

Codeforces Round 763 (Div. 2)

B. Game on Ranges

1 second, 256 megabytes

Alice and Bob play the following game. Alice has a set S of disjoint ranges of integers, initially containing only one range $[1, n]$. In one turn, Alice picks a range $[l, r]$ from the set S and asks Bob to pick a number in the range. Bob chooses a number d ($l \leq d \leq r$). Then Alice removes $[l, r]$ from S and puts into the set S the range $[l, d - 1]$ (if $l \leq d - 1$) and the range $[d + 1, r]$ (if $d + 1 \leq r$). The game ends when the set S is empty. We can show that the number of turns in each game is exactly n .

After playing the game, Alice remembers all the ranges $[l, r]$ she picked from the set S , but Bob does not remember any of the numbers that he picked. But Bob is smart, and he knows he can find out his numbers d from Alice's ranges, and so he asks you for help with your programming skill.

Given the list of ranges that Alice has picked ($[l, r]$), for each range, help Bob find the number d that Bob has picked.

We can show that there is always a unique way for Bob to choose his number for a list of valid ranges picked by Alice.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \leq t \leq 1000$). Description of the test cases follows.

The first line of each test case contains a single integer n ($1 \leq n \leq 1000$).

Each of the next n lines contains two integers l and r ($1 \leq l \leq r \leq n$), denoting the range $[l, r]$ that Alice picked at some point.

Note that the ranges are given **in no particular order**.

It is guaranteed that the sum of n over all test cases does not exceed 1000, and the ranges for each test case are from a valid game.

Output

For each test case print n lines. Each line should contain three integers l , r , and d , denoting that for Alice's range $[l, r]$ Bob picked the number d .

You can print the lines in **any order**. We can show that the answer is unique.

It is not required to print a new line after each test case. The new lines in the output of the example are for readability only.

input

```
4
1
1 1
3
1 3
2 3
2 2
6
1 1
3 5
4 4
3 6
4 5
1 6
5
1 5
1 2
4 5
2 2
4 4
```

output		
1	1	1
1	3	1
2	2	2
2	3	3
1	1	1
3	5	3
4	4	4
3	6	6
4	5	5
1	6	2
1	5	3
1	2	1
4	5	5
2	2	2
4	4	4

In the first test case, there is only 1 range $[1, 1]$. There was only one range $[1, 1]$ for Alice to pick, and there was only one number 1 for Bob to pick.

In the second test case, $n = 3$. Initially, the set contains only one range $[1, 3]$.

- Alice picked the range $[1, 3]$. Bob picked the number 1. Then Alice put the range $[2, 3]$ back to the set, which after this turn is the only range

in the set.

- Alice picked the range $[2, 3]$. Bob picked the number 3. Then Alice put the range $[2, 2]$ back to the set.
- Alice picked the range $[2, 2]$. Bob picked the number 2. The game ended.

In the fourth test case, the game was played with $n = 5$. Initially, the set contains only one range $[1, 5]$. The game's turn is described in the following table.

Game turn	Alice's picked range	Bob's picked number	The range set after
Before the game start			$\{[1, 5]\}$
1	$[1, 5]$	3	$\{[1, 2], [4, 5]\}$
2	$[1, 2]$	1	$\{[2, 2], [4, 5]\}$
3	$[4, 5]$	5	$\{[2, 2], [4, 4]\}$
4	$[2, 2]$	2	$\{[4, 4]\}$
5	$[4, 4]$	4	$\{\}$ (empty set)