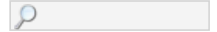


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E. Case of Computer Network

time limit per test: 3 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

Andrewid the Android is a galaxy-known detective. Now he is preparing a defense against a possible attack by hackers on a major computer network.

In this network are n vertices, some pairs of vertices are connected by m undirected channels. It is planned to transfer q important messages via this network, the i -th of which must be sent from vertex s_i to vertex d_i via one or more channels, perhaps through some intermediate vertices.

To protect against attacks a special algorithm was developed. Unfortunately it can be applied only to the network containing directed channels. Therefore, as new channels can't be created, it was decided for each of the existing undirected channels to enable them to transmit data only in one of the two directions.

Your task is to determine whether it is possible so to choose the direction for each channel so that each of the q messages could be successfully transmitted.

Input

The first line contains three integers n , m and q ($1 \leq n, m, q \leq 2 \cdot 10^5$) — the number of nodes, channels and important messages.

Next m lines contain two integers each, v_i and u_i ($1 \leq v_i, u_i \leq n$, $v_i \neq u_i$), that means that between nodes v_i and u_i is a channel. Between a pair of nodes can exist more than one channel.

Next q lines contain two integers s_i and d_i ($1 \leq s_i, d_i \leq n$, $s_i \neq d_i$) — the numbers of the nodes of the source and destination of the corresponding message.

It is not guaranteed that in it initially possible to transmit all the messages.

Output

If a solution exists, print on a single line "Yes" (without the quotes). Otherwise, print "No" (without the quotes).

Examples

input	Copy
4 4 2 1 2 1 3 2 3 3 4 1 3 4 2	
output	Copy
Yes	

input	Copy
3 2 2 1 2 3 2 1 3 2 1	
output	Copy
No	

input	Copy
--------------	----------------------

Codeforces Round #310 (Div. 1)

[Finished](#)
[Practice](#)


→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

→ Submit?

Language: GNU G++11 5.1.0

Choose file: 选择文件 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

[Submit](#)

→ Last submissions

Submission	Time	Verdict
57120421	Jul/16/2019 03:27	Accepted
57120352	Jul/16/2019 03:23	Wrong answer on test 59
57120112	Jul/16/2019 03:06	Wrong answer on test 59
57119763	Jul/16/2019	Wrong answer

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

output

Copy

Yes

Note

In the first sample test you can assign directions, for example, as follows: $1 \rightarrow 2$, $1 \rightarrow 3$, $3 \rightarrow 2$, $4 \rightarrow 3$. Then the path for the first message will be $1 \rightarrow 3$, and for the second one — $4 \rightarrow 3 \rightarrow 2$.

In the third sample test you can assign directions, for example, as follows: $1 \rightarrow 2$, $2 \rightarrow 1$, $2 \rightarrow 3$. Then the path for the first message will be $1 \rightarrow 2 \rightarrow 3$, and for the second one — $2 \rightarrow 1$.

	02:42	on test 8
57100360	Jul/15/2019 16:34	Wrong answer on test 8

→ Problem tags

dfs and similar graphs trees *2800

No tag edit access

→ Contest materials

- Announcement #1 (en) ×
- Announcement #2 (ru) ×
- Tutorial #1 (en) ×
- Tutorial #2 (ru) ×

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