Cliques Y16864_en

Given an undirected graph with n vertices and m edges, tell whether every connected component is a clique, that is, if all the vertices of the component are directly connected to each other.

Input

Input consists of several cases. Each case begins with n and m, followed by m pairs x y, with $x \neq y$, indicating an edge between x and y. Suppose $1 \leq n \leq 10^5$, $0 \leq m \leq 5n$, that the vertices are numbered between 0 and $n-1$, and that there are no repeated edges.

Output

For each given graph, print "`SI`" if every connected component is a clique, and "`NO`" otherwise.

Observation

Even if a green light is obtained, only solutions that perform a single graph traversal will receive the maximum score.

Sample input 1

```
6 4
0 1  2 1  2 0  3 5

6 6
0 5  1 2  2 3  3 4  4 1  2 4
```

Sample output 1

```
SI
NO
```

Problem information

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