

# B. Mr. Kitayuta's Colorful Graph

time limit per test: 1 second  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

Mr. Kitayuta has just bought an undirected graph consisting of  $n$  vertices and  $m$  edges. The vertices of the graph are numbered from 1 to  $n$ . Each edge, namely edge  $i$ , has a color  $c_i$ , connecting vertex  $a_i$  and  $b_i$ .

Mr. Kitayuta wants you to process the following  $q$  queries.

In the  $i$ -th query, he gives you two integers —  $u_i$  and  $v_i$ .

Find the number of the colors that satisfy the following condition: the edges of that color connect vertex  $u_i$  and vertex  $v_i$  directly or indirectly.

## Input

The first line of the input contains space-separated two integers —  $n$  and  $m$  ( $2 \leq n \leq 100$ ,  $1 \leq m \leq 100$ ), denoting the number of the vertices and the number of the edges, respectively.

The next  $m$  lines contain space-separated three integers —  $a_i$ ,  $b_i$  ( $1 \leq a_i < b_i \leq n$ ) and  $c_i$  ( $1 \leq c_i \leq m$ ). Note that there can be multiple edges between two vertices. However, there are no multiple edges of the same color between two vertices, that is, if  $i \neq j$ ,  $(a_i, b_i, c_i) \neq (a_j, b_j, c_j)$ .

The next line contains a integer —  $q$  ( $1 \leq q \leq 100$ ), denoting the number of the queries.

Then follows  $q$  lines, containing space-separated two integers —  $u_i$  and  $v_i$  ( $1 \leq u_i, v_i \leq n$ ). It is guaranteed that  $u_i \neq v_i$ .

## Output

For each query, print the answer in a separate line.

## Examples

| input  |
|--|
| 4 5<br>1 2 1<br>1 2 2<br>2 3 1<br>2 3 3<br>2 4 3<br>3<br>1 2<br>3 4<br>1 4 |
| output   |
| 2<br>1<br>0  |

| input   |
|---|
| 5 7<br>1 5 1<br>2 5 1<br>3 5 1<br>4 5 1<br>1 2 2<br>2 3 2<br>3 4 2<br>5 |

|                                 |
|---------------------------------|
| 1 5<br>5 1<br>2 5<br>1 5<br>1 4 |
| output                          |
| 1<br>1<br>1<br>1<br>2           |

**Note**

Let's consider the first sample.

The figure above shows the first sample.

- Vertex 1 and vertex 2 are connected by color 1 and 2.
- Vertex 3 and vertex 4 are connected by color 3.
- Vertex 1 and vertex 4 are not connected by any single color.