

C. Assemble

Time Limit: 2 seconds

Points: 100

Catherine is building a spaceship from a variety of parts. All the parts have been built in various cities, connected by a rail network. The last step is to transport all the spaceship parts to a single city for assembly.

There are n cities in the network, with m railroads each joining a pair of cities. It is possible to travel between any pair of cities by some sequence of railroads. Each railroad has an associated integer denoting its level. Buying a freight pass at level k allows the owner to send unlimited amounts of freight along any railroad of level at most k .

Freight passes are very expensive, so help Catherine find the lowest level of freight pass required to gather all spaceship parts in a single city.

Input

The first line of input consists of three integers, n , m and p , representing the number of cities, railroads and spaceship parts respectively.

m lines follow, the i th of which consists of three space-separated integers, a_i, b_i, ℓ_i , representing the cities joined by the i th railroad and its level.

One line follows, consisting of p space-separated integers, c_1, c_2, \dots, c_p , representing the cities where the spaceship parts were built.

Constraints

All input will satisfy the following constraints:

- $1 \leq n \leq 100,000$.
- $n - 1 \leq m \leq 100,000$.
- $1 \leq p \leq 100,000$.
- For all $1 \leq i \leq m$, $1 \leq a_i < b_i \leq n$ and $1 \leq \ell_i \leq 100,000$.
- For all $1 \leq i \leq p$, $1 \leq c_i \leq n$.

Output

Output the lowest level of freight pass required to transport all spaceship parts to a single city for assembly. If no freight pass is required, output 0.

Subtasks

C1 (50 points): $1 \leq n \leq 1,000$, $n - 1 \leq m \leq 1,000$.

C2 (50 points): no restrictions.

Sample Input 1

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

Sample Output 1

```
2
```

Sample Input 2

```
5 7 9
1 2 3
1 5 4
2 4 2
2 5 1
3 4 2
3 5 2
4 5 1
2 4 3 3 5 1 4 2 5
```

Sample Output 2

```
3
```

Sample Input 3

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

2 4 2
3 4 2
2 2

Sample Output 3

0

Explanation

In sample 1, one optimal solution is to use railroads 4 and 5 to move both parts to city 4.

In sample 2, a level 3 freight pass allows use of all railroads except railroad 2, which is sufficient to gather all spaceship parts.

In sample 3, all parts are already in city 2, so no freight pass is required.