

# Anagram |



Problem Submissions Leaderboard Discussions Editorial Topics
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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  $|len(S1) - len(S2)| \le 1$ .

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.

#### **Constraints**

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

#### **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.

## **Sample Input**

6
aaabbb
ab
abc
mnop
xyyx
xaxbbbxx

### **Sample Output**

#### 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'.

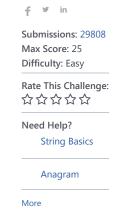
Test Case #02: You have to replace 'a' with 'b', which will generate "bb".

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.



```
Current Buffer (saved locally, editable) & 🗗
                                                                                  C#
                                                                                                           5 Z
    using System;
 1
    using System.Collections.Generic;
 3
    using System.Linq;
 4
    using System.Text;
 5
    class Solution {
 6
 7
 8
        static void Main(string[] args)
 9
10
                 int t = int.Parse(Console.ReadLine());
11
12
13
                 while (t-- > 0)
14
15
                     //string s = "aaabbb";
16
                     //string s = "mnop";
17
                     //string s = "xaxbbbxx";
18
19
                     string s = Console.ReadLine();
20
21
                     if (s.Length % 2 != 0)
22
23
                          Console.WriteLine(-1);
24
                            continue;
25
26
27
                     string a = s.Substring(0, s.Length / 2);
28
                     string b = s.Substring(s.Length / 2, s.Length / 2);
                     //Console.WriteLine(a);
29
30
                     //Console.WriteLine(b);
31
32
33
                     Dictionary<char, int> frec_a = a.ToCharArray().GroupBy(x => x)
34
                                              .ToDictionary(x \Rightarrow x.Key, x \Rightarrow x.Count());
35
                     Dictionary<char, int> frec_b = b.ToCharArray().GroupBy(x => x)
36
                                          .ToDictionary(x => x.Key, x => x.Count());
37
38
                     int sobra_a = 0, sobra_b = 0;
39
40
                     foreach (KeyValuePair<char, int> kvp in frec_a)
41
42
                          if (frec_b.ContainsKey(kvp.Key))
43 ▼
44
                              if (kvp.Value >= frec_b[kvp.Key])
45 ▼
                                  sobra_a += kvp.Value - frec_b[kvp.Key];
46
47
48
                              else
49 •
50
                                  sobra_b += frec_b[kvp.Key] - kvp.Value;
51
52
53
                          else
54
55
                              sobra_a += kvp.value;
56
57
```

```
59
                      foreach (KeyValuePair<char, int> kvp in frec_b)
60 ▼
                           if (!frec_a.ContainsKey(kvp.Key))
61
62 ▼
63
                               sobra_b += kvp.Value;
64
65
66
67
                      Console.WriteLine(Math.Min(sobra_a, sobra_b));
68
69
                  }
70
                                                                                                                        71
72
                 // Console.ReadLine();
73
74
75
76
77
                                                                                                            Line: 70 Col: 1
                      ☐ Test against custom input
1 Upload Code as File
                                                                                                 Run Code
                                                                                                             Submit Code
```

Congrats, you solved this challenge! ✓ Test Case #0 ✓ Test Case #1 ✓ Test Case #2 ✓ Test Case #4 ✓ Test Case #3 ✓ Test Case #5 ✓ Test Case #6 ✓ Test Case #7 ✓ Test Case #8 ✓ Test Case #9 ✓ Test Case #10 ✓ Test Case #11 ✓ Test Case #13 ✓ Test Case #12 ✓ Test Case #14 **Next Challenge** 

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