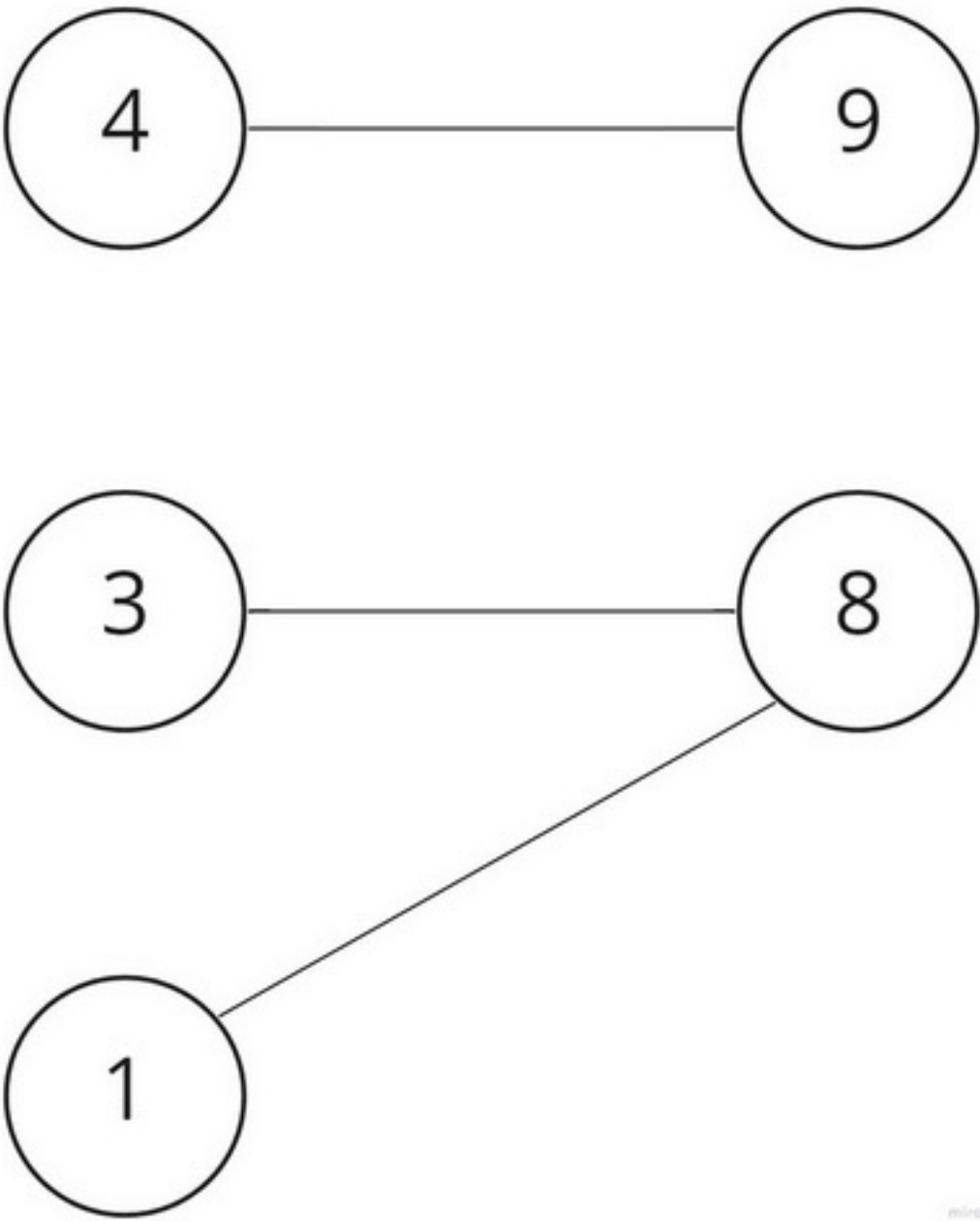


Deyon is continuing his flower wreath making business. But since he has been very busy, he is becoming increasingly careless on how he is making the wreaths. Oftentimes, he ended up with several unfinished wreaths with different number of flowers. Since he is bored, he wanted to know what is the smallest and largest number of flowers in all the wreaths he made.

Since Deyon is still busy, he asked for your help to code a program to find that out!



On the given example, the program will print **2** and **3**

Input Format

The first line is **N**, the number of edges. The next **N** lines are two pairs of integers, denoting a connection between two vertices forming an edge.

Constraints

$1 \leq N \leq 15000$

Output Format

Prints two integers, the smallest connected component and the largest connected component.

Sample Input 0

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

Sample Output 0

```
2 4
```