Perfect Separating

In this problem, when we say "sequence", we only consider sequences that are subsequences of $(1, 2, 3, \dots, n)$.

The **complement** of a sequence $x = (x_1 < x_2 < \dots < x_k)$ is defined as the sequence of values in $(1, 2, 3, \dots, n)$ that are not in x. In other words, the complement of x is the unique sequence $y = (y_1 < y_2 < \dots < y_{n-k})$ with the following properties:

- $\{y_1, \dots, y_{n-k}\} \cup \{x_1, \dots, x_k\} = \{1, \dots, n\}$,
- $\{y_1, \dots, y_{n-k}\} \cap \{x_1, \dots, x_k\} = \emptyset$.

Consider a string, s, of length n composed of the letters `a` and/or `b`. We call a sequence $x = (x_1 < \dots < x_k)$ **perfect** with respect to s if $s_{x_1} s_{x_2} \dots s_{x_k} = s_{y_1} \dots s_{y_{n-k}}$ where $y = (y_1 < \dots < y_{n-k})$ is the complement of x.

Given s, calculate the number of perfect sequences with respect to s.

Input Format

A single string denoting s.

Constraints

- $1 \leq |s| \leq 50$
- Each character in s is either `a` or `b`.

Output Format

Print a single integer denoting the number of perfect sequences with respect to s.

Sample Input 0

```
aaa
```

Sample Output 0

```
0
```

Sample Input 1

```
aaaa
```

Sample Output 1

```
6
```

Explanation

Sample Case 1:
The following are the 6 perfect sequences with respect to the string `aaaa`:

$$(1, 2), (1, 3), (1, 4), (2, 3), (2, 4), (3, 4)$$

Each of these result in the string `aa`, and each complement also results in `aa`, so they're equal.