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General solution to the spectator-first Tantalizer problem. (English) Zbl 1469.05003


Summary: This paper investigates a topic inspired by a magic trick called the “Tantalizer”, which is a card game resembling the well-known Josephus Problem. We study the spectator-first Tantalizer problem with a deck of n-cards and investigate which card is left in the end after a series of dealing operations. A formula and an algorithm with a running time complexity $O(\log n)$ based on the binary form of n are proposed to solve this problem.

MSC:
05A05 Permutations, words, matrices
00A08 Recreational mathematics
00A09 Popularization of mathematics
11B83 Special sequences and polynomials

Keywords:
Tantalizer problem; Josephus problem; card magic

Software:
OEIS

Full Text: DOI

References:

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