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Algorithmic Game Theory

Summer Term 2024

Tutorial Session - Week 6

You are supposed to work on these tasks in class together with your fellow students. Please find groups of 2 or 3 students!

Exercise 1:
Recall the auction of k identical items from the previous exercise sets. Bidder i has value v_i if he/she gets at least one of the items, 0 otherwise. We define a mechanism as follows: the bidders who reported the k highest bids win an item. Each of them has to pay their respective bids. Show that if losers (i.e. bidders who do not get any item) do not pay anything, this mechanism is $(\frac{1}{2}, 1)$-smooth.