

# Palindrome Index

Given a string,  $S$ , of lowercase letters, determine the index of the character whose removal will make  $S$  a palindrome. If  $S$  is already a palindrome or no such character exists, then print  $-1$ . There will always be a valid solution, and any correct answer is acceptable. For example, if  $S = "bcbcb"$ , we can either remove 'b' at index  $0$  or 'c' at index  $3$ .

## Input Format

The first line contains an integer,  $T$ , denoting the number of test cases.  
Each line  $i$  of the  $T$  subsequent lines (where  $0 \leq i < T$ ) describes a test case in the form of a single string,  $S_i$ .

## Constraints

- $1 \leq T \leq 20$
- $1 \leq |S| \leq 10^5 + 5$
- All characters are lowercase English letters.

## Output Format

Print an integer denoting the *zero-indexed* position of the character that makes  $S$  not a palindrome; if  $S$  is already a palindrome or no such character exists, print  $-1$ .

## Sample Input

```
3
aaab
baa
aaa
```

## Sample Output

```
3
0
-1
```

## Explanation

*Test Case 1: "aaab"*  
Removing 'b' at index  $3$  results in a palindrome, so we print  $3$  on a new line.

*Test Case 2: "baa"*  
Removing 'b' at index  $0$  results in a palindrome, so we print  $0$  on a new line.

*Test Case 3: "aaa"*  
This string is already a palindrome, so we print  $-1$ ; however,  $0$ ,  $1$ , and  $2$  are also all acceptable answers, as the string will still be a palindrome if any one of the characters at those indices are removed.

**Note:** The custom checker logic for this challenge is available [here](#).