

April 26–30, Palanga

friends • EN • v1.3

#### Three Friends

Three friends like to play the following game. The first friend chooses a string S. Then the second friend constructs a new string T that consists of two copies of the string S. Finally, the third friend inserts one letter at the beginning, the end or somewhere inside the string T, thereby creating a string U.



#### Task

You are given the string U and your task is to reconstruct the original string S.

### Input

The first line of the input contains N, the length of the final string U. The string U itself is given on the second line. It consists of N uppercase English letters  $(A, B, C, \ldots, Z)$ .

### Output

Your program should print the original string S. However, there are two exceptions:

- 1. If the final string U could not have been created using the above procedure, you should print NOT POSSIBLE.
- 2. If the original string S is not unique, you should print NOT UNIQUE.

### Examples

Input	Output
7	ABC
ABXCABC	

Input	Output
6 ABCDEF	NOT POSSIBLE

Input	Output
9	NOT UNIQUE
ABABABABA	

# Scoring

Subtask 1 (35 points):  $2 \le N \le 2001$ .

Subtask 2 (65 points):  $2 \le N \le 2000001$ .



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## Constraints

Time limit: 0.5 s.

Memory limit: 256 MB.