Interstellar

Time Limit: 1 Second
Memory Limit: 256 MB

It is year 2079 and human has already built up habitats on planets across the galaxy! More excitingly, scientists have recently invented spaceships that can travel at speed of light, which means that people can now travel between planets almost instantly! As a travel enthusiast, LetianPie is planning his trip to explore fascinating planets across the galaxy. He found that the Interstellar Connection Provider Company (ICPC) has opened m interstellar routes operated by the new spaceship, and the ticket price is so cheap that everyone can afford any number of trips! The only problem is that spaceships could crash if interplanetary dust clouds appear, and the company has to pause operating the routes that are at risk (i.e. routes traveling across the dust clouds) before the dust clouds disappear. However, to maintain the connection between planets, ICPC will temporarily open new routes to replace these affected routes. Specifically, if planets x and y were reachable from each other through the routes before a dust cloud appears but are no longer connected afterwards, ICPC will open a new direct route between x and y if there isn't any dust clouds between x and y.

LetianPie wants you to help him find out if his trip will be affected by these incidents. In specific, he estimate that he will be on planet x at time t, and he has already found that his trip might get influenced by two nearest dust clouds located between planets $l-1$ and l, and between planets r and $r+1$ ($l \leq x \leq r$ and there isn't any dust clouds between planets l and r at time t). He wants you to calculate the number of planets he can travel to from planet x (excluding x itself) given the information. But since LetianPie hasn't finalized his travel plan, he doesn't know the value of x yet, so he asks you to find the answer for each planet in $[l, r]$ instead.

Input

The first line contains three integers n, m, and q ($0 \leq m < n \leq 5 \times 10^4$, $1 \leq q \leq 5 \times 10^4$) - number of planets, number of routes provided by ICPC, and number of queries.

The next m lines describe the routes. Each line contains two integers u and v ($1 \leq u, v \leq n$), denoting a bidirectional route between planets u and v. It is guaranteed that there are no self-loops but there might be multiple edges.

The last q lines describe the queries. Each line contains two integer l and r ($1 \leq l \leq r \leq n$), as described in the problem statement.

Output

For each query, output a single integer denoting $\sum_{x=l}^{r}$ number of reachable planets from x.

Sample Inputs

```
5 2 2
1 3
2 4
1 2
2 4
```

Sample Outputs

```
0
2
```

Note

- For the first query, planets 1 and 2 can only reach themselves because there is a dust cloud between planet 2 and planet 3.
- For the second query, planets 2 and 4 can reach each other, and planet 3 can only reach itself.