PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   STANDINGS   CUSTOM INVOCATION

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 subtrations the algorithm will make.

Input

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

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.

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