

# Problem I

## Flooding

Time Limit: 1 second

The incoming rainy season can flood the streets in the city and obstruct the traffic. The city government is considering all possible solutions to prevent flooding in the city. First of all, they need to know the importance of each street to prioritize for flood prevention. The city consists of  $n$  locations connected by  $m$  two-way streets. It is possible to have multiple streets connecting two locations and it is also possible to have a street connecting a location with itself. The importance of a street is the number of pairs  $(u, v)$  that every route going from location  $u$  to location  $v$  must go through that street.



Given the city map and  $Q$  queries, calculate the importance of the street that is provided in each query.

### Input

The first line contains two integers  $n, m$  ( $1 \leq n \leq 10^5$ ;  $1 \leq m \leq 2 \times 10^5$ )- the number of locations in the city and the number of streets connecting them.

The  $i$ -th line in the next  $m$  lines contains two integers  $u_i, v_i$  ( $1 \leq u_i, v_i \leq n$ ) describing the  $i$ -th street connecting two locations  $u_i$  and  $v_i$ .

The next line contains an integer  $Q$  ( $1 \leq Q \leq 10^5$ ) - the number of queries.

The  $i$ -th line in the next  $Q$  lines contains an integer  $e_i$  ( $1 \leq e_i \leq m$ ).

### Output

Print  $Q$  lines in which, the  $i$ -th line contains exactly one integer - the importance of the  $e_i$ -th street.

#### Sample Input

#### Sample Output

5 5		4
1 2		0
2 3		0
2 4		0
3 4		4
4 5		
5		
1		
2		
3		
4		
5		