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 $s_1 s_2 \ldots s_{|s|}$, where record $|s|$ shows the length of the string.

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

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

- the length of string $|s|$ is odd;
- character occurs exactly once in the string;
- either $|s| = 1$, or substrings and 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 $p[i \ldots j]$ 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 `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use the `cin`, `cout` streams or the `%I64d` specifier.

Examples

input
zzz
output
12

input
aba
output
12

input
abacaba
output
83

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 $p[1...1]$, $p[2...2]$, $p[3...3]$ и $p[1...3]$. 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.