Given a string consisting of the letters $\mathbf{a}$, $\mathbf{b}$ and $\mathbf{c}$, we can perform the following operation:

- Take any two adjacent distinct characters and replace them with the third character.

Find the shortest string obtainable through applying this operation repeatedly.

For example, given the string $\mathbf{aba}$ we can reduce it to a 1 character string by replacing $\mathbf{ab}$ with $\mathbf{c}$ and $\mathbf{ca}$ with $\mathbf{b}$: $\mathbf{aba} \rightarrow \mathbf{ca} \rightarrow \mathbf{b}$.

Function Description

Complete the *stringReduction* function in the editor below. It must return an integer that denotes the length of the shortest string obtainable.

stringReduction has the following parameter:
- *s*: a string

Input Format

The first line contains the number of test cases t.

Each of the next t lines contains a string s to process.

Constraints

- $1 \leq t \leq 100$
- $1 < |s| \leq 100$

Output Format

For each test case, print the length of the resultant minimal string on a new line.

Sample Input

```
3
cab
bcab
ccccc
```

Sample Output

```
2
1
5
```

Explanation

For the first case, there are two solutions: $\mathbf{cab} \rightarrow \mathbf{cc}$ or $\mathbf{cab} \rightarrow \mathbf{bb}$.
For the second case, one optimal solution is: $\mathbf{bcab} \rightarrow \mathbf{aab} \rightarrow \mathbf{ac} \rightarrow \mathbf{b}$.
For the third case, no operations can be performed so the answer is 5.