Black Boxes

time limit per test: 5 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

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Problem Statement

You have a two-dimensional plane, initially the plane is white. On this two-dimensional plane you will perform n queries on this plane:

- Each query is given l, r and h
- Colour the rectangle $(l, 0)$ to (r, h) At the end of all n queries, determine the total area which is black.

Input Format

Your first line will contain a single integer n. Your next n lines will contain three integers each, representing l, r and h respectively.

Output Format

Output the total number of area that is coloured black after performing all queries.

Constraints

- $1 \leq n \leq 10^5$
- $0 \leq l \leq r \leq 10^9$
- $1 \leq h \leq 10^9$

Sample Cases

Input 1

```
3
0 1 1
0 3 3
2 4 2
```

Output 1

```
11
```

Input 2

```
2
0 100000 100000
1 99999 100001
```

Output 2

```
10000099998
```

Template

```
n = int(input())
rectangles = [tuple(map(int, input().split())) for _ in range(n)]

# print your output
```