

# Sherlock and Anagrams



Given a string  $S$ , find the number of "unordered anagrammatic pairs" of substrings. In other words, find the number of *unordered* pairs of substrings of  $S$  that are anagrams of each other.

Two strings are **anagrams** of each other if the letters of one string can be rearranged to form the other string.

## Input Format

First line contains  $T$ , the number of testcases. Each testcase consists of string  $S$  in one line.

## Constraints

$$1 \leq t \leq 10$$

$$2 \leq \text{length}(s) \leq 100$$

String  $s$  contains only the lowercase letters of the English alphabet.

## Output Format

For each testcase, print the required answer in one line.

## Sample Input 0

```
2
abba
abcd
```

## Sample Output 0

```
4
0
```

## Sample Input 1

```
5
ifailuhkqq
hucpoltgty
ovarjsnrbf
pvmupwjijf
iwwhrlkpek
```

## Sample Output 1

```
3
2
2
6
3
```

## Explanation

### Sample 0

Let's say  $S[i, j]$  denotes the substring  $S_i, S_{i+1}, \dots, S_j$ .

testcase 1:

For  $S = \text{abba}$ , anagrammatic pairs are:  $\{S[1, 1], S[4, 4]\}$  ( $\text{a}$  and  $\text{a}$ ),  $\{S[1, 2], S[3, 4]\}$  ( $\text{ab}$  and  $\text{ba}$ ),  $\{S[2, 2], S[3, 3]\}$  ( $\text{b}$  and  $\text{b}$ ) and  $\{S[1, 3], S[2, 4]\}$  ( $\text{abb}$  and  $\text{bba}$ ).

testcase 2:

No anagrammatic pairs.

**Sample 1**

Left as an exercise to you.