Difficulty: Easy Points: 25

Problem: Anagram

Sid is obsessed with reading short stories. Being a CS student, he is doing some interesting frequency analysis with the books. He chooses strings and in such a way that .
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, , representing the number of test cases. Each test case will contain a string having length , which will be concatenation of both the strings described above in the problem.The given string will contain only characters from to .

Constraints

-
-

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 if it is not possible.

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, = "aaa" and = "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: and 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 $S2$.

Solution

```
int main() {
   string str, strs="";
   int cases, length;
   cin>>cases;

   for(int i=0; i<cases; i++)
      {
         int count = 0;
         int score[26] = {0};
         cin>>str;
         length = str.length();
         if(length%2 == 0) //even length
            {
              //making two different strings
               length = length / 2;
               strs = str.substr (0, length);
               str = str.substr (length, length*2);

               //traversing the second string
               for(int j=0; j<length; j++)
                  {
                     int temp = (int)strs[j] -97 ;
                     score[temp]+=1;
                  }

               //counting the operations required
               for(int j=0; j<length; j++)
                  {
                     int temp = (int)str[j] - 97;
                     if(score[temp]>0)
                        { score[temp]-=1; }
                     else
                        { count+=1; }
                  }


               //printing the result
               cout<<count<<endl;
```

```
            }
        else
          { cout<<"-1"<<endl;  }
       }
   return 0;
}
```

Elegant

```
int main() {
   string str, strs="";
   int cases, length;
   cin>>cases;

  for(int i=0; i<cases; i++)
   {
      cin>>str;
      int count = 0;
      length = str.length();
      if(length%2 !=0 ) cout<<"-1"<<endl;
      else
       {
           for(int j=0; j<length/2; j++)
             {
                for(int k=length/2; k<length; k++)
                  {
                     if(str[j]==str[k])
                       {
                          count+=1;
                          str[k]='*';
                          break;
                       }

                  }
             }
           cout<<(length/2) -count<<endl;
       }
   }
   return 0;
}
```