

A. Magic Numbers

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

A magic number is a number formed by concatenation of numbers 1, 14 and 144. We can use each of these numbers any number of times. Therefore 14144, 141414 and 1411 are magic numbers but 1444, 514 and 414 are not.

You're given a number. Determine if it is a magic number or not.

Input

The first line of input contains an integer n , ($1 \leq n \leq 10^9$). This number doesn't contain leading zeros.

Output

Print "YES" if n is a magic number or print "NO" if it's not.

Examples

input
114114
output
YES

input
1111
output
YES

input
441231
output
NO