# Problem I
Robot
Time Limit: 3 seconds

The Marvelous Kindergarten has just boxes of toys for young kids. Of course, kids are eager to unbox all new gifts, leaving many empty boxes in the playground. Each toy box has the shape of a truncated cone (hollow upside-down frustum) with the bottom radius r, top radius R, and height h ($r \leq R$).

NAO robot can help young kids to collect toy boxes, put them as a pile to store in a cabinet.
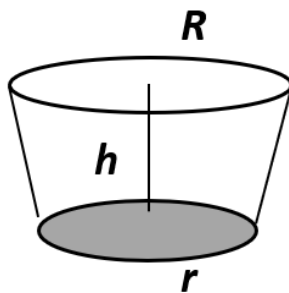
Initially, all toy boxes are in non-descending order of their heights. NAO robot sequentially considers each toy box, from the first to the last one, to determine whether it should put this toy box into the pile or not. If NAO robot selects a box to add to the pile, the robot sets the new box bottom down so that its center matches the pile's axial line. Please remember that the pile should not exceed the height H of the cabinet.

Please help NAO robot to determine the maximum number of toy boxes in the pile that can fit into the storage cabinet.

Input

The first line of input contains two positive integer numbers N and H, the number of toy boxes and the maximum height of the storage cabinet ($1 \leq N \leq 500$, $1 \leq H \leq 10^6$)

Each of the next N lines contains 3 integers h, r, R, the dimensions of the ith toy box ($1 \leq h, r, R \leq 10^6$).

Output

Print the maximum number of toy boxes that NAO robot can pile up and store in the cabinet.

Sample Input

Sample Input	Sample Output
2 3 1 2 3 2 1 2	2