Simulate the behaviour of the queues of the supermarket of an army headquarter. Initially, there are \( n \) queues (1,2,\ldots,\( n \)), each one with its customers. Afterwards, two things can happen:

- A customer arrives to the queue: If the queue is between 1 and \( n \), the customer enters in the queue. Otherwise, the event is ignored.

- A customer goes out of the queue: If the queue is between 1 and \( n \), and the queue is not empty, the customer with highest graduation goes out of the queue. In a event of a tie, goes out the one who arrived first. Otherwise, the event is ignored.

**Input**

The input starts with the number of queues \( n \) (a natural strictly positive). \( n \) lines follow, one per line, each one with its customers (a word) and their graduations ("soldier", "sergeant", "captain", or "colonel"), in the order that they have arrived to queue. After a line in white comes and a series of events, one per line: the word "ENTER" followed by the customer, the graduation, and the queue which he arrives to, or the word "LEAVE" followed by the queue which he leaves.

**Output**

First, your program must print the name of the customers that leave the queues, in the order that they left. After, it must print the final content of the \( n \) queues, each one from the beginning to the end. Follow the format of the instance.

**Hint:** Use the instructions `getline(cin, st)` (where `st` is a string) to read a line, and `istringstream iss(st);` to create a stream `iss` which you can read the names and graduations from, `iss >> nam >> gra;`, where `nam` and `gra` also are strings. Be careful with the first `getline` you do, that will correspond to the line where the number \( n \) is.
Sample input

4
Cristina soldier Tomas captain
Francesc sergeant Damia soldier Domenec
teresa captain Toni sergeant Carles captain
Leave 1
Leave 1
Enter Amalia sergeant 4
Enter Pep soldier 4
Leave 2
Leave 1
Enter Leo captain 1
Enter Maria sergeant 4
Leave 4
Leave 4
Leave 4
Enter Carme soldier 4
Leave 2
Leave -1
Leave 2

Sample output

Leavings
-------
Tomas
Cristina
Domenec
Teresa
Carles
Toni
Francesc
Damia

Final content
------------------
Queue 1: Leo
Queue 2:
Queue 3:
Queue 4: Amalia Maria Pep Carme

Autor: Salvador Roura

Problem information

Author: Salvador Roura
Translator: Carlos Molina
Generation: 2013-09-02 15:02:38

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