

## 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 the length of the final string  $N$ . The string itself is given on the second line. It consists of  $N$  uppercase English letters (A, B, C, ..., Z).

## Output

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

1. If it is not possible that the final string is created using the above procedure, you should print NOT POSSIBLE.
2. If the original string is not unique, you should print NOT UNIQUE.

## Examples

Input	Output
7 ABXCABC	ABC

Input	Output
6 ABCDEF	NOT POSSIBLE

Input	Output
9 ABABABABA	NOT UNIQUE

## Scoring

**Subtask 1 (30 points):**  $1 \leq N \leq 2001$ .

**Subtask 2 (70 points):**  $1 \leq N \leq 2000001$ .



## Constraints

**Time limit:** 0.5 s.

**Memory limit:** 256 MB.