Programming Assignment 5

Office Directory

Note: Please strictly follow the instructions, otherwise your program will get less scores since we are using a automated judgement system. A successful attempt means your program passed all our test cases. **Total score for this problem is 6 points and each failed attempt will cost you 0.5 point.**

Your program have to read data from standard input and construct a linked-list, then respond to the query by outputting to standard output.

Input Specification:

Each input contains one test case. For each case, the first line contains a positive integer N (<=10000) which is the total number of professors. Then N blocks follow, each contains the information of a professor in 3 lines, each line contains an alphanumeric only string of length 1 to 15 (inclusive):

Line #1: the first name of the professor
Line #2: the last name of the professor
Line #3: room number of the office where the professor stays

After the directory information, there is a line containing a positive integer M (<=1000) which is the number of user's search queries. Then M lines follow, each line contains a string of length between 1 and 15 (inclusive).

Output Specification:

For each query, first print the number of faculties match the query. Then for each faculty whose first name **or** last name is **the same** as query, print his/her last name, first name and room number in order separated by one space. If there is more than one result satisfy the query, print out the entries in the order provided in input.

Sample Input:

```
4
Xiaohong
Jiang
520
Jiang
Jiang
```

```
233
Wenzhi
Chen
203
Chun
Chen
100
3
Jiang
Chu
Chun
```

Sample Output:

```
2
Jiang Xiaohong 520
Jiang Jiang 233
0
1
Chen Chun 100
```