

## B. Fedya and Maths

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

Fedya studies in a gymnasium. Fedya's maths homework is to calculate the following expression:

$$(1^n + 2^n + 3^n + 4^n) \bmod 5$$

for given value of  $n$ . Fedya managed to complete the task. Can you? Note that given number  $n$  can be extremely large (e.g. it can exceed any integer type of your programming language).

### Input

The single line contains a single integer  $n$  ( $0 \leq n \leq 10^{105}$ ). The number doesn't contain any leading zeroes.

### Output

Print the value of the expression without leading zeros.

### Examples

input
4
output
4

input
12435698359458345345888889
output
0

### Note

Operation  $x \bmod y$  means taking remainder after division  $x$  by  $y$ .

Note to the first sample:

### Codeforces Round #260 (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

math number theory

No tag edit access

### → Contest materials

- Announcement 
- Tutorial 