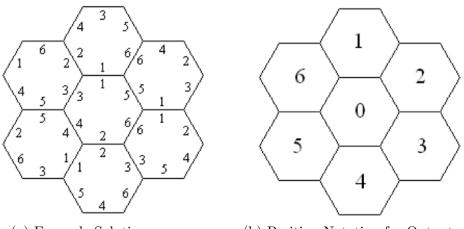
Problem C: Hexagon Perplexagon

A well known puzzle consists of 7 hexagonal pieces, each with the numbers 1 through 6 printed on the sides. Each piece has a different arrangement of the numbers on its sides, and the object is to place the 7 pieces in the arrangement shown below such that the numbers on each shared edge of the arrangement are identical. Figure (a) is an example of one solution:



(a) Example Solution

(b) Position Notation for Output

Rotating any solution also gives another trivially identical solution. To avoid this redundancy, we will only deal with solutions which have a 1 on the uppermost edge of the central piece, as in the example.

Input

The first line of the input file will contain a single integer indicating the number of test cases. Each case will consist of a single line containing 42 integers. The first 6 represent the values on piece 0 listed in clockwise order; the second 6 represent the values on piece 1, and so on.

Output

For each test case, output the case number (using the format shown below) followed by either the phrase No solution or by a solution specification. A solution specification lists the piece numbers in the order shown in the Position Notation of Figure (b). Thus if piece 3 is in the center, a 3 is printed first; if piece 0 is at the top, 0 is printed second, and so on. Each test case is guaranteed to have at most one solution.

Sample Input

2		
3 5 6 1 2 4 5 1 2 3	3 6 4 2 3 5 4 1 6 3 1 5 6 2 4	5 4 1 3 6 2 4 2 3 1 5 6 3 6 1 2 4 5
6341256432	251653241546321	2 5 6 1 4 3 4 6 3 5 2 1 1 3 5 2 6 4

Sample Output

Case 1: 3 0 5 6 1 4 2 Case 2: No solution