Stacking Boxes

Time limit: 1.0s **Memory limit:** 256M
Java: 2.0s
Python: 1.5s

You have N boxes with varying dimensions of $w \times h$ (width by height).

You are trying to create the tallest tower possible by stacking any combination of these boxes. In order to keep your tower balanced, you can only stack a box on top of another if its width is **strictly less** than the one below it. Assuming you do not place any boxes next to each other, what is the height of the tallest possible tower you can create?

Constraints

$1 \leq N, w \leq 10^6$

$1 \leq h \leq 2\,000$

Input Specification

The first line of input contains an integer N.

The next N lines of input each contain 2 space-separated integers, w and h.

Output Specification

Output the height of the tallest possible tower.

The height of any given tower is the sum of the heights of its boxes.

Sample Input

```
3
5 2
5 3
2 10
```

Sample Output

```
13
```

Explanation for Sample

You can use the 5×3 box as the base of the tower and stack the 2×10 box on top of it.