E: Fractal Painting

Time Limit: 1 second

A fractal painting consists of an infinite number of line segments. The first segment, called A, connects points $(0, 0)$ and (x_0, y_0).

The next two segments B and C connect (x_0, y_0) to (x_1, y_1) and (x_0, y_0) to (x_2, y_2), respectively.

The rest of the painting is defined recursively. We draw two segments D and E from (x_1, y_1) so that the segments B, D, E are *similar* to the segments A, B, C. Here, *similar* segments mean that they can be matched point-to-point by performing translating, rotating, and scaling on the original segments.

Similarly, we draw segments F and G from (x_2, y_2) so that the segments C, F, G are similar to the segments A, B, C.

This procedure continues indefinitely.

Find out whether it is possible to find a rectangle (of any size) that contains the entire fractal painting.

Input

The first line of input contains a single integer T $(1 \le T \le 10^4)$, representing the number of test cases. Each of the next T lines describes a single test case. Each test case consists of a single line with six integers x_0, y_0, x_1, y_1, x_2, and y_2 in order. All coordinates are between -10^4 and 10^4, inclusive. It is guaranteed that $(0, 0)$, (x_0, y_0), (x_1, y_1), and (x_2, y_2) are all distinct points.

Output

For every test case, output `YES` if the entire fractal painting can fit in some rectangular frame. Output `NO` if there is no such rectangle.

Sample Input 1	Sample Output 1
3 1 3 -1 3 3 4 1 1 67 0 0 67 67 67 1 0 0 1	YES NO YES

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