Problem F. Flats

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

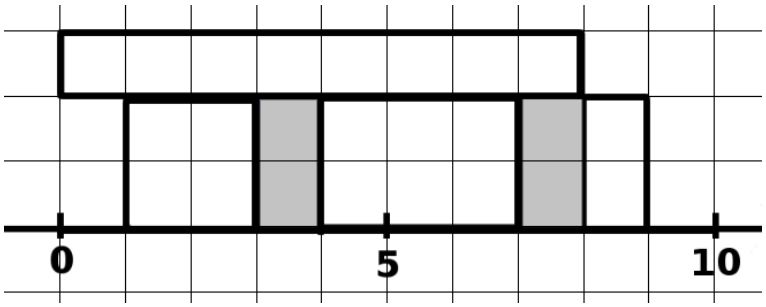
Dwarf underground city faces housing problems. Dwarf the Builder proposed a radical idea: they will use an ancient, seeming infinite and straight Great Divide ditch and throw the bricks into it. Then each enclosed space will be a new dwarf flat!

The Great Divide ditch has constant width but is very deep and seemingly infinite in both directions. To simplify the process, all used bricks will have the same width as the Great Divide (and varying length and height). When a brick is thrown to the ditch, its height is oriented vertically and width matches the ditch width. The brick will travel down until it reaches the ditch bottom (which is initially flat) or earlier-thrown brick. Edge-to-edge or side-to-side contact do not stop the bricks from falling, as the sides of the brick slide down while touching previous bricks. Also, the bricks do not change their orientation during the movement and after stopping.

We assume that the ditch is deep enough so that all bricks will fit into it. It is also long enough so that all bricks fit into it and no brick will ever reach the end of the ditch (in fact, no dwarf has ever reached it). The ditch is well-measured: it has a mark for each integer dwarfmeter from the origin.

A flat is made by a space (i.e. no brick) with non-zero volume that is fully enclosed by bricks (or ditch walls). Flats are considered separate, if a dwarf cannot move from one to another (and dwarfs have a volume). So flats with just "touching corners" are considered separate.

Help the Builder in promoting the idea and compute, how many flats he creates using his approach (and given bricks initial locations).



For simplicity we are ignoring the depth and plot the Great Divide ditch, bricks and flats in $2D$. Figure above presents the sample test. Two flats counted in the answer are marked grey.

Input

The first line of the input contains a single integer N, the number of bricks.

The next N lines describe bricks in the order of being thrown to the ditch. Each line contains three integers l, r, h, describing the coordinates of the left and right edges of the brick (so the brick has length $r - l$) and its height.

Limits $1 \le N \le 200\,000$, $0 \le l_i < r_i \le 200\,000$, $1 \le h_i \le 10^9$.

Output

Print a single non-negative integer – the number of flats created after all bricks have fallen.

Example

standard input	standard output
4 1 3 2 4 7 2 0 8 1 8 9 2	2