Problem 1   Covering

An *interval* is a pair of positive integers $[a, b]$ with $a \leq b$. It is meant to denote the set of integers that lie between the values a and b. For example $[3, 5]$ denotes the set $\{3, 4, 5\}$ while the interval $[3, 3]$ denotes the set $\{3\}$.

We say that an interval $[a, b]$ is covered by an integer i, if i belongs to the set defined by $[a, b]$. For example interval $[3, 5]$ is covered by 3 and so is the interval $[3, 3]$.

Given a set of intervals I, and a set of integers S we say that I is covered by S if for each interval $[a, b]$ in I there is an integer i in S such that $[a, b]$ is covered by i. For example, the set $\{[3, 5], [3, 3]\}$ is covered by the set $\{3\}$. The set of intervals $\{[6, 9], [3, 5], [4, 8]\}$ is covered by the set $\{4, 5, 8\}$. It is also covered by the set $\{4, 7\}$.

We would like to compute, for any set of intervals I, the size of the smallest set S that covers it. You can check that for the set of intervals $\{[6, 9], [3, 5], [4, 8]\}$ the answer is 2 while for the set of intervals $\{[3, 5], [3, 3]\}$ the answer is 1.

Your program should take the set of intervals as input and output the size of the smallest set that covers it as the answer.

Input format

- The first line contains a single integer N, giving the number of intervals in the input.

- This is followed by N lines, each containing two integers separated by a space describing an interval, with the first integer guaranteed to be less than or equal to the second integer.

Output format

Output a single integer giving the size of the smallest set of integers that covers the given set of intervals.

Test data

You may assume that all integers in the input are in the range 1 to 10^8 inclusive.

Subtask 1 (100 Marks) $1 \leq N \leq 5000$.

Sample input 1

```
2
3 5
3 3
```

Sample output 1

```
1
```

Sample input 2

```
3
6 9
3 5
4 8
```

Sample output 2

```
2
```

Limits

- *Memory limit* : 256MB
- *Time limit* : 2s