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Wuxing Cai, Guangzhou, Peoples Rep of China, and **Naihuan Jing*** (jing@math.ncsu.edu),
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We give an iterative method to realize general Jack functions from Jack functions of rectangular shapes. We first show some cases of Stanley's conjecture on positivity of the Littlewood-Richardson coefficients, and then use this method to give a new realization of Jack functions. We also show in general that vectors of products of Jack vertex operators form a basis of symmetric functions. In particular this gives a new proof of linear independence for the rectangular and marked rectangular Jack vertex operators. Thirdly a generalized Frobenius formula for Jack functions was given and was used to give new evaluation of Dyson integrals and even powers of Vandermonde determinant (Received August 26, 2012)