CS395T
Agent-Based Electronic Commerce
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Week 2b

Logistics

- Any registration problems?

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- Any questions?

Some Terms/Concepts

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  - 2 reasons for shading bids

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- Jump bids

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Hint: Expected kth highest of n random draws from a uniform distribution $[0, 1]$ is $\frac{n+1-k}{n+1}$.

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- So expected payment in 2nd price auction is $(\frac{n-1}{n})(\frac{v_i^n}{\bar{v}^{n-1}})$
- In an all pay auction, win in exactly same cases, but always pay, so make the same expected payment — that's the bid.

Auction Efficiency - game theory view

In the asymmetric case, first-bid auctions aren't necessarily efficient in equilibrium.

- Bidder 1 has value of $101
- Bidder 2 has value of $50 4/5 of time, $75 1/5 of time
- Bidder 1 bids $51 gives $50 profit 4/5 of the time, so expected profit of $40
- Bidder 1 bids more than $62 gives less profit even if he wins
- So if bidder 2 has value of $75, she can win by bidding $62.
- That's an inefficient outcome