Problem E. Smol Vertex Cover

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	256 mebibytes

Given an undirected graph, find a minimum vertex cover. Crazy, right?

Let M be the size of maximum matching, and C be the size of minimum vertex cover. If minimum vertex cover is *smol*, which means $C \le M + 1$, then find it.

Input

Each test contains multiple test cases. The first line contains the number of test cases T ($1 \le T \le 10^4$). Description of the test cases follows.

The first line of each test case contains two integers n and m ($1 \le n \le 500$, $0 \le m \le \frac{n(n-1)}{2}$) — the number of vertices and edges in the graph.

Next m lines describe edges of the graph, each of them contains two integers u and v ($1 \le u < v \le n$) — vertices connected by an edge. Vertices are numbered from 1 to n.

It is guaranteed that the graph doesn't contain multiple edges.

It is guaranteed that the sum of n^2 over all test cases does not exceed 250 000.

Output

For each test case, if minimum vertex cover is smol, then print its size C on the first line, and then C different space-separated vertices that form a vertex cover on the second line. Otherwise print "`not smol`" on a single line (without quotes).

If there are several possible smol minimum vertex covers, print any one of them.

Examples

standard input	standard output
1 5 5 1 2 2 3 3 4 4 5 1 5	3 2 3 5
2 3 0 5 10 1 2 1 3 1 4 1 5 2 3 2 4 2 5 3 4 3 5 4 5	0 not smol

Note

Vertex cover is a set of vertices such that for each edge at least one of the endpoints belongs to the set.

Matching is a set of edges such that no two edges from it have common endpoint.

Note that a minimum vertex cover would not be accepted as a correct answer if it is not smol.