Lexicographic permutations

A permutation is an ordered arrangement of objects. For example, 3124 is one possible permutation of the digits 1, 2, 3 and 4. If all of the permutations are listed numerically or alphabetically, we call it lexicographic order. The lexicographic permutations of 0, 1 and 2 are:

012  021  102  120  201  210

Write a program that, given a digit $d \leq 9$ and a number $n \leq (d + 1)!$, writes the $n$-th lexicographic permutation of the digits 0, 1, 2, . . . , $d$.

(\textit{Project Euler \#24})