

1645: [Usaco2007 Open]City Horizon 城市地平线

Time Limit: 5 Sec Memory Limit: 64 MB

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Description

Farmer John has taken his cows on a trip to the city! As the sun sets, the cows gaze at the city horizon and observe the beautiful silhouettes formed by the rectangular buildings. The entire horizon is represented by a number line with N ($1 \leq N \leq 40,000$) buildings. Building i 's silhouette has a base that spans locations A_i through B_i along the horizon ($1 \leq A_i < B_i \leq 1,000,000,000$) and has height H_i ($1 \leq H_i \leq 1,000,000,000$). Determine the area, in square units, of the aggregate silhouette formed by all N buildings.

N 个矩形块，交求面积并。

Input

* Line 1: A single integer: N

* Lines 2.. $N+1$: Input line $i+1$ describes building i with three space-separated integers: A_i , B_i , and H_i

Output

* Line 1: The total area, in square units, of the silhouettes formed by all N buildings

Sample Input

```
4
2 5 1
9 10 4
6 8 2
4 6 3
```

Sample Output

```
16
```

OUTPUT DETAILS:

The first building overlaps with the fourth building for an area of 1 square unit, so the total area is just $3*1 + 1*4 + 2*2 + 2*3 - 1 = 16$.

HINT

Source

Silver