exists a path from u to v whose length is 2.

Given an **undirected** graph $G = (V, E)$, note that:

- G may not be connected.
- G doesn't have multiple edges and self-loops.

There are n vertices in V, denoted by $1, 2, ..., n$.

Please answer q queries, each queries contains two integers u and v. If u and v is *2-hop*, print a line "Y". Otherwise, print a line "N".

Input

The first line of the input contains an integer t — the number of testcases.

The first line of each testcase contains three integers n, m and q — the size of V, the size of E and the number of queries.

Then m lines follow, each line contains two integers u_i and v_i ($1 \leq u_i, v_i \leq n$; $u_i \neq v_i$), being an edge in E.

Then q lines follow, each line contains two integers u_j and v_j ($1 \leq u_j, v_j \leq n$; $u_j \neq v_j$), being a query described above.

Restrictions

For test ID 1 (each 20 points):

- $1 \leq t \leq 1$
- $2 \leq n \leq 100$
- $1 \leq m \leq \frac{n(n-1)}{2}$
- $1 \leq q \leq 500$

For test ID 2 (each 20 points):

- $1 \leq t \leq 10$
- $2 \leq n \leq 100$
- $1 \leq m \leq \frac{n(n-1)}{2}$
- $1 \leq q \leq 500$

For test ID 3-5 (each 20 points):

- $1 \leq t \leq 10$
- $2 \leq n \leq 1000$
- $1 \leq m \leq \frac{n(n-1)}{2}$
- $1 \leq q \leq 5000$

Output

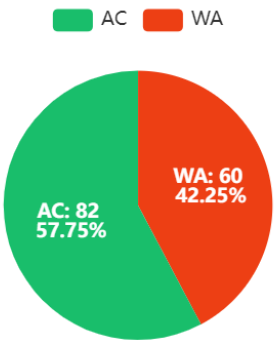
For each query, output one line.

Submissions
Rankings
View Contest

Information

ID	2
Time Limit	1000MS
Memory Limit	256MB
IO Mode	Standard IO
Created By	ta_david
Level	Low
Score	100
Tags	Show

Statistic Details



```
1 2
2 3
3 4
4 5
1 2
1 3
1 4
7 5 4
1 2
3 2
1 3
2 6
4 6
2 4
4 6
5 3
3 1
```

```
N
Y
N
N
Y
```

Language: C Theme: Solarized Light

```
1
```

You have solved the problem

Contest has ended

Submit for Sample Test Submit

Sample Test Input

Sample Test Output

```
3 4
4 5
1 2
1 3
1 4
7 5 4
1 2
3 2
1 3
2 6
4 6
2 4
4 6
5 3
3 1
```