acm International Collegiate Programming Contest IBM event sponsor	**Problem H** Connections	ACM-ICPC Thailand Mini Programming Contest Local Training 2016 SIPA

A *directed graph* is a graph whose edges are one way only. A *strongly connected component* of a directed graph *G* is a subset *S* of the nodes of *G* satisfying the following rules:

1. If *u* and *v* are members of *S* then there are paths from *u* to *v*, and from *v* to *u* in *G*.
2. If *u* is a member of *S* and *v* is another node of *G*, then if there are paths from *u* to *v*, and from *v* to *u* in *G* then *v* is also in *S*.

The strongly connected components of a graph partition its nodes into disjoint sets. That means that every node is in some strongly connected component, and no node is in more than one.

Given a directed graph, how many strongly connected components does it have?

Input

Input starts with a line containing a single integer N, with $0 < N \leq 100$. This tells you how many test cases there will be.

Each following pair of lines contains a single test case. The first line of each test case contains an integer n, with $1 < n \leq 200$. This is the number of nodes the graph has. The second line starts with an integer e with $0 < e < 4n - 4$. This tells you how many edges this particular graph has. Following this are e pairs of integers a, b, with $0 \leq a, b \leq n - 1$. These pairs indicate that there is a directed edge from a to b. There is at most one edge from one node to another.

Output

Each line of output is an integer saying how many strongly connected components the corresponding graph has.

I/O Example

Sample Input	Sample Output
3 6 2 0 5 5 0 5 7 0 1 0 2 1 0 1 3 2 4 3 1 4 2 3 4 0 1 0 2 1 0 2 1	5 2 1