D. Two Strings

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

A *subsequence* of length $|x|$ of string $s = s_1 s_2 \ldots s_{|s|}$ (where $|s|$ is the length of string s) is a string $x = s_{k_1} s_{k_2} \ldots s_{k_{|x|}}$ $(1 \le k_1 < k_2 < \ldots < k_{|x|} \le |s|)$.

You've got two strings — s and t. Let's consider all subsequences of string s, coinciding with string t. Is it true that each character of string s occurs in at least one of these subsequences? In other words, is it true that for all i $(1 \le i \le |s|)$, there is such subsequence $x = s_{k_1} s_{k_2} \ldots s_{k_{|x|}}$ of string s, that $x = t$ and for some j $(1 \le j \le |x|)$ $k_j = i$.

Input

The first line contains string s, the second line contains string t. Each line consists only of lowercase English letters. The given strings are non-empty, the length of each string does not exceed $2 \cdot 10^5$.

Output

Print "Yes" (without the quotes), if each character of the string s occurs in at least one of the described subsequences, or "No" (without the quotes) otherwise.

Examples

input
abab ab
output
Yes

input
abacaba aba
output
No

input
abc ba
output
No

Note

In the first sample string t can occur in the string s as a subsequence in three ways: **ab**ab, **a**ba**b** and ab**ab**. In these occurrences each character of string s occurs at least once.

In the second sample the 4-th character of the string s doesn't occur in any occurrence of string t.

In the third sample there is no occurrence of string t in string s.