normal form game

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A *normal form game* is a game of complete information in which there is a list of n players, numbered $1, \ldots, n$. Each player has a strategy set, S_i and a utility function $u_i : \prod_{i \leq n} S_i \to \mathbb{R}$.

In such a game each player simultaneously selects a move $s_i \in S_i$ and receives $u_i((s_1, \ldots, s_n))$.

Normal form games with two players and finite strategy sets can be represented in normal form, a matrix where the rows each stand for an element of S_1 and the columns for an element of S_2. Each cell of the matrix contains an ordered pair which states the payoffs for each player. That is, the cell i, j contains $(u_1(s_i, s_j), u_2(s_i, s_j))$ where s_i is the i-th element of S_1 and s_j is the j-th element of S_2.