
11. Values

Program Name: Values.java

Input File: values.dat

The value of a word or phrase can be determined by finding the sum of the value of each of its letters. The value of a letter is determined by the following process:

A=1; B=2; C=3; ... ; Z=26; space = 0

You are to write a program to find the value of each word or phrase and print all of the words or phrases in order by its value from lowest to highest. In case there is more than one word or phrase with the same value, they should be printed in alphabetical order.

Input

The first line of input will contain a single integer n that indicates the number of words or phrases to follow. Each of the following n lines will contain a word or phrase. All words and phrases will be composed only of uppercase letters of the alphabet and spaces.

Output

In order by its value from lowest to highest, print the value followed by a space and the word or phrase. If there is more than one word or phrase with the same value, they should be printed in alphabetical order.

Example Input File

```
5
HARD WORK
QUIT
SCHOOL
KNOWLEDGE IS POWER
HOMEWORK
```

Example Output to Screen

```
67 QUIT
72 SCHOOL
98 HARD WORK
108 HOMEWORK
201 KNOWLEDGE IS POWER
```