

N. String Simplification

Time limit: 1 second
Memory limit: 65535 kBytes

Description

Let us define the complexity of a string S to be the number of distinct characters in it. For example, the complexity of the string $S = better$ is 4. Dominic doesn't like complicated strings, so he decided to simplify any string he receives. To achieve this, he erases some (possibly 0) characters from the string so that the complexity of the remaining string will be at most 2. Dominic is given a list of T strings. Help him to find for each string the minimum number of characters he must erase to make the string simple enough.

Input

The first line of the input contains T , the number of strings ($1 \leq T \leq 100$). Each of the next T lines contains a string S consisting of the characters $a - z$ (that is, the lowercase letters of the English alphabet). The length of each string is between 2 and 100, inclusive.

Output

Output T lines (one line for each string) containing the minimum number of characters Dominic must erase to make the complexity of the string lesser than or equal to 2.

Example

Input	Output
6	4
string	2
better	0
zzzzz	1
assesses	2
assassins	12
ambidextrously	

Explanation: In the case of $S = string$, after erasing the first four characters, the remaining string is ng , which has a complexity of 2. It can be proven that the complexity cannot be made lesser than 3 by erasing at most 3 characters. In the case of $S = better$, erasing the first and the last character results in the string $ette$, which has a complexity of 2. In the case of $S = zzzzz$, the complexity of S is 1, so there is no need to erase any characters.