**Topics** 

### D Û

# Sherlock and Anagrams ☆

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Two strings are anagrams of each other if the letters of one string can be rearranged to form the other string. Given a string, find the number of pairs of substrings of the string that are anagrams of each other.

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For example s = mom, the list of all anagrammatic pairs is [m, m], [mo, om] at positions [[0], [2]], [[0, 1], [1, 2]] respectively.

Leaderboard

#### **Function Description**

**Problem** 

Complete the function sherlockAndAnagrams in the editor below. It must return an integer that represents the number of anagrammatic pairs of substrings in

8.

sherlockAndAnagrams has the following parameter(s):

Submissions

• s: a string.

#### **Input Format**

The first line contains an integer  $m{q}$ , the number of queries.

Each of the next  $\boldsymbol{q}$  lines contains a string  $\boldsymbol{s}$  to analyze.

#### Constraints

 $1 \le q \le 10$ 

 $2 \le |s| \le 100$ 

String  ${\it s}$  contains only lowercase letters  $\in$  ascii[a-z].

#### **Output Format**

For each query, return the number of unordered anagrammatic pairs.

## Sample Input 0

2 abba

abba

## Sample Output 0

4

## Explanation 0

The list of all anagrammatic pairs is [a,a], [ab,ba], [b,b] and [abb,bba] at positions [[0], [3], [[0,1], [2,3], [[1], [2]] and [[0,1,2], [1,2,3]] respectively.

No anagrammatic pairs exist in the second query as no character repeats.

#### Sample Input 1

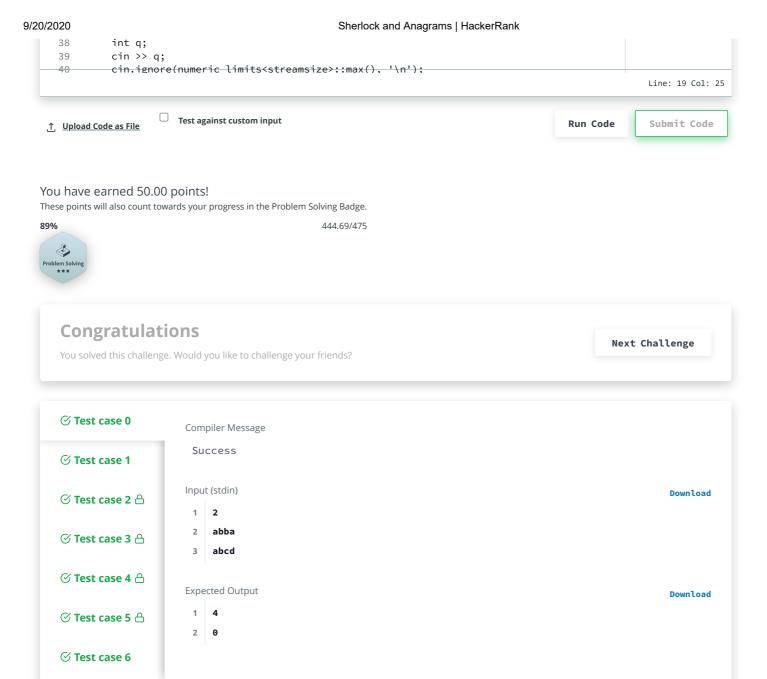
2 ifailuhkqq kkkk



## Sample Output 1

```
3
   10
Explanation 1
For the first query, we have an gram pairs [i,i], [q,q] and [ifa,fai] at positions [[0],[3]], [[8],[9]] and [[0,1,2],[1,2,3]] respectively.
For the second query:
There are 6 anagrams of the form [k, k] at positions [[0], [1], [[0], [2]], [[0], [3]], [[1], [2]], [[1], [3]] and [[2], [3]].
There are 3 anagrams of the form [kk, kk] at positions [[0,1], [1,2]], [[0,1], [2,3]] and [[1,2], [2,3]].
There is 1 anagram of the form [kkk, kkk] at position [[0, 1, 2], [1, 2, 3]].
Sample Input 2
   1
   cdcd
Sample Output 2
   5
Explanation 2
There are two anagrammatic pairs of length \mathbf{1}: [c,c] and [d,d].
There are three anagrammatic pairs of length 2: [cd, dc], [cd, cd], [dc, cd] at positions [[0,1], [1,2]], [[0,1], [2,3]], [[1,2], [2,3]] respectively.
```

```
Change Theme
                                                                                 C++
                                                                                                          ₩
 1
     #include <bits/stdc++.h>
2
3
    using namespace std;
5
     int nc2(int n){
 6
         return ((n)*(n-1))/2;
8
     int sherlockAndAnagrams(string s) {
9
         int n=s.size();
         unordered_map<string,int> hmap;
10
11
         int ans=0;
         string substring;
12
13
         for(int i=1;i<n;i++){
14
             hmap={};
             for(int j=0;j<n-i+1;j++){
15
16
                 substring=s.substr(j,i);
17
                 sort(substring.begin(),substring.end());
18
                  if(hmap.find(substring)!=hmap.end()){
19
                     hmap[substring]+=1;
20
                      cout<<substring<<" : ";</pre>
21
                 }
22
                 else{
23
                      hmap[substring]=1;
24
25
             for(auto i:hmap){
26
27
                 ans+=nc2(i.second);
             }
28
30
31
         return ans;
    }
32
33
34
     int main()
35
     {
36
         ofstream fout(getenv("OUTPUT_PATH"));
37
```



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