

# Problem B

## Intervals



*ACM Central European Programming Contest, Warsaw 2002, Poland*

You are given  $n$  closed, integer intervals  $[a_i, b_i]$  and  $n$  integers  $c_1, \dots, c_n$ .

### Task

Write a program that:

- reads the number of intervals, their endpoints and integers  $c_1, \dots, c_n$  from the standard input,
- computes the minimal size of a set  $Z$  of integers which has at least  $c_i$  common elements with interval  $[a_i, b_i]$ , for each  $i = 1, 2, \dots, n$ ,
- writes the answer to the standard output.

### Input

The first line of the input contains an integer  $n$  ( $1 \leq n \leq 50\,000$ ) — the number of intervals. The following  $n$  lines describe the intervals. The line  $i + 1$  of the input contains three integers  $a_i, b_i, c_i$  separated by single spaces and such that  $0 \leq a_i \leq b_i \leq 50\,000$  and  $1 \leq c_i \leq b_i - a_i + 1$ .

### Output

The output contains exactly one integer equal to the minimal size of a set  $Z$  sharing at least  $c_i$  elements with interval  $[a_i, b_i]$ , for each  $i = 1, 2, \dots, n$ .

### Example

For the input:

```
5
3 7 3
8 10 3
6 8 1
1 3 1
10 11 1
```

the correct answer is:

```
6
```