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Regulars

The coin tossing problem



Imagine an infinite sequence of coin tosses, and suppose you win a penny every time there is a sequence of k heads in a row followed by a tail (in other words, at every occurrence of the sequence HHH...HT of k heads followed by a tail). If k is large then you will not win pennies very often, but you will certainly win some sooner or later.

How many pennies are you likely to win in the first n tosses of the coin?

Solution



Plus is part of the family of activities in the Millennium Mathematics Project, which also includes the NRICH and MOTIVATE sites.