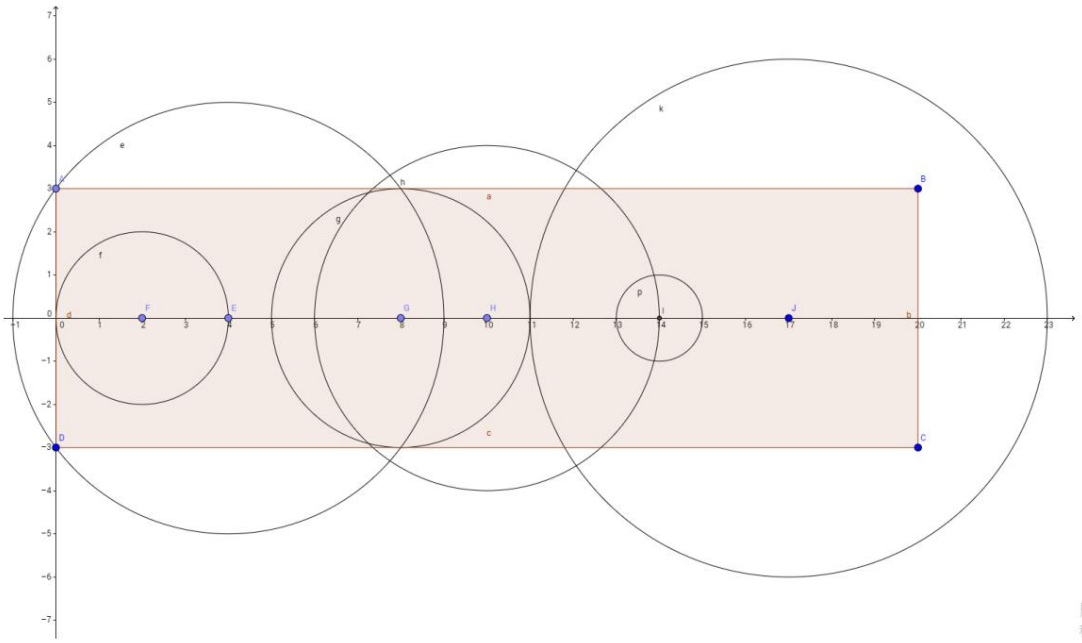
Homework 8

Minimal Cover

(Due: 2022/1/9)



There is a rectangle **l** long and **w** wide. And we have **n** circles put at horizontal center line of the rectangle. For each circle, its position **p** as the distance from left end of the center line and its radius **r** are given. Find the minimal number of circles to cover the rectangle.

Input.txt

Input contains 936 testcases on the CodeSensor. The first line for each case contains three integers **n**, **l**, **w**. The next **n** lines consist of two integers position **p** and radius **r**

Output.txt

For each testcase, output the minimal number of circles to cover the rectangle. If the circles can't cover the rectangle, output -1.

Sample Input

```
6 20 6
4 5
2 2
8 3
10 4
17 6
14 1
10 6 37
20 4
19 20
19 2
8 4
7 19
7 14
3 17
1 19
18 1
15 19
1 1000000001 100
1000000000 1000000000
```

Sample Output

```
3
2
-1
```

Constrains

$n \leq 10000$

$l \leq 20000$

$w \leq 2000$

$p \leq 20000$

$r \leq 3000$

Preload Input Data

```
struct singleTestCase{
	int n;
	int l;
	int w;
	int p[10000];
	int r[10000];
};
struct tTestData {
	struct singleTestCase data[936];
};
```