

Bipartite Graph

Time Limit 1 sec/Memory Limit 256 MB

Given an undirected connected graph with n vertices and m edges.

Determine if it is a bipartite graph.

Input Format

- The first line of the input contains two integers n, m .
- The following m lines each line contain two numbers a_i, b_i , representing the edge connection between a_i, b_i .

Output format

- If input graph is bipartite graph output **Yes**
- Otherwise output **No**.

Constraints

- $1 < n, m \leq 200000$

sample input #1	sample output #1
4 3 3 4 1 4 1 2	Yes

sample input #1	sample output #1
6 7 1 3 1 5 1 6 1 2 3 6 3 4 2 6	No

