

# Even

2022/2023 SEASON – FOURTH ROUND



Radosvet started working in a prestigious software company. He discusses algorithmic tasks with his colleagues. The following was too difficult for him and now he asks you for help.

We will call a number "power even" if the sum of the powers in its canonical prime factorisation is even. Formally, if  $v = p_1^{a_1} * \dots * p_k^{a_k}$ , where  $p_1, \dots, p_k$  are prime numbers, then  $v$  is "power even" if  $a_1 + \dots + a_k$  is the even number.

You are given a natural number  $n$ . Find the number of "power even" numbers from 1 to  $n$  inclusive.

## Input

The only line of the file **even.in** contains the number  $n$ .

## Output

On the only line of the file **even.out**, print the required value.

## Constraints

$$1 \leq n \leq 10^{11}$$

**Time limit: 3 sec.**

**Memory limit: 256 MB.**

## Sample test

Input (even.in)	Output (even.out)
16	8