Game Theory

Definitions

Game	Strategic interaction between 2 self interested.
self interested agent	Strategic interaction between 2 self interested.
Support	All action with non 0 probability.

Strategys

Mixed Strategys

Expected Utility
$$u_i(s) = \sum_{a \in A} u_i(a) \; Pr(a|S)$$
$$Pr(a|s) = \prod_{j \in N} s_j(a_j)$$

Cartesian Product

Let the set $y = \{0, 1\}$.
Let the set $x = \{a, b, c\}$.
$x \times y = \{(0, a), (0, b), (0, c), (1, a), ...\}$
$y \times x = \{(a, 0), (a, 1), (b, 0), (b, 1), ...\}$