

6 Farmers Market Management

Blueprints in hand, it is now time to organize the Annual Farmers' Market! With limited space, you will need to carefully place vendors based on stall **grade**, **produce**, and **area**.

However, you realize that you have WAY too many blueprints than you need, and each one places the stalls in a different order!

You will have to look at the bottom of the blueprint, after looking at all the stalls, in order to determine the way you wish to plan out the market!

6.1 Input

The first line of input will be a single integer N denoting the number of stalls.

There will then be N lines of input, each being one of the stalls in the following format:

Name produce area grade

The final line of input will be a single letter, denoting how to organize the produce stalls, denoted below:

G	Output stalls by Grade in alphabetical order.
P	Output stalls by Produce in descending order
A	Output stalls by Area in ascending order.

6.2 Output

The output will each stall printed out, in the sorted order as denoted by the final line of input.

6.3 Sample Input/Output

Sample Input	Sample Output
4	Bob 12 7.9 B
Alice 8 9.0 A	Alice 8 9 A
Bob 12 7.9 B	Charlie 7 2.5 C
Charlie 7 2.50 C	Daisy 6 5.1 D
Daisy 6 5.10 D	
P	