Problem FEEDNERD: Feeding The Nerds

As on every day, at 11:45 AM is Nerd Feeding Time (NFT). All the nerds are leaving the lectures and build up a huge stream of humans heading towards the Mensa. While this is nothing unusual, the same happens every day: Some kind of a heavy traffic jam. Although the Mensa staff have already tried to solve the NFT problem by removing any tasty food from their menu, the nerds seem to be rather unimpressed and still keep going to the Mensa.
However, Prof. Killjoy has had a fantastic idea how the problem can be solved: Harder exams. If the exams get harder, fewer students will go to the Mensa – either because they have to learn instead of being fed, or because they have quit their academic career. The latter can be achieved quite easily by letting the students fail their exams.
In order to let him decide how many students should fail the next examination, Killjoy has asked you to calculate how many students can get from their lecture rooms to the Mensa tables in the time between 11:45 and 12:45, i.e. within an hour. You are therefore supplied with a graph describing the infrastructure of the S"udgel"ande. The graph is a DAG (Directed Acyclic Graph) where all edges (corridors) connecting two vertices (places) A and B have a capacity. The capacity of an edge is the number of students that can walk along the edge within one hour.
If this helps you, you may think of the problem as of a network-flow maximization task.

Input

The first line of the input file contains an integer n, the number of test cases.
For each of the n test cases, you will be given v, the number of vertices (vertices are numbered from 0 to $v-1$), and the number of edges, e, in one line. Each of the next e lines contains the description of an edge, consisting of A and B (indicating that the edge goes from A to B) and an integer c, the capacity of the edge.
The following line contains the number of lecture rooms, l, and l integer numbers indicating the vertices of the lecture rooms. Eventually, the last line of each test case contains M, the number of the vertex where the Mensa tables are situated. The test case is terminated by a blank line.
It is guaranteed that the graph contains no more than 50 vertices and no more than 200 edges. Neither the capacity of any edge inside the graph nor the maximum flow will exceed 1000000.

Output

For every test case in the input, the output contains a single line containing the maximum number of students being able to reach the Mensa tables within one hour, i.e. the maximum flow in the network.

Sample Input 1

```
2
9 9
0 3 200
1 3 300
2 3 50
3 4 200
3 5 200
3 6 150
5 6 180
6 7 1000
7 8 500
3 0 1 2
8

4 2
0 1 100
2 1 100
2 0 2
3
```

Sample Output 1

```
330
0
```