



Problem B: Baby String

Time limit: 1s; Memory limit: 256 MB

A string t is called **Baby String** of string s when:

- t is a prefix of s ;
- t is a suffix of s ;
- t is occurred in s more than 3 times.

Several definitions:

- The prefix of string s of length l ($1 \leq l \leq |s|$) is string $s[0..l-1]$.
- The suffix of string s of length l ($1 \leq l \leq |s|$) is string $s[|s| - l ..|s|-1]$.

You are given a string s , length $|s|$, and q queries l_1, \dots, l_q on it. For each query l_i you have to check if the prefix of s of length l_i is **Baby String** of s and count the number of occurrences of this prefix in s .

Input

The first line of the input contains string s ($1 \leq |s| \leq 10^5$). The string only consists of uppercase English letters.

The second line of the input contains integer q , ($1 \leq q \leq 10^5$), denoting the number of queries. Then follows q lines, each contain an integer l_i , ($1 \leq l_i \leq |s|$).

Output

For each query print the result in a separate line. In each line, If the prefix of s of length l_i is **Baby String** of s print **YES** and print the number of times it occurs in string s as a substring. Otherwise print **NO**.

Sample

Input	Output
AAACMMTACMAA	YES 6
4	YES 3
1	NO
2	NO
3	
4	



ABABABABAB	NO
5	YES 5
1	NO
2	YES 4
3	NO
4	
5	