \$100
- What strategy if auction is:
 - English
 - first-price sealed-bid
 - Descending
 - Vickrey
- What if it's an antique?

Auctions

- Vickrey, English are truthful

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 - Private value case: why?
- In common (and correlated) value case, bids lower in all mechanisms
 - Why?