A Perfect Pair

Problem Statement

You are given an undirected graph with n nodes (numbered from $1 \ldots n$) and m edges (without any parallel edges or self loops). A pair of vertices u, v in the graph are said to be **perfect** if there exists at least two different paths connecting vertex u and vertex v which do not contain any other vertex in common except u and v.

For Example:

Path 1: $u, a_i, a_{i+1}, a_{i+2}, a_{i+3} \ldots v$
Path 2: $u, b_j, b_{j+1}, b_{j+2}, b_{j+3} \ldots v$
$a_i \neq b_j \forall i, j$

Now, given q queries of the type u, v, tell whether vertex u and vertex v form a perfect pair according to the above definition.

Input Format

The first line contains three space separated integers n, m, q.
The next m lines contain two space separated integers u, v denoting that there exist an undirected edge in the graph between vertex u and vertex v.
The next q lines describe the queries. Each line contains two space separated integers u, v.

$1 \leq n \leq 10^5$
$1 \leq m \leq min(\frac{n*(n-1)}{2}, 2 * 10^5)$
$1 \leq q \leq 10^5$

Output Format

For each query, if the given pair of vertices satisfies the condition of a perfect pair, print **YES**; otherwise, print **NO**.

Sample Input

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

Sample Output

```
NO
YES
NO
```

Explanation

- **2 4** : Only a single path 2-->4 exists between the given vertices. Hence, they do not form a perfect pair.

- **3 2** : Two different paths are 3-->2 and 3-->1-->2 . Hence, they form a perfect pair.
- **3 4** : Whatever path we might follow, we always need to cross the edge 2-->4 . Hence, they do not form a perfect pair