10199   Tourist Guide

Rio de Janeiro is a very beautiful city. But there are so many places to visit that sometimes you feel a bit lost. But don't worry, because your friend Bruno promised you to be your tourist guide. The problem is that he is not a very good driver, as he can't see very well (poor Bruno).

Because of his disabilities, Bruno have a lot of fines to pay and he doesn't want to have even more to pay, even though he promised you to be your tourist guide. What he would like to know, however, is where are all the cameras that help the police to fine the bad drivers, so he can drive more carefully when passing by them.

Those cameras are strategically distributed over the city, in locations that a driver must pass through in order to go from one zone of the city to another. In order words, if there are two city locations A and B such that to go from one to another (A to B or B to A) a driver must pass through a location C, then C will have a camera.

For instance, suppose that we have 6 locations (A, B, C, D, E and F) and that we have 7 routes (all of them bidirectonal) B-C, A-B, C-A, D-C, D-E, E-F and F-C. There's a camera on C because to go from A to E, for instance, you must pass through C. In this configuration, there's only one camera (on C).

Your task is to help Bruno (as he wants to be a musician and he doesn't want to get even close of computers) and write a program which will tell him where are all the cameras, given the map of the city, so he can be your tourist guide and avoid further fines.

Input

The input will consist on an arbitrary number of city maps. Each city map will begin with an integer N ($2 < N \leq 100$) which stands for the total locations of the city. Then will follow N different place names, one per line. Each place name will have at least one and at most 30 characters (all of them will be lowercase latin letters). Then will follow a non-negative integer R which stands for the total routes of the city. Then will follow R lines with the routes. Each route will be represented by the name of both places that the route connects (remember that the routes are bidirectional). Location names in route description will always be valid and there will be no route from one place to itself. You must read until $N = 0$, and this input should not be processed.

Output

For each city map you must print the line:

`City map #`d`: ` c `camera(s) found`

Where d stands for the city map number (starting from 1) and c stands for the total number of cameras. Then should follow c lines with the location names where are each camera (in alphabetic order). You should print a blank line between output sets.

Sample Input

```
6
sugarloaf
maracana
copacabana
ipanema
corcovado
```

```
lapa
7
ipanema copacabana
copacabana sugarloaf
ipanema sugarloaf
maracana lapa
sugarloaf maracana
corcovado sugarloaf
lapa corcovado
5
guanabarabay
downtown
botanicgarden
colombo
sambodromo
4
guanabarabay sambodromo
downtown sambodromo
sambodromo botanicgarden
colombo sambodromo
0
```

Sample Output

```
City map #1: 1 camera(s) found
sugarloaf

City map #2: 1 camera(s) found
sambodromo
```