

Hitchhiking

Alex is hitchhiking in a country with N cities, connected by M bidirectional roads. She starts at city 1 , and wants to get to city N . Furthermore, while most roads are safe, some are dangerous for hitchhikers. If Alex is always able to find a ride, this problem requires you to find the minimum number of dangerous roads that must be travelled along to get to city N , and the total number of roads travelled (while minimising the number of dangerous roads).

INPUT

The first line of input contains the number of scenarios to be tested. Within each scenario, the first line contains two integers representing the number of cities ($N < 10001$) and number of roads ($M < 10001$).

The following M lines contain three space separated integers each. Line i is of the form $A_i B_i T_i$ which indicates a road between cities A_i and B_i . T_i is 1 if road i is dangerous, and 0 if it is safe.

OUTPUT

If Alex cannot reach city N , the output should be -1 . Otherwise, the output should be two space-separated integers consisting of the minimum number of dangerous roads and the total number of roads, that Alex must travel along to reach her destination while minimising the number of dangerous roads she goes along.

SAMPLE INPUT

```
3
4 5
1 2 0
1 3 1
1 4 1
2 3 0
3 4 0
4 6
1 1 0
1 3 1
4 2 1
4 3 0
2 4 0
2 3 0
4 2
1 2 0
3 4 0
```

SAMPLE OUTPUT

```
0 3
1 2
-1
```

EXPLANATION

For the first set of cities, while Alex can travel from city 1 to city 4, this path goes along a dangerous road, which can be avoided by going from city 1 to 2, to 3 to 4.

For the second set of cities, Alex has to go along one dangerous road to reach 4, and requires to go along 2 roads at minimum to get to 4 (1 to 3, 3 to 4).

In the third case, there is no way for Alex to move from 1 to 4 along the two roads present in the input.

You have 0 submissions to this assessment.

Deadline: 2020-03-27 17:00

Additional Help

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