

IOI Training Camp 2017 Practice Test 2

Candy Machine

In a candy factory, there is a mysterious machine. It produces delicious candies, each a little bit different from the others. The machine has a line of output slots, numbered 1 to n , from which the candies fall out as soon as they are ready. No one really knows how the machine works, but before it starts a production session, it prints a list telling the factory owner, when and from which slot each candy will fall out.

Now, the factory owner can install automatic wagons that move below the output slots to catch the falling candies. Of course, none of the candies should drop on the floor and get spoilt. However, since running the wagons is expensive, the owner would like to install as few wagons as possible.

Write a program that computes the minimum number of wagons needed to catch all candies. The wagons run at a speed of one slot width per second. Before the production process starts, each wagon can be moved to the slot where it should catch its first candy.

Input

The first line contains exactly one integer n , the number of candies produced in that session.

Each of the following n lines contains a pair of integers s_i and t_i , output slot and time for candy i .

Each pair (s_i, t_i) is unique.

Output

The first line of the output contains exactly one integer w , the minimum number of wagons needed to catch all candies.

General Constraints

Unless otherwise mentioned, the following constraints are met throughout all subtasks:

- $1 \leq n \leq 10^5$
- $1 \leq s_i, t_i \leq 10^9$

Subtasks

Subtask 1 (20 Points):

- $1 \leq n \leq 85$
- $1 \leq w \leq 4$

Subtask 2 (60 Points):

- $1 \leq n \leq 8000$

Subtask 3 (20 Points):

- Original constraints.

Sample Input 1

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

Sample Output 1

```
2
```

Limits

Time: 2 seconds

Memory: 256 MB