

What's The Frequency, Kenneth?

Program Name: count.java

Input File: count.in

A good approach to cracking replacement cyphers is frequency analysis. It uses known frequencies of letters in normal text to help decrypt encoded messages. However, before this approach can be employed, the cryptologist has to have a very good idea what the expected frequencies of letters are in normal text.

Write a program that will output the frequencies of letters occurring in the input text.

Input

The first line of input will contain a single integer, n , indicating the number of lines in the text to be examined. The following n lines are to be examined by the program to determine the frequencies of the letters used.

Output

There will be 26 lines of output, one for each alphabetic character, beginning with 'a' and ending with 'z'. Each line will contain the letter followed by the number of times it occurred in the input text. Ignore the case of the characters in the input. For example, both 'E' and 'e' will count toward the frequency of 'e'.

Example Input File

3

The quick brown fox jumps over the lazy dog

Hello

Goodbye

Example Output To Screen

```
a 1
b 2
c 1
d 2
e 5
f 1
g 2
h 3
i 1
j 1
k 1
l 3
m 1
n 1
o 7
p 1
q 1
r 2
s 1
t 2
u 2
v 1
w 1
x 1
y 2
z 1
```