

Paddy Field

Paddy fields are used to grow many sorts of semiaquatic crops, namely rice. One common nuisance during the seeding stage are crows and other sorts of birds. To prevent great financial losses, scarecrows are typically used to protect the fields.



Imagine you own your own paddy field, which is a perfect rectangle. After learning about a great swarm of birds that is expected to fly by your farm, you decided to take action and place a series of scarecrows on your field. Due to how your crops are irrigated, you can only place scarecrows along a central line that follows the field rectangle's length and cuts it in half.

A scarecrow is able to protect a circular region centered around it. The radius of this region varies according to how scary the decoy is.

Since you think you might have gone too far, you're wondering how many scarecrows you could remove while still protecting your whole rectangle.

Input Format

The input is composed of a series of test cases.

Each test case begins with the number of scarecrows n you placed, followed by the length l and width w of the paddy field (in meters), which are both integers.

The following n lines describe each scarecrow. A scarecrow is defined by two integers: its horizontal distance d to the field's left end and the radius r of its protected region (in meters).

The input ends with EOF (end-of-file).

Constraints

- $1 \leq n \leq 100$
- $1 \leq l \leq 100$
- $1 \leq w \leq 100$

Output Format

For each test case, output a single line with the minimum number of scarecrows required to protect the whole rectangular field. In the case where there is no solution, print a 'X' instead.

Sample Input 0

```
3 6 2
1 1
3 1
5 1
2 6 2
2 3
5 2
```

Sample Output 0

```
X
2
```