Extra Class

There are n students in a batch. A tutor wants to arrange an extra class of one hour for the students. He asked every student to provide him a slot in which they are free. Each student i gave him a time slot $[l_i, r_i]$ in which he/she is free. The time range is integer.

The tutor is very busy, so he wants you to help him and find the *best slot* to take the class. *Best slot* is the slot in which most of the students can attend the class. If there are multiple slots possible then the *best slot* will be the earliest slot among them.

Note that the class time is of one hour and a student can not attend the class if the schedule is not in his/her time slot. Your task is to maximise the number of students. You need to print only the start time of the *best slot*. There are t independent test cases.

Input Format

- The first line of the input contains one integer t — the number of test cases. Then t test cases follow.
- The first line of each test case contains one integer n — the number of students in the batch. n lines follow.
- ith line contains two integers l_i and r_i, the start and end time of the slot during which ith student is free.

Constraints

- $1 \leq t \leq 10^3$
- $1 \leq n \leq 10^5$
- $1 \leq l_i < r_i \leq 10^5$
- It is guaranteed that the sum of n over all test cases does not exceed 10^6

Output Format

For each test case, print the answer: the start hour of the *best slot* in new line.

Sample Input 0

```
2
3
1 3
1 4
2 3
4
1 15
4 8
3 5
1 4
```

Sample Output 0

```
2
3
```

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Explanation 0

For first testcase, available slots:

- First student: $1-2, 2-3$
- Second student: $1-2, 2-3, 3-4$
- Third student: $2-3$

As you can see, $2-3$ is the only 1 hour slot in which most students are available i.e. 3. So, the answer is 2 (start time of the slot).

For second test case, the slots having maximum occurance i.e. 3 are $3-4$ and $4-5$. But the earliest is $3-4$. So, the output is 3.

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