

Problem: Sherlock & Anagram

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

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
pvmupwjfff
iwwhrlkpek
```

Sample Output 1

```
3
2
2
6
3
```

Explanation

Sample 0

Let's say s_i denotes the substring $s[i..j]$.

testcase 1:

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

testcase 2:

No anagrammatic pairs.

Sample 1

Left as an exercise to you.

Solution

```
int combinations(int number)
{
    return ( number * (number-1) ) / 2;
}

int main() {

    int cases;
    cin >> cases;

    //Feeding and processing the data
    for(int a=0; a<cases; a++)
    {
        long count=0;
        vector <string> store;
        string str;
        cin >> str;
        int length = str.length();
        for(int j=1; j<length; j++)
        {
            for(int k=1; k<=length-j+1; k++)
            {
                string temp = str.substr(k-1, j);
                sort(temp.begin(), temp.end());
                store.push_back(temp);
            }
        }

        sort(store.begin(), store.end());
        string temp;
        int size = store.size();
        for(int i=0; i<size-1; i++)
        {
            int combi = 1;
            if(store[i]==store[i+1])
```

```
{
    temp=store[i];
    while(store[i+1]==temp)
    {
        combi+=1;
        i+=1;
    }
    count+=combinations(combi);
}
cout<<count<<endl;
}
return 0;
}
```

“Anshul AgGarwal