



HOME CONTESTS GYM PROBLEMSET GROUPS RATING API AIM TECH ROUND W VK CUP SECTIONS

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS ROOM STANDINGS CUSTOM INVOCATION

E. Xenia and String Problem

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

Xenia the coder went to The Olympiad of Informatics and got a string problem. Unfortunately, Xenia isn't fabulous in string algorithms. Help her solve the problem.

String s is a sequence of characters $s_1s_2...s_{|s|}$, where record |s| shows the length of the string.

Substring s[i...j] of string s is string $s_i s_{i+1} ... s_j$.

String s is a Gray string, if it meets the conditions:

- the length of string |s| is odd;
- character $\frac{S_{\lfloor s \rfloor+1}}{2}$ occurs exactly once in the string;
- either |s|=1, or substrings $s[1\dots\frac{|s|+1}{2}-1]$ and $s[\frac{|s|+1}{2}+1\dots|s|]$ are the same and are Gray strings.

For example, strings "abacaba", "xzx", "g" are Gray strings and strings "aaa", "xz", "abaxcbc" are not.

The *beauty* of string p is the sum of the squares of the lengths of all substrings of string p that are Gray strings. In other words, consider all pairs of values i, j $(1 \le i \le j \le |p|)$. If substring p[i...j] is a Gray string, you should add $(j-i+1)^2$ to the beauty.

Xenia has got string t consisting of lowercase English letters. She is allowed to replace at most one letter of the string by any other English letter. The task is to get a string of maximum beauty.

Input

The first line contains a non-empty string t ($1 \le |t| \le 10^5$). String t only consists of lowercase English letters.

Output

Print the sought maximum beauty value Xenia can get.

Please do not use the %11d specifier to read or write 64-bit integers in C++. It is preferred to use the cin, cout streams or the %164d specifier.

Examples

input		
ZZZ		
output		
12		
input		
aba		
output		
12		
input		
abacaba		
output		

Finished Practice

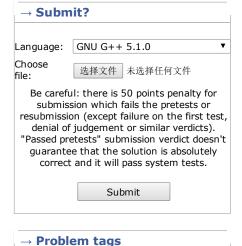
→ Virtual participation

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.

Start virtual contest

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.



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string suffix structures	strings			
	No tag edit access			
→ Contest materials				
Announcement	×			
Tutorial	×			

de backing implementation

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input	
aaaaaa	
output	
15	

Note

In the first test sample the given string can be transformed into string p = "zbz". Such string contains Gray strings as substrings p[1...1], p[2...2], p[3...3] u p[1...3]. In total, the beauty of string p gets equal to $1^2+1^2+1^2+3^2=12$. You can't obtain a more beautiful string.

In the second test case it is not necessary to perform any operation. The initial string has the maximum possible beauty.

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