Algorithmic Game Theory – Handout 13

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Announcements.

- Today is the last class.
- The exam will take place on February 25, at 2pm, in Ziskind 1. It will be with closed books.
- Please submit the homework from last week (handout 12) in a week from today.

Today's class. We will wrap up last week's topic of cost-sharing games, and study Moulin's mechanism, which is group strategyproof and γ-budget-balanced.

We will then discuss the bigger picture of algorithmic game theory, and its future directions.

Reading. A concise survey of algorithmic game theory (from a theoretical perspective) can be found in [R08]. It contains many pointers, and Chapter 5 discusses future directions.

Last week's homework. Here is a correction to the hint in exercise 1 of last week's homework: Assume w.l.o.g. n is an even power of 2, i.e. $n = 2^{2k}$. Let A be the numbers between 0 and $n-1$ whose binary representation has exactly $(\log_2 n)/2$ ones. In other words, A contains all strings $j \in \{0,1\}^{\log_2 n}$ with an equal number of ones and zeros. Use the sets T_i just as defined earlier.

References

[R08] T. Roughgarden, An Algorithmic Game Theory Primer, revised version of invited survey for the 5th IFIP International conference on Theoretical Computer Science, 2008.