

Problem D

Strong Missiles

Input File: *testdata.in*
Time Limit: 10 seconds

Problem Description

Suppose there are n missiles in our world, each missile has different damages and ranges. Suppose there are two missiles B and C. C loses to B, if both C's damage and range are all less than B's. A missile wins three missiles, if there are three missiles lose to it. A strong missile means that the missile do not lose to any other missiles. The strongest missile wins the most missiles. Write a problem to compute how many strong missiles and the strongest missile.

Input Format

Each test case contains two lines. The first line denotes the number of missiles, n , $1 \leq n \leq 100$. The second line has $2n$ integers. A missile is described by a pair of integers : the first integer denotes its damage, and the second denotes its range. The value of each damage or range is an integer between 1 and 100. The last line of the input file contains 0, indicating the end of input.

Output Format

For each test data, the output contains 3 integers. The first integer is the number of strong missiles. The last two integers is the damage and range of the strongest missile. If there are more than one strongest missile, print the missile whose damage is larger. If their damage is still the same, print the missile whose range is larger. If there is no strongest, just print "0 0". The output of each test case should be printed in a line.

Sample Input

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

Sample Output

```
2 0 0
1 2 2
2 10 8
3 0 0
3 10 5
```