Problem G. Subgraph Isomorphism

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	1024 megabytes

Grammy wants to get the Turing Award! She decided to solve the Subgraph Isomorphism problem in polynomial time.

Since the problem is indeed too hard, she begins with doing some simplifications and trying to solve the simplified problem first.

Now Grammy has a connected undirected graph G with n vertices and m edges. She wants to know whether it is possible to find a tree T with n vertices such that all connected subgraphs of G with n vertices and $n-1$ edges are isomorphic to T. Grammy knows the answer for sure, but she wants to give you a quiz.

Two graphs G and H are isomorphic if and only if there exists a bijection between the vertex sets of G and H ($f : V(G) \to V(H)$) such that any two vertices u and v of G are adjacent in G if and only if $f(u)$ and $f(v)$ are adjacent in H.

Two vertices are adjacent if and only if they are directly connected by an edge.

Input

The input consists of multiple test cases.

The first line contains an integer T ($1 \le T \le 10^5$), denoting the number of test cases.

For each test case, the first line contains two integers n, m ($1 \le n \le 10^5$, $n-1 \le m \le 10^5$), denoting the number of vertices and the number of edges respectively.

Each of the next m lines contains two integers u_i, v_i ($1 \le u_i, v_i \le n$, $u_i \ne v_i$), denoting an edge (u_i, v_i).

It is guaranteed that there are no multiple edges and the graph is connected.

It is guaranteed that the sum of n and the sum of m in all test cases will not exceed 10^6.

Output

For each test case, output one line containing either "`YES`" or "`NO`".

Example

standard input	standard output
4 7 6 1 2 2 3 3 4 4 5 5 6 3 7 3 3 1 2 2 3 3 1 5 5 1 2 2 3 3 4 4 1 1 5 1 0	YES YES NO YES