**Space Elevator**

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| --- | --- | --- |
| **Time Limit:** 1000MS |  | **Memory Limit:** 65536K |
|  |  |  |

**Description**

The cows are going to space! They plan to achieve orbit by building a sort of space elevator: a giant tower of blocks. They have K (1 <= K <= 400) different types of blocks with which to build the tower. Each block of type i has height h\_i (1 <= h\_i <= 100) and is available in quantity c\_i (1 <= c\_i <= 10). Due to possible damage caused by cosmic rays, no part of a block of type i can exceed a maximum altitude a\_i (1 <= a\_i <= 40000).   
  
Help the cows build the tallest space elevator possible by stacking blocks on top of each other according to the rules.

**Input**

\* Line 1: A single integer, K   
  
\* Lines 2..K+1: Each line contains three space-separated integers: h\_i, a\_i, and c\_i. Line i+1 describes block type i.

**Output**

\* Line 1: A single integer H, the maximum height of a tower that can be built

**Sample Input**

3

7 40 3

5 23 8

2 52 6

**Sample Output**

48

**Hint**

OUTPUT DETAILS:   
  
From the bottom: 3 blocks of type 2, below 3 of type 1, below 6 of type 3. Stacking 4 blocks of type 2 and 3 of type 1 is not legal, since the top of the last type 1 block would exceed height 40.

**Source**

[USACO 2005 March Gold](http://poj.org/searchproblem?field=source&key=USACO+2005+March+Gold)