

Consider the game of Nim. There are two piles of matches and two players, where player 1 starts the game. A player in her turn can remove any number of matches from either pile. She can only remove from one pile at a time (turn). Each player is required to remove some matches if either pile has some matches remaining. The player who removes the last match wins the game. Suppose winning the game gives a payoff of 1, losing gives a payoff of -1. Suppose each pile contains three matches. Does either of the two players have an advantage in winning the game?

[See Dutta (1999) for other variations of the game above]