Angry Tutor

A tutor is annoying about dividing the students into groups for having quiz. Although he may ask the students to form groups themselves, the students, are too lazy to find groupmates and they always fail to start the quiz on time. The tutor cannot put up with this situation anymore and so he decides to assign the grouping arrangement by himself this time.

Since the class can be quite large in size and he would like to consider groups with different size, it is too laborious to build those groups by hand. As he knows you are an expert in programming, he asks for your help.

Input

The first line of the input is an integer M, then a blank line followed by M datasets. There is a blank line between datasets.

Each dataset consists of a first line describing the sizes of subsets to be output, followed by the names of the students, one per line (until a blank line or EOF). Each line is terminated by an end-of-line marker. Each line contains at most 30 characters each, and there will be a maximum of 12 students in the class.

The first line will contain either a single asterisk in column one, one positive integer, or two positive integers, the first less than the second with one or more spaces in between. Any integers in this line will be no greater than the number of newspapers to follow. The meaning of these is as follows:

```
*        means show all subset sizes from 1 to the number of students in the
         list
```

$a\ b$ means show all subset sizes from a to b, inclusive

n   means show only subsets of size n

Output

The output for each dataset should consist of the comma-delimited subsets of students, one subset per line, grouped by subset size, and with a header line above each subset size group indicating the size. Print a blank line after each subset size group. Within a subset size group, the order of the lines of output should be in the same order as they are inputted. Print a blank line between datasets.

Sample Input

2

```
2 3
Rebecca Taylor
George Jensen
Evita Peroni
Bobbi Brown

*
Rebecca Taylor
George Jensen
Evita Peroni
Bobbi Brown
```

Sample Output

```
Size 2
Rebecca Taylor, George Jensen
Rebecca Taylor, Evita Peroni
Rebecca Taylor, Bobbi Brown
George Jensen, Evita Peroni
George Jensen, Bobbi Brown
Evita Peroni, Bobbi Brown

Size 3
Rebecca Taylor, George Jensen, Evita Peroni
Rebecca Taylor, George Jensen, Bobbi Brown
Rebecca Taylor, Evita Peroni, Bobbi Brown
George Jensen, Evita Peroni, Bobbi Brown


Size 1
Rebecca Taylor
George Jensen
Evita Peroni
Bobbi Brown

Size 2
Rebecca Taylor, George Jensen
Rebecca Taylor, Evita Peroni
Rebecca Taylor, Bobbi Brown
George Jensen, Evita Peroni
George Jensen, Bobbi Brown
Evita Peroni, Bobbi Brown

Size 3
Rebecca Taylor, George Jensen, Evita Peroni
Rebecca Taylor, George Jensen, Bobbi Brown
Rebecca Taylor, Evita Peroni, Bobbi Brown
George Jensen, Evita Peroni, Bobbi Brown

Size 4
Rebecca Taylor, George Jensen, Evita Peroni, Bobbi Brown
```

Modified from UVa 598