* the number of permutations of a given number n having exactly k permutation cycles, all of which are of length r=2 or greater



* How many permutations with k cycles and j fixed points are there? J fixed points means j one length cycles.

=  or  where [] is the stirling numbers of the first kind

* Permutations without any cycle of length k

 and GF 

* Permutations with largest cycle length = k



* An r-associated Stirling number of the second kind is the number of ways to partition a set of n objects into k subsets, with each subset containing at least r elements. It is denoted by Sr( n , k ) and obeys the recurrence relation



* Denote the n objects to partition by the integers 1, 2, ..., n. Define the reduced Stirling numbers of the second kind, denoted Sd(n, k), to be the number of ways to partition the integers 1, 2, ..., n into k nonempty subsets such that all elements in each subset have pairwise distance at least d. That is, for any integers i and j in a given subset, it is required that |i-j| >= d. It has been shown that these numbers satisfy 
* For any pair of sequences, f\_{n} and g\_{n}, related by a finite sum Stirling number formula given by 

for all integers n >= 0, we have a corresponding inversion formula for f(n) given by  where {} is the second kind and [] is the first kind

* 