

CSCE 475H Multiagent Systems
Game Day 3: Auction Day
Game Package
March 17, 2016

Introduction

Welcome to Soh’s Auction House. Today, we have a collection of rare items, in mint condition, to offer to you—our much appreciated and esteemed collectors who are intelligent and skilled in many auction protocols. Hope you succeed in your ventures today. Good luck.

This document is supplementary to Game Day 3: Auction Day assignment.

Monopoly Money

You have a total of \$2,600 to start the Game Day. Check your money. Make sure that the amount is correct.

Procedure

There will be at least 10 rounds of auctions. We are hoping to have 15 rounds. Use your Worksheet to document your activities, attached.) For every item that you bid, regardless of the auction outcome, you have to pay a fee to participate: \$2. The participation fees must be submitted to the Game Day Monitor after every 5 rounds. Thus, the fees for rounds 1 – 5 will have to be paid before the start of round 6; for rounds 6 – 10, before the start of round 11 and so on. If you sit out of a round, then you will not have to pay a fee for that round. For example, if you participate in rounds 1, 2 and 5, and sit out of rounds 3 and 4, you will have to pay \$6 before the start of round 6 to the Game Day Monitor.

You can bring your textbook and notes to make sure that you follow the auction protocols correctly. Failure to follow the protocols will cost you \$10 per violation. You are not allowed to ask the Game Day monitor any questions about the protocols during the game.

Protocol
English Auction (first-price, open-cry)
Japanese Auction (first-price, open-cry, open-exit)
Dutch (descending) Auction
First-Price Sealed-Bid Auction
Vickrey (Second-Price Sealed-Bid) Auction

Please track your activities and observations correctly: your bids, items that you have won, and observations about the other agents in the auction. The more you track and record onto your worksheets, the more “observant” your team is as an agent. (Note: Since this Worksheet is available to you in electronic form, you may expand the spaces allocated to each round to record your observations.)

Some rounds will require each participating team to submit their bids online using a website. The URL will be announced on the Game Day.

Each round will have a set allotted time for the bidding to start and close. Each team must abide by these allotted times.

After a winner is declared, a transaction must follow: The winning team must pay the Game Day Monitor, and the Game Day Monitor will give the item won to the winning team. If the winning team does not have enough paper money to pay for the item won, they will be *effectively* penalized twice the winning bid for the mistake (That is, if they bid \$100 to win the round, and they can't pay for the item, then they will be penalized -\$200 without receiving the item. The second-price team will win the round instead and will be required to complete the transaction accordingly.)

Your Utility and Money

As required from the Assignment,

Prior to the start of the auction day, each team MUST provide the Game Day Monitor their valuations of the items. To make things interesting, here are some rules on your valuations of the items: (1) the maximum value is \$300, (2) the minimum value is \$0, and (3) each team must have at least one item corresponding to *each* of the following values: \$230, \$210, \$190, \$170, \$150, \$130, \$110, \$90, \$70, \$50, and \$30. **Please fill out the form in the Appendix and submit the paper copy of that to the Game Day Monitor. This must be done before the Game Day starts.**

Please also duplicate your filled out form here.

Item	Auction	Valuation
1	English	
2	Japanese	
3	Dutch	
4	Sealed, First-Price	
5	Vickrey	
6	English	
7	Japanese	
8	Dutch	
9	Sealed, First-Price	
10	Vickrey	
11	English	
12	Japanese	
13	Dutch	
14	Sealed, First-Price	
15	Vickrey	

Each team's "valuation" list is only known to that team and not to other teams.

Most importantly, each team MUST win at least one item. Failure to do so will cost a team \$2,600.

Each team's goal is to achieve as high as possible a total utility of (1) the team's remaining monopoly money plus (2) the utility of the items won based on the private valuation of the team.

So, for example, if you do not participate in any of the auction rounds, you will have a sum of \$2,600 in the end. At the same time, since you will not have won any item, that means you will be penalized with -\$2,600. So, your final total utility will be \$0.

But, for example, if you participate in one round and obtain item #3 with a valuation of \$150 to you, and it only costs you \$50, then your final total utility will be $\$2,600 - \$2 \text{ (fee)} - \$50 + \$150 = \$2,698$. So, you gain \$98 in terms of utility.

Your goal is *not* to win each round, but to win the Game Day.

The group with the highest final total utility is the winner.

Game Day 3: Auction Day Work Sheet

Round 1: English Auction (first-price, open-cry)

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 2: Japanese Auction (first-price, open-cry, open-exit)

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 3: Dutch (descending) Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 4: First-Price Sealed-Bid Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 5: Vickrey (Second-Price Sealed-Bid) Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Game Day 1: Auction Day Mid-Game Analysis 1

Game Day 3: Auction Day Work Sheet (Activities and Observations)

Round 6: English Auction (first-price, open-cry)

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 7: Japanese Auction (first-price, open-cry, open-exit)

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 8: Dutch (descending) Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 9: First-Price Sealed-Bid Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 10: Vickrey (Second-Price Sealed-Bid) Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Game Day 3: Auction Day Mid-Game Analysis 2

Game Day 3: Auction Day Work Sheet (Activities and Observations)

Round 11: English Auction (first-price, open-cry)

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 12: Japanese Auction (first-price, open-cry, open-exit)

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 13: Dutch (descending) Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 14: First-Price Sealed-Bid Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Round 15: Vickrey (Second-Price Sealed-Bid) Auction

Participate? ____ Your Bid: _____ Winner: _____ Winning Bid: _____

Utility Gain:

Other Observations:

Game Day 3: Auction Day Post-Game Lessons Learned

Total # of Rounds Participated: _____

Number of Items Won: _____

Total Final Utility: _____ (Show calculations, for example, by copying your table of numbers to this page.)

Observations and Lessons Learned: