11 Detection

You are part of a secret military organization dedicated to protecting Earth from invasion by evil aliens. A means of detecting the aliens has been devised that utilizes a network of detectors. Due to budget limitations, only some of the detectors can be powered at any given time. Luckily, the detectors are built in such a way that each detector can cover the area of adjacent detectors in the network. Therefore, when one node is powered, it covers all of its connected nodes.

Given the shape of the network, determine the minimum cost to power and cover the entire network

Each line of input will contain an integer ID for a node followed by the integer cost to power the node followed the IDs of all the nodes connected to it. There will be at most 16 nodes.

The output consists of the count of nodes required to power the system followed by the minimum cost. If there is a tie in cost, the solution with the fewest nodes should be selected.

Note: The ¶ symbol in the examples below represents a newline character.

Sample Input

```
0 2 1 2 3 4 5 6¶
1 10 0 2¶
2 13 0 1¶
3 11 0 4¶
4 10 0 3 5¶
5 7 0 4¶
6 3 0 7¶
7 10 6¶
```

Sample Output

```
2 5¶
```