Two colors P29033_en

Write a program that, given an undirected graph, tells if we can paint all vertices with only two colors, in such a way that no two neighboring vertices have the same color.

Input

Input consists of several cases, each with the number of vertices n and the number of edges m, followed by m pairs x y indicating an edge between x and y. Suppose $1 \leq n \leq 10^4$, $0 \leq m \leq 5n$, that vertices are numbered from 0 to $n-1$, $x \neq y$, and that there is no more than one edge between any pair x y.

Output

For every case, print "`yes`" if the graph is two-colorable, and "`no`" otherwise.

Sample input 1

```
2 1
0 1

4 3
1 2  3 2  3 1

1 0

4 2
0 3  2 1
```

Sample output 1

```
yes
no
yes
yes
```

Problem information

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