Bipartite graph

Given graph G containing n vertices, m edges, and a simple graph, write a program to check whether the graph is Bipartite or not.

Input

The first line contains an integer T, the number of test cases. Next is T test cases, each test case includes:

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The first line contains 2 numbers n, m (n, m $\leq 10^5$). Where n is the number of vertices, m is the number of edges. The vertices are numbered from 0 to n-1.

In the next m lines, each line contains two integers u, v ($0 \leq u, v < n$) that are the edges of the graph.

Output

Include T lines, output "Yes" if the graph is Bipartite, otherwise output "No".

Example

Input:
2
3 2
0 2
1 2
3 3
0 2
1 2
0 1
Output:
Yes
No