

S-CP Random Walk III

Task

Imagine Scott stood at zero on a life-sized number line. His friend flipped a coin 6 times. When the coin came up heads, he moved one unit to the right. When the coin came up tails, he moved one unit to the left. After each flip of the coin, Scott's friend recorded his position on the number line. Let f assign to the whole number n , when $1 \leq n \leq 6$, Scott's position on the number line after the n^{th} coin flip.

- How many different outcomes are there for the sequence of 6 coin tosses?
- Calculate the probability, before the coin flips have begun, that $f(6) = 0$, $f(6) = 1$, and $f(6) = 6$.
- Make a bar graph showing the frequency of the different outcomes for this random walk.
- Which number is Scott most likely to land on after the six coin flips? Why?



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