Problem I
POP Quiz
Time limit: 3 seconds



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Buzz is a starship captain who has been selected for the U.N.'s recently launched Hunt for Earth-Like Planets (HELP) mission. The goal of the mission is to investigate planets in the Milky Way that have been identified by ground- and space-based telescopes as potentially capable of supporting human life. Buzz and his crew have been given orders to fly to a location in space near each such planet, called a *planet-observation position* (POP), and then use instruments on board their ship to gather as much data about that planet as possible. To simplify the mission instructions (and to avoid any possibility of floating-point errors), each POP has positive integer (x, y, z) coordinates. (The HELP mission is using a recently standardized 3-D coordinate system that places the entire Milky Way galaxy in the all-positive octant.)

Buzz is initially very excited about the HELP mission, but after gathering data from a few planets, he soon starts to get bored (as they say, if you've seen one earth-like planet outside our solar system, you've seen them all). To pass the time, he begins inventing mathematical games using mission data. The game that turns out to be the most enjoyable and challenging is one he calls POP Coordinate Parity (PCP), which requires the player to find a non-empty sequence of POPs,

$$(x_1, y_1, z_1),\ (x_2, y_2, z_2),\ \ldots,\ (x_k, y_k, z_k)$$

for which the sum of the x-coordinates, the sum of the y-coordinates, and the sum of the z-coordinates are all the same. Such a sequence is called a *winning POP sequence*. In order not to make the game too hard, not all available POPs need to be included, and POPs can be repeated, i.e., (x_i, y_i, z_i) can equal (x_j, y_j, z_j) for $i \neq j$.

Given an initial set of POPs provided by mission control, Buzz wants to determine whether or not a winning POP sequence exists. Can you HELP Buzz play the game?

In the case of Sample Input 1, the game can be won with a POP sequence of length 5 consisting of 2 copies of $(7, 1, 10)$ and 3 copies of $(4, 8, 2)$, since

$$(7, 1, 10) + (7, 1, 10) + (4, 8, 2) + (4, 8, 2) + (4, 8, 2) = (26, 26, 26)$$

Input

The first line of input contains a positive integer n ($1 \leq n \leq 10^5$), the number of POPs given by mission control. Each of the next n lines contains one of these POPs as three integers, $x\ y\ z$. Every coordinate is in the interval $[1, 10^3]$, and the n POPs are guaranteed to be distinct.

Output

If a winning POP sequence exists, output `yes`. Otherwise, output `no`.

Sample Input 1	Sample Output 1
5 5 3 5 7 1 10 6 4 9 4 8 2 1 22 3	yes

Sample Input 2	Sample Output 2
2 4 2 5 1 3 2	no