Juggling Shows (`intervals`)

Alessandro is a famous juggler and everyone loves him. He was asked to organize multiple shows, and he needs some help scheduling them.

Figure 1: Alessandro juggling 4 tennis rackets.

Alessandro needs to take part in N different shows, numbered from 0 to $N - 1$. Each show must be assigned a day on which he performs it. Show i starts at a specific time A_i and ends at a specific time B_i of its assigned day. He has to decide the day to perform each show, note that Alessandro can decide to perform each show on a different day, so the intervals are allowed to overlap.

Alessandro can perform two shows on the same day if the first show ends exactly at the time when the second show starts. Formally, he can perform shows i and j on the same day if $B_i = A_j$. He can also perform three or more shows on the same day if the first show ends exactly when the second show starts, the second show ends exactly when the third shows start, and so on. He may schedule the shows in any order. Note that he can't perform two shows on the same day if the first show ends strictly before the second show starts and there are no shows between.

What is the minimum number of days Alessandro needs to perform every show? Note that Alessandro can always perform every show in at most N days by assigning each show a different day.

☞ Among the attachments of this task you may find a template file `intervals.*` with a sample incomplete implementation.

Input

The first line contains a single integer N, the number of shows. The following N lines contains two integers each: A_i and B_i.

Output

You need to write a single line with an integer: the minimum number of days Alessandro needs to perform every show.

Constraints

- $1 \le N \le 200\,000$.
- $0 \le A_i < B_i \le 10^9$ for each $i = 0 \ldots N - 1$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

– **Subtask 1** (0 points)   Examples.

– **Subtask 2** (35 points)   There is at most one pair of shows that can be performed on the same day.

– **Subtask 3** (35 points) $N \le 1000$ and $0 \le A_i < B_i \le 1000$.

– **Subtask 4** (30 points)   No additional limitations.

Examples

input	output
4 4 9 2 4 9 12 1 4	2
5 1 5 4 5 5 8 5 9 1 9	3

Explanation

In the **first sample case** Alessandro can perform shows 0, 2, and 3 on the first day and show 1 on the second day.

In the **second sample case**, there are multiple solutions, all of which take three days. For example, a possible solution is to perform shows 0 and 3 on the first day, 4 on the second day, and 1 and 2 on the third day.