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MEDIUM

Max Score: 40 Points

Grandma Uzma Capa Knits a Scarf

Grandma Uzma Capa has decided to knit a scarf and asked Grandpa Sher to make a pattern for it, a pattern is a string consisting of lowercase English letters. Grandpa Sher wrote a string `s` of length `n`.

Grandma Uzma Capa wants to knit a beautiful scarf, and in her opinion, a beautiful scarf can only be knit from a string that is a palindrome. She wants to change the pattern written by Grandpa Sher, but to avoid offending him, she will choose one lowercase English letter and erase some (at her choice, possibly none or all) occurrences of that letter in string `s`.

She also wants to minimize the number of erased symbols from the pattern. Please help her and find the minimum number of symbols she can erase to make string `s` a palindrome, or tell her that it""s impossible. Notice that she can only erase symbols equal to the one letter she chose.

A string is a palindrome if it is the same from the left to the right and from the right to the left. For example, the strings `kek`, `abacaba`, `r` and `papicipap` are palindromes, while the strings `abb` and `iq` are not.

Input Format

The first line contains the string `s` consisting of `n` lowercase English letters.

Output Format

Return minimum number of erased symbols required to make the string a palindrome, if it is possible, and `-1`, if it is impossible.

Example 1

Input

```
abcaacab
```

Output

```
2
```

Explanation

```
You can choose a letter ''''a'''' and erase its first and last occurrences, you will get a string ''''bcaacb'''', which is a palindrome. You can also choose a letter ''''b'''' and erase all its occurrences, you will get a string ''''acaaca'''', which is a palindrome as well.
```

Example 2

Input

```
xyzxyz
```

Output

```
-1
```

Explanation

```
It can be shown that it is impossible to choose a letter and erase some of its occurrences to get a palindrome.
```

Constraints

1 ≤ n ≤ 10^5

`s` contains lowercase English alphabets.

Topic Tags

Strings

2-Pointers

Greedy

My code

```
// in java
import java.util.*;

class Solution {
   public int knitScarf(String s) {
       //write code here
              int ans[] = new int[26];
              Arrays.fill(ans, 0);

              for(int i = 0; i < 26; i++) {
                     char c = (char) ('a' + i);

                     // while loop
                     int l = 0, r = s.length()-1;
                     while(l < r) {
                            if(s.charAt(l) == s.charAt(r)) {
                                   l++;
                                   r--;
                            } else {
                                   if(s.charAt(l) == c) {
                                          l++;
```

```
                        ans[i]++;
                    } else if(s.charAt(r) == c) {
                        r--;
                        ans[i]++;
                    } else {
                        ans[i] = Integer.MAX_VALUE;
                        break;
                    }
                }
            }
        }

        int res = Integer.MAX_VALUE;
        for(int i = 0; i < 26; i++) {
            res = Math.min(res, ans[i]);
        }

        if(res == Integer.MAX_VALUE) return -1;
        return res;
    }

}

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String s = sc.nextLine();
        Solution obj = new Solution();
        System.out.println(obj.knitScarf(s));
        sc.close();
```

```
    }
}
```