8. Musical Chairs

Program Name: Chairs.java Input File: chairs.dat

In the childhood game of Musical Chairs, chairs are placed in a circle with one less chair than players. Children march to the music around the circle of chairs until the music stops. Then each child sits in the chair nearest them. The one child that cannot find a chair is eliminated from the game. A chair is removed and the game continues until there is just one person left. That person is the winner.

You are to write a program to simulate a game of Musical Chairs and determine the winner of each game played. The simulation will work as follows:

- The chairs are numbered from `1` to `m`.
- The children are numbered from `1` to `m+1`.
- You are given two integers `a` and `b`. The first integer `a` is the chair number where child #1 will sit when the music stops. When the music stops, the children begin sitting down with child #1 sitting in chair `a`, child #2 sitting in chair `a+1`, etc, until chair `b` is reached. The person who would have been assigned to chair `b` is eliminated and the next person in line is seated in chair `b`.
- Since the chairs are in a circle, once chair `m` is reached, the children begin sitting in chair `#1` and continue until the rest of the children have been seated.
- The children are then renumbered with the child sitting in chair #1 becoming child #1, the child in chair #2 becoming child #2, etc.
- Chair number `m` is then removed and the game is continued with one less chair and one less child.

Input

The first line will contain a single integer `n` that indicates the number of games to be played. For each game there will be `m+2` lines where `m` is the number of chairs in the game. The first of these lines will be the integer `m` that indicates the number of chairs in the game. The second of these lines will have the first names of `m+1` players separated by a comma and a space. Each of the next `m` lines will have two integers separated by a space. The first integer `a` will represent the chair number where the children will begin sitting and the second number `b` will be the number, relative to the first chair, of the person who will not find a seat.

Output

For each game, you will output the order of the students, beginning with chair #1, each time the music stops. The winner will be the last child. Place whitespace between games.

Example Input File

```
1
6
ANNE, BECKA, CHAD, DREW, ERNIE, FRANK, GEORGE
3 5
2 1
4 3
3 1
2 2
1 2
```

Example Output To Screen

```
FRANK GEORGE ANNE BECKA DREW ERNIE
ERNIE FRANK GEORGE ANNE BECKA
FRANK GEORGE BECKA ERNIE
BECKA ERNIE FRANK
FRANK ERNIE
FRANK
```