

Rotating Hammers

Time Limit: 1 Second
Memory Limit: 256 MB

Char is participating in a game to win a refrigerator! The game goes like this: the field is a rectangle of width $W = 200$ and height $H = 300$. He will start at any point on the bottom edge of the rectangle and try to go the top edge of the rectangle. The obstacles are N rotating hammer each located at distinct (x_i, y_i) with radius r . They are rotating so fast that Char will definitely get hit if he goes into the range (which is a circle). No range (circle) will be tangent to other circles nor tangent to the edge of the field. But the range of the hammer may intersect with each other or the rectangle boundaries.

Char has a secret controller that that takes in an input c , and will shut down all the hammers that has index greater than c . To avoid attention, Char want to shut down as less hammers as possible. What is the number c that will allow him to get through the rectangle while minimizing the number of hammers that are shut down? See the graph next page for clarity.

Input

The first line contains one integer N ($1 \leq N \leq 200$), the number of hammers.

The next N lines of input each contains three integers x , y and r ($0 \leq x \leq W$, $0 \leq y \leq H$, $0 \leq r \leq 300$), the coordinates of the hammer and the radius.

Output

One integer, the maximum number of hammers still functioning that allow Char to pass through.

Sample Inputs

```
6
36 228 58
28 44 58
164 224 58
88 170 42
93 105 42
167 85 58
```

Sample Outputs

```
3
```

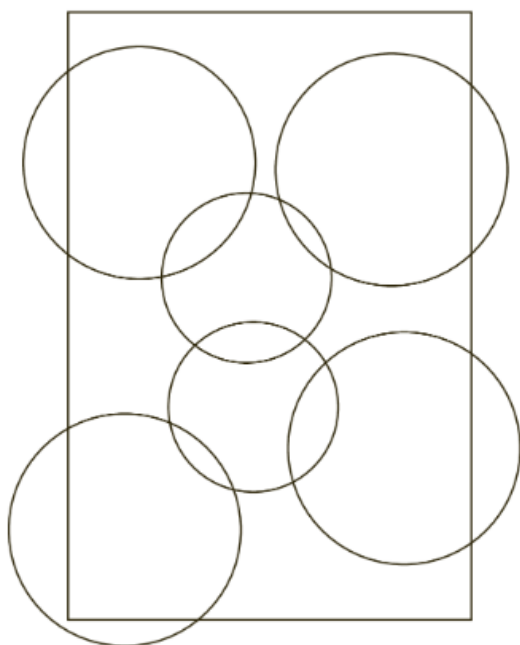


Figure 1: Sample Graph