# 21 квітня 2021 року о 14 год 15 хв

Let (X_1,X_2,ldots) be independent random vectors in (mathbb{R}^d) having an absolutely continuous distribution. Consider the random walk (S_k:=X_1+ldots+X_k), and let (P_n:={rm conv}{0,S_1,S_2,ldots,S_n}) be the convex hull of its first (n) steps. We shall be interested in the number of the (k)-dimensional faces of the polytope (P_n) and in particular, whether this number is equal to the maximal possible number (binom {n+1}{k+1}) with high probability, as (n), (d), and possibly also (k) diverge to (infty). There is an explicit formula for the expected number of (k)-dimensional faces which involves Stirling numbers of both kinds. Motivated by this formula, we introduce a distribution, called the Lah distribution, and study its properties.

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