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Multi-restrained Stirling numbers. Preliminary report.

Given a positive integer m and nonnegative integers n and k , the (n, k) -th m -restrained Stirling numbers of the first kind is the number of permutations of an n -set with k disjoint cycles of length $\leq m$. By inverting the matrix consisting of the (n, k) -th m -restrained Stirling numbers of the first kind as the (n, k) -th entry, the (n, k) -th m -restrained Stirling numbers of the second kind are defined. In this talk, the explicit formulae, recurrence relations, and generating functions of the multi-restrained Stirling numbers of the first and the second kinds will be presented, and a new generating function for the Stirling numbers of the first kind will be introduced. (Received September 22, 2009)