Problem B: The Sword of Damocles

Time Limit: 1 Sec Memory Limit: 128 MB
Submit: 0 Solved: 0
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Description

One day, an elder told Pisces that there was a legendary sword at the end of the sky - the sword of Damocles. Pisces decided to get the sword at any cost. The area between Pisces and the sword can be described as a rectangular field of $n * m$ square meters, with Pisces currently at the top left corner and the sword at the bottom right corner. However, k monsters are living in this area, and to keep himself safe, Pisces must keep a distance longer than S_i from the i-th monster (Euclidean Distance). Given the locations of these k monsters, Pisces wants to find whether he can get the legendary sword.

Input

The first line of input contains an integer T ($1 \le T \le 10$), which denotes the number of test cases.

For each of the test case, the first line contains three integers, N, M, and K ($10 \le N, M \le 10^4, 1 \le K \le 1000$). Pisces is now at position $(0, 0)$, and the sword at position (N, M). Each of the next K lines describes one of the K monsters, it contains three integers, X, Y, and S, where (X, Y) represents the location and S represents the distance that must be kept. ($0 \le X \le N, 0 \le Y \le M, 0 < S \le 10^4$).

Output

For each test case, print “Yes” if Pisces can get the sword, and “No” otherwise.

Sample Input

```
1
10 10 2
3 7 4
5 4 4
```

Sample Output

```
No
```

HINT

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