Tetrooj Box

filename: `box`
Difficulty Level: `Easy-Medium`
Time Limit: `5 seconds`

Dr. Orooji's children have played Tetris but are not willing to help Dr. O with a related problem. Dr. O's children don't realize that Dr. O is lucky to have access to 100+ great problem solvers and great programmers today!

The Problem:

Dr. O knows the length of the base for a 2D box and wants to figure out the needed height for the box. Dr. O will drop some 2D blocks (rectangles) on the base. A block will go down until it lands on the base or is stopped by an already-dropped block (i.e., it lands on that block). After all the blocks have been dropped, we can determine the needed height for the box – the tallest column is the needed height (please see pictures on the next page corresponding to Sample Input/Output).

The Input:

The first input line contains two integers: b ($1 \leq b \leq 100$), indicating the length of the base and r ($1 \leq r \leq 50$), indicating the number of blocks (rectangular pieces) to be dropped. Each of the next r input lines contains three integers: a block's horizontal length h ($1 \leq h \leq 100$), the block's vertical length v ($1 \leq v \leq 100$), and c ($c \geq 1$), the leftmost column the block is dropped into. Assume that the h and c values will be such that the block will not go beyond the box base, i.e., $(c + h - 1) \leq b$.
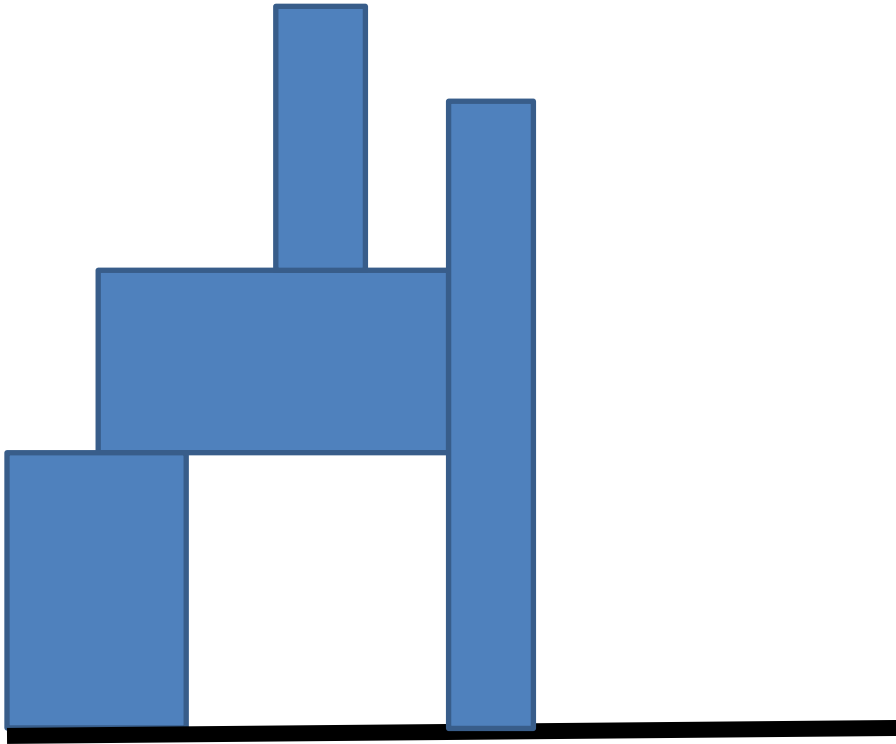
The Output:

Print the needed height for the box (the tallest column is the height).

Sample Input   **Sample Output**

10 4 2 3 1 4 2 2 1 7 6 1 3 4	8
10 3 3 4 8 8 2 1 1 1 3	7

First Sample Input/Output:

Second Sample Input/Output: