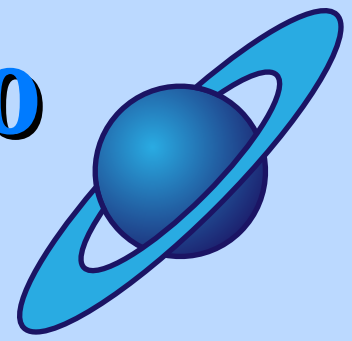




SpaceRace 9000



An Auction-Based Programming Contest

Goal: Build the best space station in the universe. Or at least, better than your friends.

Rules: Space stations are judged by their ranking in the five categories listed below. You'll design a bidding agent that acquires facilities for your station through a series of auctions.



Every facility you win adds points to your station's score in one or more categories. At the end of the contest, your station is compared to every other station. Bid wisely and create the best station this side of the Andromeda galaxy!

Setup: Your bidding agent is given a list of all facilities and the order in which they will be auctioned off. Each participant starts with 1000 Astros with which to play.

Auction: Each facility will be sold via second-price auction: agents submit bids, and the facility is awarded to the highest bidder, who pays the second-highest bid. Ties are broken randomly. All bids are revealed after each auction.

Scoring: Your station "dominates" another if it has a higher score in more categories. You get a point for every station you dominate. You also earn points for the highest score in a category.

Notes: This game is more complex than it might first appear. For example, the dominating relationship used in scoring is non-transitive. Strategies are far from obvious. There's lots of room for using techniques and ideas from AI, Machine Learning, Algorithms, and Game Theory, but even if you've only taken CS 150 there's still plenty you can do. Contest will be early May.

Interested? email tom.wexler@oberlin to be added to the contest mailing list.