D-Land

Problem Statement

Zloba has finally arrived in D-Land! D-Land is a big country, so we can represent D-Land as an infinite grid. Zloba knows a secret about this great country: D-Land has a lot of diamonds. He found a map with the positions of n sets of diamonds in this country. The map shows the position of each set, and the number of diamonds in it.

i-th set is placed at point (x_i, y_i) and has w_i diamonds. No two sets are placed at the same point, and there is no set placed at point $(0,0)$. At the beginning of his expedition, Zloba is located at point $(0,0)$. He can **ONLY** move in two directions:

$1.$ Up - from point (x,y) to point $(x,y+1)$.

$2.$ Right - from point (x,y) to point $(x+1,y)$.

When Zloba is located at a set of diamonds, he instantly collects all of them. What is the maximum amount of diamonds that can be collected by moving only in these two directions?

Input Format

The first line of input contains one number n, the number of sets of diamonds.

The next n lines contain three space separated numbers x_i, y_i, and w_i.

These integers are defined as:
x coordinate of i-th set, y coordinate of i-th set, and w as the number of diamonds in i-th set. It is guaranteed that no two sets are located at the same point, and no set is located at point $(0,0)$.

Constraints

For 15% score $1 \leq n \leq 18$.
For 36% score $1 \leq n \leq 10^4$.
For 100% score $1 \leq n \leq 10^5$
In all the testcases:
$0 \leq x_i, y_i \leq 10^9$
$1 \leq w_i \leq 10^9$

Output Format

In a single line, print one integer: the maximum number of diamonds which can be collected by Zloba.

Sample Input 1:

```
3
1 1 5
3 5 7
2 3 3
```

Sample Output 1:

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15
```

Sample Input 2:

```
2
1 6 10
2 4 8
```

Sample Output 2:

```
10
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Explanation

In the first sample, Zloba can collect all the diamonds. First, he goes to set number 1, after that to set number 3, and he finishes at set number 2. Total number of diamonds is $5 + 3 + 7 = 15$.

In the second sample, Zloba can't pass through both of the sets. He will choose the first set because it contains more diamonds. He will collect 10 diamonds.