PROBLEMS   SUBMIT   STATUS   STANDINGS   CUSTOM TEST

A. Mike and Cellphone

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

While swimming at the beach, Mike has accidentally dropped his cellphone into the water. There was no worry as he bought a cheap replacement phone with an old-fashioned keyboard. The keyboard has only ten digital equal-sized keys, located in the following way:

Together with his old phone, he lost all his contacts and now he can only remember the way his fingers moved when he put some number in. One can formally consider *finger movements* as a sequence of vectors connecting centers of keys pressed consecutively to put in a number. For example, the finger movements for number "586" are the same as finger movements for number "253":

Mike has already put in a number by his "finger memory" and started calling it, so he is now worrying, can he be sure that he is calling the correct number? In other words, is there any other number, that has the same finger movements?

Input

The first line of the input contains the only integer n ($1 \le n \le 9$) — the number of digits in the phone number that Mike put in.

The second line contains the string consisting of n digits (characters from '0' to '9') representing the number that Mike put in.

Output

If there is no other phone number with the same finger movements and Mike can be sure he is calling the correct number, print "YES" (without quotes) in the only line.

Otherwise print "NO" (without quotes) in the first line.

Examples

input
3 586
output
NO

input
2 09
output
NO

input
9 123456789
output
YES

input
3 911
output

→ **Problem tags**

brute force   constructive algorithms
implementation

No tag edit access

→ **Contest materials**

- Announcement   ✕
- Tutorial   ✕

YES

Note
You can find the picture clarifying the first sample case in the statement above.