B. Traffic Control

Time Limit: 4s
Memory Limit: 1GB

The Flea Kingdom Sports Game is being held in the capital city, **Flealia**, drawing flea citizens from all over the country. To maintain traffic order during the event, the Flea King has decided to implement traffic control in the capital.

The road system of Flealia is a network with n intersections and m **bidirectional** roads (u, v). It is guaranteed that $u \neq v$, and there is at most one road between any pair of intersections (i.e., no multi-edges or self-loops).

The king plans to temporarily **keep some roads open** and **close the rest**.

However, to ensure spectators can reach the venue and cheer for their favorite teams, the open road network must satisfy a set of special constraints:

For the i-th constraint, there must exist **at least c_i ($1 \leq c_i \leq 2$) different edge-simple paths** from intersection s_i to t_i using only the open roads.

- An **edge-simple path** is a path that does not use the same road more than once and does not traverse a road in both directions.
- Two edge-simple paths are considered **different** if the sequences of intersections they pass through are not exactly the same.
- Notably, a path may consist of just a single vertex — such paths count when $s_i = t_i$.

You are to help the Flea King compute the number of road-opening plans that satisfy all the constraints. Output the result modulo 998244353.

Formal Statement

Given an undirected graph $G = (V, E)$ with n vertices and m edges, compute the number of edge subsets $E' \subseteq E$ such that the subgraph (V, E') satisfies all k constraints. The i-th constraint requires that there are at least c_i different edge-simple paths from s_i to t_i in (V, E'), where $1 \leq c_i \leq 2$.

Output the result modulo 998244353.

Input Format

- The first line contains three integers n, m, k: the number of intersections, roads, and constraints, respectively.
- The next m lines each contain two integers u, v representing a road between intersections u and v.
- The following k lines each contain three integers s_i, t_i, c_i, representing the i-th constraint.

Output Format

- One line with a single integer: the number of valid road-opening plans modulo 998244353.

Sample 0

Input

```
4 6 4
1 2
1 3
1 4
2 3
2 4
3 4
1 2 1
1 1 2
2 3 2
2 4 2
```

Output

```
19
```

Samples 1~7

See the download attachments.

Constraints

For all test cases:

- $1 \le n \le 16$
- $0 \le m \le \binom{n}{2}$
- $0 \le k \le n(n-1)$
- $1 \le u \ne v \le n$
- $1 \le s_i, t_i \le n$
- $1 \le c_i \le 2$

Subtask	Points	Max n	Special Conditions
1	10	7	—
2	10	16	All $c_i = 1$
3	30	10	—
4	10	12	—
5	10	14	—
6	15	15	—
7	15	16	—