Sherlock and Anagrams ★

Problem Submissions Leaderboard Editorial Topics

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.

Example

$s = mom$

The list of all anagrammatic pairs is $[m, m]$, $[mo, om]$ at positions $[[0], [2]]$, $[[0, 1], [1, 2]]$ respectively.

Function Description

Complete the function sherlockAndAnagrams in the editor below.

sherlockAndAnagrams has the following parameter(s):

- string s: a string

Returns

- int: the number of unordered anagrammatic pairs of substrings in s

Input Format

The first line contains an integer q, the number of queries.

Each of the next q lines contains a string s to analyze.

Constraints

$1 \leq q \leq 10$

$2 \leq$ length of $s \leq 100$

s contains only lowercase letters in the range ascii[a-z].

Sample Input 0

```
2
abba
abcd
```

Sample Output 0

```
4
0
```

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 anagram 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 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 JavaScript (Node.js)

```
// Complete the sherlockAndAnagrams function below.
function sherlockAndAnagrams(s) {
    let count = 0;

    // Size of our sliding window
    for (let i = 1; i < s.length; i++) {
        let found = {};

        // Starting index of our sliding window
        for (let j = 0; j + i <= s.length; j++) {
            let substr = s.substr(j, i);
            substr = substr.split('').sort().join('');
            if (found[substr]) {
                count += found[substr];
                found[substr]++;
            } else {
                found[substr] = 1;
            }
        }
    }

    return count;
}
```

Line: 49 Col: 2

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

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0

Sample Test case 1 Input (stdin) Download

Sample Test case 1

Sample Test case 2

Input (stdin) Download

```
2
abba
abcd
```

Your Output (stdout)

```
4
0
```

Expected Output Download

```
4
```