SYMBOLIC COMPUTING THE EXACT DISTRIBUTIONS OF L-STATISTICS FROM A UNIFORM DISTRIBUTION

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Abstract. The exact probability density function of linear combinations of $k = k(n)$ order statistics selected from the whole order statistics (*L*-statistic) based on a random sample of size *n* from the uniform distribution on [0, 1] was derived by Matsunawa (1985, *Ann. Inst. Statist. Math.*, **37**, 1–16). As the main expression for the density function given by Matsunawa is not complete for the general situation, we first provide the corrections for this formula. Second, we propose a simple scheme involving symbolic computing for evaluating the corrected version of the density function. The cumulative distribution function and the *r*-th mean of his *L*-statistic are also derived.