# Aloy and the Forbidden Code

| | |
|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 256 megabytes |

In the world of *Horizon Forbidden West*, ancient secrets lie hidden beneath layers of code, and Aloy, a skilled machine hunter and seeker of truth, has just discovered a cryptic message. The message is encoded in a string, $s$, composed only of three distinct symbols: 'a', 'b', and 'c'. Aloy knows two crucial details about this encoded message:

1. No two adjacent characters are the same, i.e., $s_i \neq s_{i+1}$ for $1 \leq i \leq |s| - 1$ where $|s|$ is the length of the string.
2. Each of the three characters 'a', 'b', and 'c' appears at least once in the string.

To decipher this code and uncover its meaning, Aloy must extract the shortest contiguous substring* of $s$ that contains all three characters at least once. Can you help Aloy break the code and determine the minimum length of such a substring?

*A string $a$ is a substring of a string $b$ if $a$ can be obtained from $b$ by deletion of several (possibly, zero or all) characters from the beginning and several (possibly, zero or all) characters from the end. For example, `riz` is a substring of `horizon`, but `rizz` and `ozon` are not.

## Input

The first and only line contains a string $s$ ($3 \leq |s| \leq 10^5$), consisting only of the characters 'a', 'b', and 'c'.

It is guaranteed that no two adjacent characters in $s$ are the same, and that all three characters appear at least once in $s$.

## Output

Print a single integer — the length of the shortest contiguous substring of $s$ that contains all three characters.

## Example

| standard input | standard output |
|---|---|
| abac | 3 |

## Note

For the string `abac`, the shortest substring that contains all three characters is `bac`, which has a length of 3.