11812   Innovative Procession Management

It's FIFA World Cup 2010. The whole world is waiting for the greatest event on the planet. Since huge number of people will come to South Africa for the world cup; its quite tough for them to maintain the flow of the people as well as the traffic. That's why they are planning to forbid vehicles to use some roads. But if all the roads are forbidden then people would be in trouble.

The World Cup authority has divided South Africa into n junctions and m one way roads. Before each match, the authority will consider some junctions as interesting junctions, where people will get together and set out for the stadium in processions. Now each procession will try to use the shortest path towards the stadium. That's why the World Cup authority wants to forbid vehicles in the roads which may be used by the processions.

The idea is as follows. They will first find the shortest path amongst the paths from the interesting junctions to the stadium. They will block all the roads in the path. If there are multiple shortest paths from one or multiple interesting junctions to the stadium, they will block all of them. They will send some vehicles along the paths which will put notice boards to the roads such that no vehicles can go through. After that they will search for more shortest-paths considering the blocked roads and send vehicles for the paths (if any). They will continue blocking the roads until no path is found.

Now your task is to solve the problem for them.

Input

Input starts with an integer T (≤ 100), denoting the number of test cases.

Each case starts with a blank line. The next line contains three integers n ($2 \leq n \leq 100$), m ($0 \leq m \leq 10000$), and S ($1 \leq S < n$). S is the total number of interesting junctions.

The next line will contain $S + 1$ different integer (each of them lies between 1 and n) separated by spaces, where the first S integers denote the interesting junctions, and the last one denotes the stadium.

Each of the next m lines will contain 3 integers $u\ v\ w$ ($1 \leq u, v \leq n$, $u \neq v$, $1 \leq w \leq 10000$) meaning that there is a road from u to v, and the length is w. If multiple roads are listed for same junctions in either direction, you can assume that the roads are different.

Output

For each case print the case number in a single line. If no path is found then print 'No road to block'. If a shortest path is found then print the path cost c as 'The path cost is c'. After that report the roads that are blocked in $u\ v\ w$ form (as in input). They should be listed in ascending order based on u; for same u, based on v. Report all the shortest path costs and the roads in similar format. Check the samples for more details.

Sample Input

```
3

2 1 1
1 2
2 1 10

3 5 2
1 3 2
```

```
2 1 10
1 2 20
1 2 20
1 2 30
3 2 30

4 4 2
1 2 4
1 4 10
2 4 10
1 3 20
3 4 10
```

Sample Output

```
Case 1:
No road to block
Case 2:
The path cost is 20
1 2 20
1 2 20
The path cost is 30
1 2 30
3 2 30
Case 3:
The path cost is 10
1 4 10
2 4 10
The path cost is 30
1 3 20
3 4 10
```