Anagram


by amititkgp

Sid is obsessed with reading short stories. Being a CS student, he is doing some interesting frequency analysis with the books. He chooses strings $S1$ and $S2$ in such a way that $|len(S1) - len(S2)| \leq 1$.

Your task is to help him find the minimum number of characters of the first string he needs to change to enable him to make it an anagram of the second string.

Note: A word *x* is an anagram of another word *y* if we can produce *y* by rearranging the letters of *x*.

Input Format
The first line will contain an integer, T, representing the number of test cases. Each test case will contain a string having length $len(S1) + len(S2)$, which will be concatenation of both the strings described above in the problem.The given string will contain only characters from a to z.

Output Format
An integer corresponding to each test case is printed in a different line, i.e. the number of changes required for each test case. Print -1 if it is not possible.

Constraints

- $1 \leq T \leq 100$
- $1 \leq len(S1) + len(S2) \leq 10^4$

Sample Input

```
6
aaabbb
ab
abc
mnop
xyyx
xaxbbbxx
```

Sample Output

```
3
1
-1
2
0
1
```

Explanation
Test Case #01: We have to replace all three characters from the first string to make both of strings anagram. Here, $S1$ = "aaa" and $S2$ = "bbb". So the solution is to replace all character 'a' in string *a* with character 'b'.

Test Case #02: You have to replace 'a' with 'b', which will generate "bb".

Test Case #03: It is not possible for two strings of unequal length to be anagram for each other.

Test Case #04: We have to replace both the characters of first string ("mn") to make it anagram of other one.

Test Case #05: $S1$ and $S2$ are already anagram to each other.

Test Case #06: Here *S1 = "xaxb"* and *S2 = "bbxx"*. He had to replace 'a' from *S1* with 'b' so that *S1 = "xbxb"* and we can rearrange its letter to "bbxx" in order to get *S2*.

Related Topics

String Basics

Anagram

Submissions: 22358

Max Score: 25

Difficulty: Easy

More

Current Buffer (saved locally, editable)

Python 2

```
# Enter your code here. Read input from STDIN. Print output to STDOUT
import sys
import fileinput

def count_changes(input):
    for item in input[1:]:
        if len(item) % 2 == 0:
            temp = {}
            change = 0
            first = item[:len(item)/2]
            second = item[len(item)/2:]
            for char in first:
                temp[char] = temp.get(char,0)+1
            for char in second:
                if temp.get(char):
                    temp[char] = temp.get(char) - 1
            for key, value in temp.iteritems():
                change += value
            print change
        else:
            print -1

def read_input():
    strings = []
    for line in fileinput.input():
        strings.append((line.strip()))
    return strings

def main():
    input = read_input()
    count_changes(input)

main()
```

Line: 33 Col: 7

Upload Code as File Test against custom input Run Code Submit Code

Congrats, you solved this challenge!

- ✔ Test Case #0
- ✔ Test Case #1
- ✔ Test Case #2
- ✔ Test Case #3
- ✔ Test Case #4
- ✔ Test Case #5
- ✔ Test Case #6
- ✔ Test Case #7
- ✔ Test Case #8
- ✔ Test Case #9
- ✔ Test Case #10
- ✔ Test Case #11
- ✔ Test Case #12
- ✔ Test Case #13
- ✔ Test Case #14

Next Challenge