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Task A01. PALIN

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Given a string of n lowercase Latin letters, write a program **`palin`** that finds the minimum number of palindromes such that the given string can be represented as a concatenation of these palindromes.

Input

The first line of the standard input contains the given string.

Output

On a single line of the standard output, your program should output an integer equal to the minimum count you are looking for.

Constraints

- $0 < n \leq 10\,000$
- For tests that provide 20 points, the value of n is less than 12 and the given string is composed of some of the first 5 lowercase letters of the Latin alphabet.
- For tests that provide 60 points, the value of n is less than 1001 and the given string is composed of some of the first 9 lowercase letters of the Latin alphabet.

Example

Input	Output	Explanation
`bccbababbba`	4	The string is a concatenation of palindromes `bccb`, `aba`, `bbb`, and `a`.