













SUCCESSFUL SUBMISSIONS

Problem description.

ByteMan is the emperor of Bytelandia, the nation of coders. He recently heard rumors of a coup being planned to dethrone him. His rumors have started to become true as the people of Bytelandia are now protesting on the streets

The people of Bytelandia are disciplined and protest only by standing in a row. Also, each person is named with a single alphabet, leaving only 26 unique names(alarming lack of forethought in a nation of coders). Combining their names in order produces the row string of the protest.

ByteMan knows that the success of coup depends only on the power of the protest. The power of the protest depends on how lexicographically large the row string is.

To reduce the power of the protest, he can deploy coder platoons on the protesters and disrupt their activity. Each platoon can be deployed on a non-empty non-overlapping substring group. The coder platoon can just keep an eye on the substring group or reverse it if they feel the protesters are very violent.

But there is one condition: all the coder platoons together must cover the entire row string if deployed. Otherwise, the escaped protesters will hack ByteMan to death with their terminals:

ByteMan can also decide not to deploy coder platoons if he feels the protest is already weak. In this case, the coders are sent on an all-expenses paid vacation to Dubai(yay!)

ByteMan only has K coder platoons in his army. Being his trusted advisor, help him find the optimal strategy to contain the revolt. Print the weakest possible (lexicographically smallest) row string under given constraints

Input

Input description.

The first line of the input contains row string $\boldsymbol{\mathsf{R}}$

The second line contains number of coder platoons K under ByteMan

Output

Output description.

Print the weakest possible row string in the first and only line of output

Constraints

- 1 ≤ length(R) ≤ 1000000
- 1 ≤ K ≤ length(R)

Example

Input:

thisisbytecode

Output:

edocetybsisiht

Explanation

ByteMan has only one coder platoon with him. He can either deploy/not deploy that coder platoon.

If deployed, the coder platoons must cover the entire row string. So, the coder platoon covers the entire row string. How many platoons are deployed is left to ByteMan. Reversing their substring group produces a weaker set of protestors. So **thisisbytecode** is transformed to **edocetybsisiht** by the coder platoon.

This is weaker than leaving the row string as such. Hence edocetybsisiht is the answer

 Author:
 rvns03

 Date Added:
 3-03-2017

 Time Limit:
 2 sec

 Source Limit:
 50000 Bytes

 ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.9.2, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP scl, LUA, NEM, NICE, NODEJS, PAS fpc, PERL, PERLG, PHP, PIKE, PRLG, PYPY, PYTH, PYTH 3.4, RUBY, SCALA, SCM chicken, SCM guile, SCM qobi, ST, TCL, TEXT, WSPC

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CodeChef Tutorials	<u>Peer</u>	
<u>CodeChef Wiki</u>	School	
	FAQ's	