

Problem C

Correctable Strings

Time limit: 2 seconds

Memory limit: 512 megabytes

Problem Description

Billy types fast, and often makes typos when he texts other people. However, each time his phone's default auto correction system helps him correct typo, he finds that it just corrects it into another wrong word. Therefore, he decides to create his own auto correction system!

The first step he decides to do is to determine what kinds of mistake he makes. He assumes that any of he typos is a string “equivalent” to some word in his dictionary.

The two strings s and t are “equivalent” if they are the same length, and satisfy one of the following conditions.

1. The length is at most one, and the strings are the same.
2. The length is greater than one, and they have only one position with different character.
3. We split s into s_1 and s_2 where $|s_1| = |s_2|$ or $|s_1| = 1 + |s_2|$. Similarly, we also split t into t_1 and t_2 where $|t_1| = |t_2|$ or $|t_1| = 1 + |t_2|$. If s_1 is equivalent to t_1 and s_2 is equivalent to t_2 , then we say s and t are equivalent.

To ensure that his assumption is correct, he first gives you the correct word that he wants to type, and then shows you what he typed. You must tell him whether the two words are equivalent according to his rules.

Input Format

The first line contains one integer n indicating the length of the strings. The second line contains a word of n characters in Billy's dictionary. And the third line contains the string of n characters typed by Billy.

Output Format

If the two words are equivalent, print “True” (without quotes). Otherwise, print “False” (without quotes).

Technical Specification

- $1 \leq n \leq 500,000$
- All characters are lowercase.



Sample Input 1

```
5  
brick  
bricl
```

Sample Output 1

```
True
```

Sample Input 2

```
5  
asdfg  
addgg
```

Sample Output 2

```
True
```

Sample Input 3

```
6  
timber  
itmber
```

Sample Output 3

```
False
```