
Problem A. Repetitive Palindrome

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 1024 megabytes

You are given a string s consisting of lowercase alphabets, and an integer k .

Make a new string t by concatenating k copies of s . Determine whether t is a palindrome, e.g. is the same backward as forward.

Input

The first line contains a string s consisting of lowercase alphabets. ($1 \leq |s| \leq 250000$)

The second line contains an integer k . ($1 \leq k \leq 10^{18}$)

Output

If t is a palindrome, print YES. If not, print NO.

Examples

standard input	standard output
abc 3	NO
abba 1	YES