ICPC North America Regionals 2019

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JET BRAINS

TWO SIGMA

ICPC Southeast USA Regional Contest

Even or Odd?

Time limit: 1 second

Your friend has secretly picked n consecutive positive integers between 1 and 10^{18} and wants you to guess if their sum is even or odd.

If the sum must be even, write **2**. If the sum must be odd, write **1**. If the sum could be even or could be odd, write **0**.

Input

The single line of input contains a single integer n $(1 \leq n \leq 10^9)$.

Output

Output **2** if the sum of any n consecutive integers in the range from 1 to 10^{18} must be even, **1** if the sum must be odd, or **0** if the sum could be either even or odd.

Sample Input	Sample Output
3	0
6	1
12	2