

## 5093 Seaside

XiaoY is living in a big city, there are  $N$  towns in it and some towns near the sea. All these towns are numbered from 0 to  $N - 1$  and XiaoY lives in the town numbered '0'. There are some directed roads connecting them. It is guaranteed that you can reach any town from the town numbered '0', but not all towns connect to each other by roads directly, and there is no ring in this city. One day, XiaoY want to go to the seaside, he asks you to help him find out the shortest way.

### Input

There are several test cases. In each cases the first line contains an integer  $N$  ( $0 \leq N \leq 10$ ), indicating the number of the towns. Then followed  $N$  blocks of data, in block- $i$  there are two integers,  $M_i$  ( $0 \leq M_i \leq N - 1$ ) and  $P_i$ , then  $M_i$  lines followed.  $M_i$  means there are  $M_i$  roads beginning with the  $i$ -th town.  $P_i$  indicates whether the  $i$ -th town is near to the sea,  $P_i = 0$  means 'No',  $P_i = 1$  means 'Yes'. In next  $M_i$  lines, each line contains two integers  $S_{M_i}$  and  $L_{M_i}$ , which means that the distance between the  $i$ -th town and the  $S_{M_i}$  town is  $L_{M_i}$ .

### Output

Each case takes one line, print the shortest length that XiaoY reach seaside.

### Sample Input

```
5
1 0
1 1
2 0
2 3
3 1
1 1
4 100
0 1
0 1
```

### Sample Output

```
2
```