Algorithmen und Wahrscheinlichkeit
Programming Exercise

Exercise – *Stop the Thieves*

You have heard rumours that the thieves guild wants to reach the Queen's castle to steal your majesty's famous crown. As head of the Queen's guard, your goal is to prevent this.

The cities of the realm are connected through a series of roads. These roads are unidirectional, that is, a road that goes from city u to city v cannot be used to go from city v to city u. Also, there is at most one road between each pair of cities and there is no road that starts and ends at the same city.

In order to prevent theft you can decide to close roads that connect different cities. However, closing the roads has a cost, as you have to station soldiers in them. What is more, some roads are too important to the trade routes of the realm and closing them is not an option.

Thus, your goal is to minimise the cost of ensuring that there is no path between the thieves guild and the Queen's castle by closing certain roads. In case this is not possible, you should notify the queen about it.

Input   The first line of the input file contains a number $t \leq 30$ of test cases. Each of the t test cases is described as follows.

- It starts with a line that contains two integers n m, separated by a space, denoting the number of cities in your realm ($2 \leq n \leq 100$) and the number of roads between them ($0 \leq m \leq 1000$). The thieves guild is located at city 0 and the Queen's castle is located at city $n - 1$.

- The next m lines each contain three integers u v w, separated by a space, denoting there is a road from city u to city v ($0 \leq u, v \leq n-1$), and the cost of closing this road ($-1 \leq w \leq 100$). If the cost is negative ($w = -1$) it means that this road is too important and cannot be closed.

Output   For each test case output a single integer with the minimum cost of closing certain roads in order to ensure that the thieves guild cannot reach the Queen's castle. If it is not possible to ensure this, output 'no'.

Points   This exercise is worth 100 points in total.

Sample Input	Sample Output
4	42
2 1	no
0 1 42	0
2 1	6
0 1 -1	
4 2	
0 1 3	
2 3 9	
4 4	
0 3 5	
0 1 1	
1 2 99	
2 3 99	