

# Cheerleaders

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            1 second  
Memory limit:         256 megabytes

There are  $N$  cheerleaders numbered  $1, 2, \dots, N$ . For each  $i$  ( $1 \leq i \leq N$ ), cheerleader  $i$  has a weight  $w_i$ , a strength of  $s_i$ , and a height of  $h_i$ .

For their performance in Singapore Circus, they have decided to stack themselves in a tower by choosing a subset of the  $N$  cheerleaders and stacking themselves vertically in some order. The tower must satisfy the condition that for each cheerleader in the tower, the sum of  $w_i$  of the cheerleaders stacked on top of it is not greater than  $s_i$ .

Find the maximum possible sum of the heights of the cheerleaders in the tower.

## Input

The first line of input contains 1 integer  $N$  ( $1 \leq N \leq 1000$ ), the number of cheerleaders.

The following  $N$  lines of input contains 3 integers each,  $w_i$ ,  $s_i$  and  $h_i$  ( $1 \leq w_i, s_i, h_i \leq 1000$ ), the weight, strength and height of each cheerleader respectively.

## Output

Print the maximum possible sum of the heights of the cheerleaders in the tower.

## Examples

standard input	standard output
3 2 2 20 2 1 30 3 1 40	50
4 1 2 10 3 1 10 2 4 10 1 6 10	40
8 9 5 7 6 2 7 5 7 3 7 8 8 1 9 6 3 3 3 4 1 7 4 5 5	22
5 1 1000 1000 1 1000 1000 1 1000 1000 1 1000 1000 1 1000 1000	5000