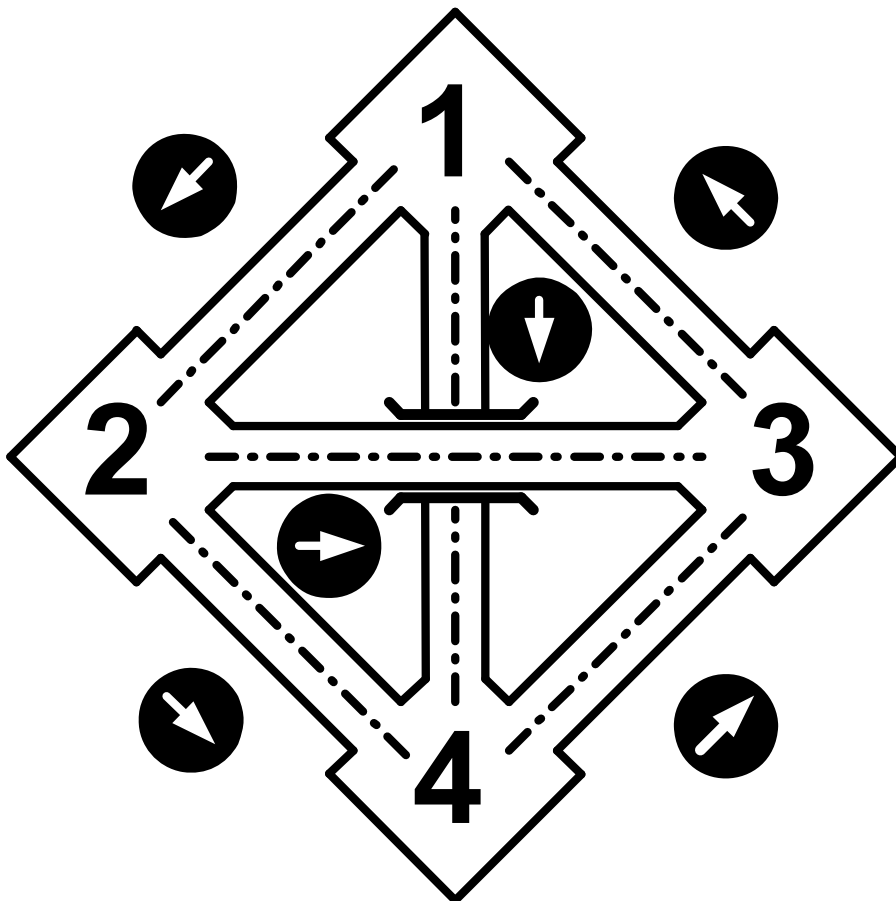


G. Traffic (24 Mb, 3 sec)

Traffic accidents have become more frequent in the city of R-sk. Road repairs, building of overpasses and other measures did no good. Therefore, the mayor resorted to extreme measures of making all roads one-way. It is important to note that there had been no one-way roads in the city before.

There is a total of m roads and n road intersections in R-sk (these are numbered 1 to n). Each road connects two different intersections. All intersections are achievable from each other. There is at most one road connecting any two intersections.

Help the mayor and write a program that will work out the layout of one-way roads for the given map of roads and intersections. The new one-way road layout must still allow for any two intersections to be mutually achievable.



Limitations

$2 \leq n \leq 1000$;
 $1 \leq m \leq 1000000$.

Input

The first line of the input file contains two integers, n and m , separated by spaces. Then m lines follow, containing a pair of integers each. Numbers in these pairs stand for intersections connected by roads.

Output

The output file should contain m lines, one for each road. Each line should contain a pair of numbers, the numbers of intersections connected by a one-way road (traffic direction is “first-to-second”).

If it is impossible to work out the layout of one-way roads then “**No Solution**” (without quotation marks) should be written to the output file.

Sample Input 1	Sample Output 1
2 1 1 2	No Solution
Sample Input 2	Sample Output 2
4 6 1 2 1 3 1 4 2 3 2 4 3 4	1 2 1 4 2 3 2 4 3 1 4 3