CS390 Computational Game Theory and Mechanism Design July 1, 2013

Lecture 1, Part 1

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In this class we gave an introduction to the game theory, which consists of two parts, Game Analysis and Mechanism Design. We talk about normal form games and which kind of situation it will finally be in.

1 Definitions

Normal-form games are defined as follows.

Definition 1 *A of a game(a strategic game) is a triple* (N, S, u).

- $N = \{1, 2, 3, ...n\}$ *represent the labels of players.*
- $S = S_1 \times S_2 \times ... \times S_n$ S_i *is the pure strategy set of each player i.* $s = (s_1, s_2, ..., s_n)$ *is the strategy profile.* $s_1 \in S_1, s_2 \in S_2 ... s_n \in S_n$

...

Theorem 1 *Normal-form games are cool.*

Proof. Thus Theorem 1 holds. □

Left	0,1
Right	1,0

Table 1: A table

Remark. ...

References

[1] M. J. Osborne and A. Rubinstein. *A course in game theory.* MIT Press, 1994.

[2] N. Nisan, T. Roughgarden, E. Tardos, and V. Vazirani (eds). *Algorithmic game theory.* Cambridge University Press, 2007. (Available at `http://www.cambridge.org/journals/nisan/downloads/Nisan_Non-printable.pdf`.)