Find Yourself

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1.5 seconds
Memory limit:	1024 megabytes

The Quantum Monster is a peculiar creature that exists simultaneously in different world lines in the form of a wave function. As long as there is a possible world line where the Quantum Monster has not been found, you can never capture it.

Now, there is a Quantum Monster hiding in a connected undirected graph with n nodes and m edges. You wish to capture it. The entire process proceeds in a loop as follows:

1. The Quantum Monster moves along an edge in the graph to an adjacent node.
2. You select some nodes in the graph to observe once. You can know whether the Quantum Monster is in the set of nodes you observed.
3. If the historical information you have is sufficient to uniquely determine the Quantum Monster's location, you succeed in capturing it, and the loop ends. Otherwise, return to step 1.

You want to know whether it is possible to capture this Quantum Monster. In other words, determine whether there exists a capturing strategy such that, regardless of the Quantum Monster's initial position and movement plan, you can uniquely determine its location in a finite number of steps.

Input

The first line contains an integer T ($1 \leq T$), indicating the number of test cases.

For each test case, the first line contains two integers n and m ($2 \leq n$, $1 \leq m \leq 10^6$), representing the number of nodes and edges in the graph.

The next m lines each contain two integers u and v ($1 \leq u, v \leq n$), indicating that there is an undirected edge connecting u and v in the graph.

It is guaranteed that all graphs are connected undirected graphs with no self-loops or multiple edges, and the sum of m over all test cases does not exceed 10^6.

Output

For each test case, output a single line containing the string `YES` if a capturing strategy exists, or `NO` if it does not.

Example

standard input	standard output
3 3 3 1 2 2 3 3 1 4 4 1 2 2 3 3 4 4 1 6 6 1 2 2 3 3 4 4 5 5 6 6 1	NO YES NO