H for Hard, again

Description

As you may know, hanhan, a talented little boy, never stuck on any problem. He thinks all the problems are too easy to be a problem. Thus, he starts to invent some problems to challenge himself. However, none of them can take hanhan more than 1 millisecond to think.

Last time, hanhan challenged you with this problem: on an island, N people are going to divide it into several region and own each region. The discipline of dividing the island is that for each part of the island, it belongs to the person who is nearest to it. Formally, we can format the island on a OXY-plane, and the island is a rectangle occupying $[0, W] \times [0, H]$. Each person is on the island with distinct position. Thus, you need to find the area of all the region belonging to each person.

Finally, you figure out the solution and find the answer. However, you want to let hanhan learn that you are also talented. Thus, you should make sure you will get accepted in just one submission. Then, you write another code to check whether your answers are reasonable. That is, you should check whether sum of those N areas are exactly $W \times H$.

Input

The first line contains an integer T indicating the total number of test cases. For each test case: First line contains three positive integer N, W and H. Following N lines, each contains an integers A_i indicating the i-th area.

- $1 \leq T \leq 10$
- $1 \leq N \leq 500$
- $1 \leq W, H \leq 10^9$
- $1 \leq A_i \leq W \times H$

Output

For each test case, please output `YES` in one line if sum of those N areas are exactly $W \times H$. Otherwise, output `NO` in one line.

Sample Input

```
2
1 1 1
1
2 3 3
4
4
```

Sample Output

```
YES
NO
```