# Problem F: Boom

Time Limit: 1 Sec  Memory Limit: 128 MB
Submit: 0  Solved: 0
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## Description

Yuki is a grumpy girl and she always wants to make some noise.

One day, Yuki goes to the amusement ground in her university and sets $n$ bombs. The $i$-th bomb set at the position $(x_i, y_i)$ has exploding radius $r_i$ and lighting-cost $t_i$, which means that Yuki needs to spend $t_i$ seconds to config the bomb and make it exploded by remote control.

A bomb will explode **instantly** if it is in the exploding area (**including** the boundaries) of any other exploded bombs.

Yuki wants to know the **minimum** time needed to make all the bombs exploded, and could you give her the answer?

## Input

The first line contains an integer $n$ ($1 \le n \le 1\,000$) --- the number of bombs.

In the following $n$ lines, the $i$-th line contains four integers: $x_i$, $y_i$, $r_i$ and $t_i$ ($-10^8 \le x_i, y_i \le 10^8, 0 \le r_i, t_i \le 10\,000$) --- parameters of the bomb.

## Output

Print one line with the result --- the minimum time cost.

## Sample Input

```
5
5 0 1 4
0 0 1 5
1 1 1 6
0 1 1 7
3 0 2 10
```

## Sample Output

```
15
```

## HINT

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