

D. Palindrome Degree

time limit per test: 1 second
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

String s of length n is called k -palindrome, if it is a palindrome itself, and its prefix and suffix of length $\lfloor n/2 \rfloor$ are $(k-1)$ -palindromes. By definition, any string (even empty) is 0-palindrome.

Let's call the palindrome degree of string s such a maximum number k , for which s is k -palindrome. For example, "abaaba" has degree equals to 3.

You are given a string. Your task is to find the sum of the palindrome degrees of all its prefixes.

Input

The first line of the input data contains a non-empty string, consisting of Latin letters and digits. The length of the string does not exceed $5 \cdot 10^6$. The string is case-sensitive.

Output

Output the only number — the sum of the polindrome degrees of all the string's prefixes.

Examples

input

a2A

output

1

input

abacaba

output

6

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round #7

Finished

Practice



→ Virtual participation

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Language: GNU G++ 5.1.0 ▼

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→ Problem tags

hashing strings

No tag edit access

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