

Problem: Resuming services post lockdown

There are a total of 'n' services in a city, numbered from 1 to n. The services are operating in different localities within the city. Due to the lockdown, these services are temporarily inoperational.

As a preventive measure, the government imposed a **service operational constraint**.

For any 2 services x and y, the service x will be operational only after some 'z' days of opening of service y or vice-versa.

However, due to economic concerns, the government has **now given some relaxation** which is as follows:

Once any service is opened in a locality, all other services within that locality can be opened. Thus the moment one service becomes operational, all services in that locality become operational.

Given the number of services 'n', the information about the service localities and the service operational constraint between the services (the number of days after which the other service becomes operational after opening up of one of the 2 services), find the minimum number of days after which all services in the city will become operational.

Note: Assume the following:

- 1) Service 1 opens at time $t=0$.
- 2) Each locality has at least one service.
- 3) It is always possible to calculate the opening time for each service.

Constraints:

- $1 \leq t \leq 10$
- $1 \leq n \leq 2000$
- $1 \leq k \leq 2000000$
- $0 \leq l < n$
- $1 \leq d \leq 100000$

Input:

The first line of input contains a single integer 't' denoting the no. of test cases. The first line of each test case contains 3 integers 'n', 'l' and 'k'. N denoting the total no. of services, k denoting the total no. of operational constraints. Each of the next l lines contain 2 integers 's' and 't', denoting that 's' and 't' lie in the same locality. The next k lines contain 3 integers, u, v and d denoting the 2 services u and v and the no. of days 'd' after which the other service resumes after opening up of 1 service.

Output:

For each test case output a single integer denoting the minimum no. of days after which all services of the city become operational.

Sample Test case:

Input:

1

5 3 10

1 2

4 3

5 4

1 2 1

1 3 2

1 4 3

1 5 3

2 3 4

2 4 2

2 5 5

3 4 7

3 5 2

4 5 5

Output:

2