Traffic Real Time Query System

Time Limit: 2000/1000 MS (Java/Others) Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 3013 Accepted Submission(s): 587

Problem Description

City C is really a nightmare of all drivers for its traffic jams. To solve the traffic problem, the mayor plans to build a RTQS (Real Time Query System) to monitor all traffic situations. City C is made up of N crossings and M roads, and each road connects two crossings. All roads are bidirectional. One of the important tasks of RTQS is to answer some queries about route-choice problem. Specifically, the task is to find the crossings which a driver MUST pass when he is driving from one given road to another given road.

Input

There are multiple test cases.
For each test case:
The first line contains two integers N and M, representing the number of the crossings and roads.
The next M lines describe the roads. In those M lines, the i^{th} line (i starts from 1)contains two integers X_i and Y_i, representing that road$_i$ connects crossing X_i and Y_i ($X_i \neq Y_i$).
The following line contains a single integer Q, representing the number of RTQs.
Then Q lines follows, each describing a RTQ by two integers S and T($S \neq T$) meaning that a driver is now driving on the roads and he wants to reach roadt . It will be always at least one way from roads to roadt.
The input ends with a line of "0 0".
Please note that: $0<N<=10000$, $0<M<=100000$, $0<Q<=10000$, $0<X_i,Y_i<=N$, $0<S,T<=M$

Output

For each RTQ prints a line containing a single integer representing the number of crossings which the driver MUST pass.

Sample Input

```
5 6
1 2
1 3
2 3
3 4
4 5
3 5
2
2 3
2 4
0 0
```

Sample Output

```
0
1
```

Source

2010 Asia Hangzhou Regional Contest

Recommend

lcy&zhengfeng

Hangzhou Dianzi University Online Judge 3.0
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