Query Complexity of Mastermind Variants

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Abstract

We analyze variants of the popular board game Mastermind. In this two-player game, one player submits queries with the goal of identifying a hidden sequence, constructed at the beginning of the game by the other player. More generally, we discuss asymptotics for the number of guesses needed to identify an unknown n-vector constructed from an alphabet of k possible symbols. We consider both allowing and prohibiting repetitions in the hidden vector, and we analyze both adaptive and non-adaptive guessing strategies.

References