

acm International Collegiate Programming Contest
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Problem 1: Numbered Permutations
Executable Program : Prog1.exe, Prog1.class
Source Program: Prog1.cpp, Prog1.java, Prog1.pas
Input: Prog1.in, Output: Standard Output

Consider a set of n different elements that can be permuted in $n!$ different ways. Such permutations can be first, ordered lexicographically and then they can be numbered. For example, the set $\{a, b, c\}$ admits six permutations that can be ordered as follows:

```
1 abc
2 acb
...
6 cba
```

This example shows the 1st, 2nd and 6th permutation, Write a program that can compute the k^{th} permutation of a set of n elements in less than 1 minute. The elements of such a set are that character c and the $n - 1$ ASCII characters that follow it. The program must read a text file where each line is of the form:

```
k n c
```

where k and n are integers: $1 \leq n \leq 20$, $1 \leq k \leq n!$,
and c is an ASCII character.

For each line of the file read by the program, give the corresponding permutation.

Input example:	Output example:
-----	-----
1 3 a	abc
2 3 a	acb
6 3 A	CBA
1 4 a	abcd
1 4 C	CDEF
24 4 1	4321
1 20 a	abcdefghijklmnopqrst