Looping path **P28620_en**

Disetè Concurs de Programació de la UPC - Semifinal (2019-06-19)

Given a directed graph with n vertices and m arcs, and two vertices x and y, is there a path that goes from x to y, passing through at least some other vertex at least twice? We will call this a looping path. Note that it can visit x and y only once (at the beginning and at the end).

Input

Input consists of several cases, each with n and m, followed by m pairs u v, with $u \neq v$, indicating an arc from u to v, followed by x and y, with $x \neq y$. Assume $2 \leq n \leq 10^5$, $0 \leq m \leq 5n$, that vertices are numbered from 0 to $n-1$, and that there are no repeated arcs.

Output

For every graph, print "`YES`" if there is a looping path from x to y, and "`NO`" otherwise.

Sample input

```
3 3
0 2  2 0  2 1
0 1

4 3
1 3  0 1  3 1
0 2

4 4
3 2  1 3  0 1  3 1
0 2

4 4
1 2  1 3  0 1  3 1
0 2
```

Sample output

```
NO
NO
YES
YES
```

Problem information

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