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B. Divisor Subtraction

time limit per test: 2 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

You are given an integer number n . The following algorithm is applied to it:

1. if $n = 0$, then end algorithm;
2. find the smallest **prime** divisor d of n ;
3. subtract d from n and go to step 1.

Determine the number of subtractions the algorithm will make.

Input

The only line contains a single integer n ($2 \leq n \leq 10^{10}$).

Output

Print a single integer — the number of subtractions the algorithm will make.

Examples

input	Copy
5	
output	Copy
1	

input	Copy
4	
output	Copy
2	

Note

In the first example 5 is the smallest prime divisor, thus it gets subtracted right away to make a 0.

In the second example 2 is the smallest prime divisor at both steps.

Educational Codeforces Round 54 (Rated for Div. 2)

Finished

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→ 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.

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→ Problem tags

[implementation](#)
[math](#)
[number theory](#)

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No tag edit access

→ Contest materials

- Announcement 
- Tutorial #1 
- Tutorial #2 