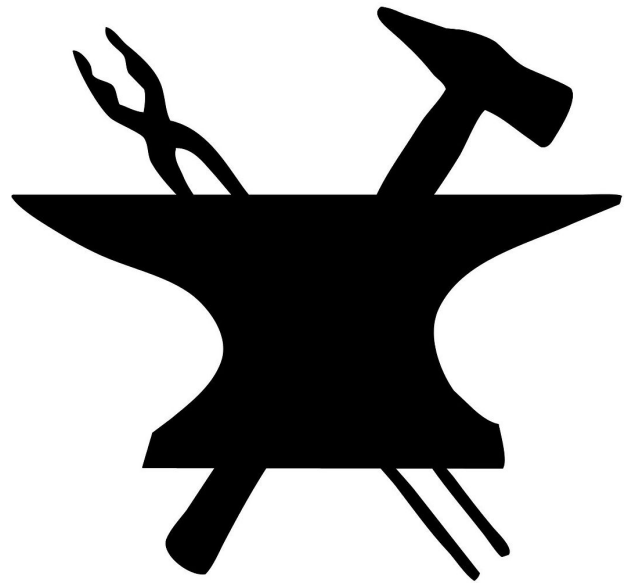


Crafting Mines

Problem ID: craftmines

You have been contacted by your server's admin, who informs you that he's running out of resources and would like some assistance in gathering more Stone to be able to build Westeros in Minecraft or something. You didn't really listen to what he said - you were too excited because you love mining! It's your dream to be deep in a mine, mining in the dark for hours on end.

Just like in our own world, ore is quite difficult to obtain. You have already picked a few spots where you dug into the ground - these are the mines you want to expand! However, expanding mines isn't easy. Currently the only way to access your mining pits is to walk above ground and enter the mining pit from above. As we all know the night is dark and full of creepers, so it will be easier to traverse them underground on future expeditions. To connect mines together, you need to dig a tunnel between them. This is easier said than done because in this world there are three types of rocks: **Stone**, **Obsidian** and **Bedrock**. Bedrock is impossible to mine through and should be ignored, and Obsidian is more difficult to mine through than Stone so you would like minimize the number of Obsidian patches you mine through, making Stone the most optimal choice.



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Your objective on this expedition is to maximize the rock mined on your expedition but above all else you will also want to minimize the number of Obsidian paths you must choose - these paths severely damage your equipment. You may assume that there is always a way to connect the mines, and that any paths between mines that are not specified are pure Bedrock.

Input

Input will consist of $1 \leq N \leq 100$, the number of mining pits, $1 \leq M \leq 10000$, the number of possible paths between your mining pits. Following this will be M lines, each with four integers a, b, c, d . Each line signifies a possible (bidirectional) link between mining pit a and b , containing a total of c rocks. d will be 1 if the path is made out of Obsidian, and 0 otherwise.

Output

Your output should be two integers, one specifying the minimum amount of Obsidian paths required to connect these mines, and two being the amount of Stone mined on this expedition.

Sample Input 1

```
4 4
1 2 2 0
2 3 1 1
3 1 1 0
3 4 1 1
```

Sample Output 1

```
1 4
```

Sample Input 2

```
10 10
1 2 4 0
1 2 0 1
2 3 1 1
3 4 1 1
4 5 1 1
5 6 1 1
5 7 1 1
7 8 1 1
8 9 1 0
9 10 1 0
```

Sample Output 2

```
6 12
```

Sample Input 3

```
5 7
1 2 751 1
2 3 285 1
3 4 961 1
4 5 320 1
4 1 335 1
2 5 516 0
3 1 862 1
```

Sample Output 3

```
3 3090
```