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Test Name:	**Mock Test**
Taken On:	21 Jan 2024 21:19:16 IST
Time Taken:	11 min 37 sec/ 30 min
Linkedin:	https://www.linkedin.com/in/musab-oguz-68990a200/
Invited by:	Ankush
Invited on:	21 Jan 2024 21:19:07 IST
Skills Score:	
Tags Score:	Algorithms 105/105 Core CS 105/105 Easy 105/105 Problem Solving 105/105 Strings 105/105 problem-solving 105/105

100%

105/105

scored in **Mock Test** in 11 min 37 sec on 21 Jan 2024 21:19:16 IST

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	**Palindrome Index > Coding**	11 min 32 sec	105/ 105	✓

QUESTION 1

Correct Answer

Score 105

Palindrome Index > Coding

Strings | Algorithms | Easy | problem-solving | Core CS | Problem Solving

QUESTION DESCRIPTION

Given a string of lowercase letters in the range ascii[a-z], determine the index of a character that can be removed to make the string a palindrome. There may be more than one solution, but any will do. If the word is already a palindrome or there is no solution, return *-1*. Otherwise, return the index of a character to remove.

Example

$s = \text{"bcbc"}$

Either remove *'b'* at index 0 or *'c'* at index 3.

Function Description

Complete the *palindromeIndex* function in the editor below.

palindromeIndex has the following parameter(s):

- *string s:* a string to analyze

Returns

- *int:* the index of the character to remove or -1

Input Format

The first line contains an integer q, the number of queries.
Each of the next q lines contains a query string s.

Constraints

- $1 \leq q \leq 20$
- $1 \leq \text{length of } s \leq 10^5 + 5$
- All characters are in the range ascii[a-z].

Sample Input

```
STDIN   Function
-----   --------
3       q = 3
aaab    s = 'aaab' (first query)
baa     s = 'baa'  (second query)
aaa     s = 'aaa'  (third query)
```

Sample Output

```
3
0
-1
```

Explanation

Query 1: "aaab"
Removing *'b'* at index 3 results in a palindrome, so return 3.

Query 2: "baa"
Removing *'b'* at index 0 results in a palindrome, so return 0.

Query 3: "aaa"
This string is already a palindrome, so return -1. Removing any one of the characters would result in a palindrome, but this test comes first.

Note: The custom checker logic for this challenge is available here.

CANDIDATE ANSWER

Language used: **C++14**

```
/*
 * Complete the 'palindromeIndex' function below.
 *
 * The function is expected to return an INTEGER.
 * The function accepts STRING s as parameter.
 */

void firstSecond(string &first, string &second, string &s) {
    string temp = s;
    if (s.size() % 2 == 1){
        temp.erase(temp.begin() + (temp.size()/2));
    }
    first = temp.substr(0, temp.size() / 2);
```

```
    second = temp.substr(temp.size() / 2, temp.size() / 2);
    reverse(second.begin(), second.end());
}

int palindromeIndex(string s) {
    unsigned int ret = -1;
    bool is_palin = false;

    string first;
    string second;
    firstSecond(first, second, s);

    if (first==second){
        return -1;
    }

    for (unsigned int i = 0; i < first.size(); i++){
        if (first[i] != second[i]){
            string tempfirst;
            string tempsecond;
            string tempS = s;
            tempS.erase(tempS.begin() + i);

            firstSecond(tempfirst, tempsecond, tempS);

            if (tempfirst == tempsecond){
                ret = i;
            }
            else{
                ret = s.size()-1-i;
            }
            break;
        }
    }

    return ret;
}
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	Success	0	0.0054 sec	8.81 KB
Testcase 2	Medium	Hidden case	Success	5	0.0531 sec	8.82 KB
Testcase 3	Medium	Hidden case	Success	5	0.0054 sec	8.78 KB
Testcase 4	Medium	Hidden case	Success	5	0.006 sec	8.82 KB
Testcase 5	Medium	Hidden case	Success	5	0.0064 sec	8.82 KB
Testcase 6	Medium	Hidden case	Success	5	0.0124 sec	8.91 KB
Testcase 7	Medium	Hidden case	Success	5	0.011 sec	8.95 KB
Testcase 8	Medium	Hidden case	Success	5	0.0567 sec	8.97 KB
Testcase 9	Hard	Hidden case	Success	10	0.017 sec	8.99 KB
Testcase 10	Hard	Hidden case	Success	10	0.0113 sec	9.07 KB
Testcase 11	Hard	Hidden case	Success	10	0.0987 sec	8.83 KB
Testcase 12	Hard	Hidden case	Success	10	0.0084 sec	8.88 KB
Testcase 13	Hard	Hidden case	Success	10	0.0105 sec	8.95 KB
Testcase 14	Hard	Hidden case	Success	10	0.0132 sec	9 KB
Testcase 15	Hard	Hidden case	Success	10	0.0138 sec	8.8 KB

No Comments

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