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Palindromic Equivalence

Task statistics
Number of users: 16
Number of users with 100 points: 10
Average result: 72.125

Memory limit: 64 MB

We will call two words s and t of length n palindromically equivalent, if for every pair of numbers i and j such that $1 \leq i \leq j \leq n$, the subword of s consisting of letters from positions i to j, inclusively, is a palindrome if and only if the subword of t consisting of letters from the same set of positions is a palindrome.

For a given word, your task is to compute the number of words over the English alphabet that are palindromically equivalent to it, modulo $10^9 + 7$.

Input

The first line of the input contains a non-empty word consisting of lowercase letters of the English alphabet, of length not exceeding 10^6.

Output

Your program should output a single integer - the number of words palindromically equivalent to the one given in the input, modulo $10^9 + 7$.

Example

For the input data:

```
abba
```

the correct result is:

```
650
```

Explanation of the example: Only words of the form `xyyx` are palindromically equivalent to `abba`, where `x` and `y` are distinct letters. The English alphabet contains 26 letters, consequently there are $26 \cdot 25 = 650$ such words in total.

Task author: Jakub Pachocki.

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