

StringK



SEASON 2021/2022 – SIXTH ROUND

Sashka saw the **KString** problem from the last sprint, so she decided to warm you up with the all-known **StringK** problem. In it we are given a string s_1, s_2, \dots, s_N of N characters, which is obtained from the string t_1, t_2, \dots, t_N , after encoding it through Sashka's cipher. You have to recover the original string. Sashka's cipher works as follows:

- For a string a_1, a_2, \dots, a_P of P characters and a number K we find the $(K \bmod P) + 1$ -st character in a , where *mod* denotes the remainder of the division of K by P .
- The symbol is added to the back to the encoding result ans , or more precisely $ans := ans + a_{(K \bmod P) + 1}$, where $:=$ denotes the assignment sign and $+$ denotes the string concatenation sign. Before the start of the encoding, the string ans is empty.
- The character on the $(K \bmod P) + 1$ -st position is being deleted and the remaining parts of the string are being concatenated.

For example, for the string $a = "abcd"$ and $K = 10$, the encoding will proceed as follows:

- We add $a_{(10 \bmod 4) + 1} = a_3 = c$ to ans and delete it from a . Thus $a = "abd"$ and $ans = "c"$.
- We add $a_{(10 \bmod 3) + 1} = a_2 = b$ to ans and delete it from a . Thus $a = "ad"$ and $ans = "cb"$.
- We add $a_{(10 \bmod 2) + 1} = a_2 = b$ to ans and delete it from a . Thus $a = "d"$ and $ans = "cba"$.
- We add $a_{(10 \bmod 1) + 1} = a_1 = d$ to ans and delete it from a . Thus $a = ""$ and $ans = "cbad"$.

Sashka is busy answering the upcoming problem questions in the current sprint, and because of this, she left you with the task of writing a program `stringK.cpp` that finds the initial string t , knowing the result after its encryption s and the number K .

Input

On the first line of `stringK.in` are given the numbers N и K . On the second line of the file are given N characters, s_1, s_2, \dots, s_N respectively.

Output

On one line in the file `stringK.out` print N characters, t_1, t_2, \dots, t_N , respectively.

Constraints

$$1 \leq N \leq 2\,000$$

$$0 \leq K \leq 10^9$$

The characters in s are lowercase Latin letters.

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Time Limit: 0.2 sec.

Memory Limit: 256 MB.

Sample testcases

Input (stringK.in)	Output (stringK.out)
4 10 cbad	abcd
13 0 neadekvatnost	neadekvatnost
11 420 oieolvecdit	ilovecodeit
16 69 ennnseoimocgisor	sirenecomingsoon