Coin Flip Contest

History and provenance

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A documented textbook version

Bertsekas and Tsitsiklis's *Introduction to Probability*, second-edition problem solutions, includes the general n versus $n+1$ coin-flip contest as problem 1.27 [1]. A 2015 probability course sheet by Escamilla-Ambrosio also presents the problem and a symmetry argument [2].

Its relation to this page

The numbers 850 and 851 are an instance of the same general question, with the player names possibly exchanged. The result depends on all coins being fair and independent, and on winning meaning *strictly* more heads rather than at least as many.

The symmetry pairs complete sequences of flips; it does not require the players' head counts to have identical distributions. This makes the problem a useful example of avoiding unnecessary binomial sums.

These sources establish published educational use. They do not establish the puzzle's first inventor, and I did not verify an earlier origin.

Sources

[1] Dimitri P. Bertsekas and John N. Tsitsiklis, Introduction to Probability, 2nd edition: problem solutions, problem 1.27 (updated September 18, 2015).

https://www.kevindorst.com/uploads/8/8/1/7/88177244/bertsekas_tsitsiklis_-_introduction_to_probability_-_2008_2_.pdf

[2] Ponciano Jorge Escamilla-Ambrosio, Probability, Random Processes and Inference, Serie 1 solutions, semester 2015-B, Instituto Politecnico Nacional.

https://www.cic.ipn.mx/~pescamilla/PRPI/PRPI_Serie_1_solutions.pdf

Sources checked September 7, 2026. A documented appearance is not necessarily the earliest appearance.