Obstacle Path

locked

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You are given a rectangle with its bottom-left vertex at the origin of the cartesian plane and the top-right vertex at (X, Y). You are at the top-left corner and need to reach the bottom-right corner.

There are N obstacles in the form of circles. You cannot pass through any circle. You cannot move on the edge of the rectangle or a circle. Find out if it is possible to reach the destination.

Note: Centers of all circles lie within the rectangle.

Input Format

First Line: Integer T denoting the number of test cases.

For every test case:

- First Line: Two integers X, Y denoting the coordinates of top-right vertex of the rectangle.
- Second Line: Integer N, denoting the number of circles.
- Each of following N lines contain three integers cx_i, cy_i, r_i.

cx_i, cy_i : x and y coordinates of i-th circle.

r_i : radius of i-th circle.

Constraints

$1 \leq T \leq 10$

$1 \leq N \leq 1000$

$1 \leq X, Y, R \leq 10^8$

Centers of all circles lie within the given rectangle.

Output Format

For each test case, print $\mathbf{YES}$ if you can reach the destination, otherwise print $\mathbf{NO}$.

The answer to each test case must be printed in a new line.

Sample Input 0

```
1
20 10
2
```

```
10 7 2
10 4 2
```

Sample Output 0

```
YES
```

Submissions: 21
Max Score: 100
Difficulty: Medium

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C++20

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code