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Abstract : In this paper, we study the random generation of a linear program of the type P : Max cx subject to Ax < or = b. We assume these random variables to be independent and symmetric around zero and to have continuous distribution functions, therefore, transforming the random generation problem into a distribution free combinatorial problem. Making use of the theory of d-Arrangements, we compute the probabilities of P being feasible and bounded, and we also calculate the expected number of faces, of all possible dimensions, of the polytope that is the feasibility set of P, given that P is feasible.

Descriptors : *LINEAR PROGRAMMING, RANDOM VARIABLES, COEFFICIENTS, COMBINATORIAL ANALYSIS, EXPONENTIAL FUNCTIONS, ITERATIONS, SET THEORY, DISTRIBUTION FUNCTIONS, SIMPLEX METHOD, THEOREMS.

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