

## 3222 Joke with Turtles

There is a famous joke-riddle for children:

Three turtles are crawling along a road. One turtle says: “There are two turtles ahead of me.” The other turtle says: “There are two turtles behind me.” The third turtle says: “There are two turtles ahead of me and two turtles behind me.” How could this have happened?

The answer is — the third turtle is lying!

Now in this problem you have  $n$  turtles crawling along a road. Some of them are crawling in a group, so that they do not see members of their group neither ahead nor behind them. Each turtle makes a statement of the form: “There are  $a_i$  turtles crawling ahead of me and  $b_i$  turtles crawling behind me.” Your task is to find the minimal number of turtles that must be lying.

Let us formalize this task. Turtle  $i$  has  $x_i$  coordinate. Some turtles may have the same coordinate. Turtle  $i$  tells the truth if and only if  $a_i$  is the number of turtles such that  $x_j > x_i$  and  $b_i$  is the number of turtles such that  $x_j < x_i$ . Otherwise, turtle  $i$  is lying.

### Input

The input contains several test cases. The first line of each case consists of an integer number  $n$  ( $1 \leq n \leq 1000$ ). It is followed by  $n$  lines containing numbers  $a_i$  and  $b_i$  ( $0 \leq a_i, b_i \leq 1000$ ) that describe statements of each turtle for  $i$  from 1 to  $n$ .

### Output

For each input case, print one output line containing an integer number  $m$  — the minimal number of turtles that must be lying, followed by  $m$  integers — turtles that are lying. Turtles can be printed in any order. If there are different sets of  $m$  lying turtles, then print any of them.

### Sample Input

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

### Sample Output

```
1 3
2 1 4
```