

## 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  $n$  ( $0 \leq n \leq 10^{10^5}$ ). The number doesn't contain any leading zeroes.

### Output

Print the value of the expression without leading zeros.

### Examples

input
4
output
4

  

input
124356983594583453458888889
output
0

### Note

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

Note to the first sample: