

## 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.

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  $N$  ( $\leq 10000$ ) which is the total number of professors. Then  $N$  blocks follow, each contains the information of a professor in 3 lines:

Line #1: the last-name of the professor

Line #2: the first-name of the professor

Line #3: room-number of the room where the professor stays

After the directory information, there is a line containing a positive integer  $M$  ( $\leq 1000$ ) which is the number of user's search queries. Then  $M$  lines follow, each is 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
301
```

Chun  
Chen  
220  
3  
Jiang  
Chu  
Chun

**Sample Output:**

2  
Jiang Xiaohong 520  
Jiang Jiang 233  
0  
1  
Chen Chun 201