One Piece

Problem Statement:

Luffy and his crew are very near to obtaining the legendary treasure – 'One Piece', but there is a problem. They need to solve the secret puzzle to find the route to the treasure. The previous pirate king Gold Roger has left behind a key that contains the pattern and required no. of occurrences **N** of the pattern in the puzzle for the route to be valid.
You are the most genius person in luffy's crew and you need to help him find out if there is route for the particular pattern.
Note: You can say that there is a route when **N** matches the actual number of occurrences in the puzzle. You can assume that the pattern matches even if the pattern string and the puzzle string has different cases.

Input Format:

First line contains the puzzle as a string.
Second line contains the pattern as a string.
Third line contains **N**.

Output Format:

Print YES if there is a route, otherwise print NO if there isn't.

Constraints:

The puzzle and pattern will strictly be strings containing only English letters.
1 <= puzzle length <= 1e4
1 <= pattern length <= 8

Time Limit:

0.1 sec per test case.

Sample Input:

abfghiabf
abf
2

Sample Output:

YES

Explanation:

Pattern 'abf' is found 2 times in the puzzle and it matches **N**, so the output is YES.