

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

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #189 (Div. 2)

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Problem tags

brute force greedy

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 