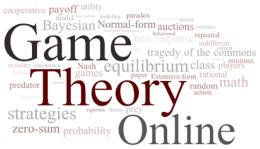

Dominant Strategies

Game Theory Course:
Jackson, Leyton-Brown & Shoham

Domination

- Let s_i and s_i' be two strategies for player i, and let S_{-i} be is the set of all possible strategy profiles for the other players
  - What's a "strategy"?
  - For now, just choosing an action ("pure strategy")

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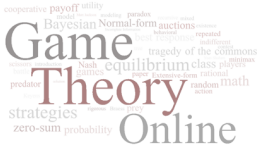
Definition

s_i strictly dominates s_i' if $\forall s_{-i} \in S_{-i}$, $u_i(s_i, s_{-i}) > u_i(s_i', s_{-i})$

Definition

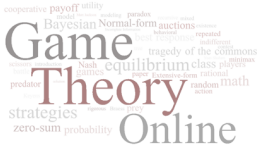
s_i very weakly dominates s_i' if $\forall s_{-i} \in S_{-i}$, $u_i(s_i, s_{-i}) \geq u_i(s_i', s_{-i})$

Equilibria and dominance



- If one strategy dominates all others, we say it is dominant.
- A strategy profile consisting of dominant strategies for every player must be a Nash equilibrium.
  - An equilibrium in strictly dominant strategies must be unique.

Equilibria and dominance



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	C	D
C	$-1,-1$	$-4,0$
D	$0,-4$	$-3,-3$