# Problem H. Graph Isomorphism

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|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 256 megabytes |

Two undirected graphs with $n$ vertices $G_1$ and $G_2$ are called isomorphic if there is a permutation $p_1, p_2, \ldots, p_n$, such that

$$(u, v) \text{ is an edge of } G_1 \iff (p_u, p_v) \text{ is an edge of } G_2$$

Given an undirected graph $G$, you should determine whether it is true that there are no more than $n$ distinct graphs that are isomorphic to $G$.

Two undirected graphs with the same number of vertices are considered distinct if their sets of edges are distinct.

## Input

Each test contains multiple test cases. The first line contains the number of test cases $t$ ($1 \le t \le 10^5$). Description of the test cases follows.

The first line of each test case contains two positive integers $n$ and $m$ ($1 \le n, m \le 10^5$) — the number of vertices and the number of edges in the graph.

Following $m$ lines contain a pair of integers $u$ and $v$ each ($1 \le u, v \le n$), meaning that there is an edge between $u$ and $v$.

The graph does not contain loops or multiple edges. It is guaranteed that the sums of $n$ and $m$ over all test cases do not exceed $10^5$ each.

## Output

For each test case, output `YES` if there are at most $n$ distinct graphs isomorphic to the given graph. Otherwise, output `NO`.

## Example

| standard input | standard output |
|---|---|
| 3<br>3 3<br>1 2<br>2 3<br>3 1<br>3 2<br>1 2<br>2 3<br>5 5<br>1 2<br>2 3<br>3 4<br>4 5<br>5 1 | YES<br>YES<br>NO |