

## D: Rotating Drum

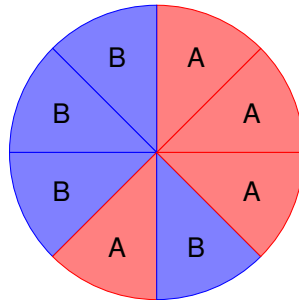
Source file name: `drum.c`, `drum.cpp`, `drum.java`, or `drum.py`

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A rock 'n' roll band has  $k$  musicians, any of them can play any of  $n$  instruments, and they can be located in any order on the stage. This band has decided to make a drawing on the bass drum in order to characterize the way they perform on stage. The idea is to divide the surface of the bass drum into  $m$  equal sections (like a large pizza) and then assign one of  $k$  colors to each of the sections in a way that any possible sequence on  $n$  colors is found exactly once clockwise on the drum.

Nick De Bruijn -- a musician in the band -- is a mathematician and he knows that every possible sequence of  $n$  colors must be present on the bass drum. He knows that for  $k \geq 2$  the value of  $m$  must be equal to  $k^n$  and for  $k = 1$  the value of  $m$  must be equal to  $n$ .

As an example, consider the following bass drum drawing satisfying the abovementioned constraints for  $k = 2$  and  $n = 3$ :



In this case, each one of the 8 sequences appears exactly once clockwise in the drawing. Namely, the sequences *AAA*, *AAB*, *ABA*, *BAB*, *ABB*, *BBB*, *BBA*, *BAA*.

Your task is to help the band to find the sequence of colors that should be drawn on the bass drum for given  $k$  and  $n$ .

### Input

The input consists of several test cases. Each test case is described by a line containing two blank-separated integers  $k$  and  $n$ : the number of colors ( $1 \leq k \leq 26$ ) and the length of the subsequences ( $1 \leq n \leq 10$ ). You may assume that  $1 \leq m \leq 10^5$ .

*The input must be read from standard input.*

### Output

For each test case print a single line with the solution sequence. The  $k$  colors shall be represented by the first  $k$  uppercase letters of the English alphabet. If there is more than one solution, you must print the first sequence in lexicographical order.

*The output must be written to standard output.*

<b>Sample Input</b>	<b>Sample Output</b>
4 2	AABACADBBCBDCCDD
2 3	AAABABBB
1 5	AAAAA