Highway Planning

You're in charge of modernizing the transportation system of a fast developing country, where all the cities are connected by bumpy roads. To keep up with the economic growth, some of the roads need to be converted into highways so that it is possible to travel between any two cities while only using these new highways.

The date for your next meeting is approaching and you need to know how much the new transportation system will cost. To be safe, you want to come up with the two cheapest options for the conversion of the roads. It should be noted that these two options may have the same cost.

Input Format

The input begins with a line containing the number of test cases *T*.

Each test case starts with a line with the number of cities *C* and roads *R*, followed by *R* lines for each road. Each road is described with the identifiers of the two cities it is connecting and the cost *c* of upgrading it.

Constraints

- 0 <= T <= 20
- 2 <= C <= 99
- 1 <= R <= 3000
- 1 <= c <= 1000

Output Format

For each test case, print one line with the costs for the cheapest and second cheapest plans for modernizing the roads, separated by a single space.

Sample Input 0

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

Sample Output 0

```
2 2
10 11
```