**Orbroid dialer**

**Problem Statement**:  
Orbroid is an emerging mobile platform, which is opensource and available for various hardware configurations. Given your inclination towards opensource, you decide to contribute code for this platform and choose the module with following functional specification:

Dialer is the central app of orbroid platform which searches for name/number from the contact book when you start dialing numbers on the T9 keypad. The entries in contact book are internally stored as <firstname>:[lastname]:<number>

where ":" is the field seperator.

The search should consider the T9 text equivalent of entered number. An entry matches if the entered number matches any of firstname, lastname or number field. T9 keypad is shown as follows:

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- 1 - 2 - 3 -

-... -abc -def -

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- 4 - 5 - 6 -

-ghi -jkl -mno -

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- 7 - 8 - 9 -

-pqrs-tuv -wxyz-

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------ 0 ------

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PS: Any special character apart from space maps to key 1. Space maps to key 0.

**Constraints**:  
firstname can be [a-zA-Z\_-,. ();]+ and 100 characters in length  
lastname can be [a-zA-Z\_-,. ();]\* and 100 characters in length  
number can be [0-9]+ and 20 characters in length  
  
**Input**:  
First line contains N, 0<n<10^5, followed by N lines, with each line having format of  
First Name:Optional Lastname:Number  
Last line containing the string (of numbers) to be searched  
  
**Output**:  
List of matches in contacts, arranged in increasing order of matching  
position, in format of  
First Name:Optional Lastname:Number

In case multiple matches have same matching position then according to the order in which they appear in the input.

In case no matches are found, then the string, “NOT FOUND” has to be printed without quotes.

**Example**:  
**Input:**  
4  
Steve:Kilogo:837291091  
Mark:Lostworth:428204772  
Bill:Laker:256469278  
John:Mc millan:7778883929  
5646  
  
**Output:**  
John:Mc millan:7778883929  
Bill:Laker:256469278  
Steve:Kilogo:837291091

**Input:**  
3  
Gill:Shaw:61276374888  
Mary:Tudor:2818891889  
Rajiv:Ghosh:919928388011  
8960

**Output:**

NOT FOUND