

## H: 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  $T$  ( $1 \leq T \leq 10^4$ ), 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

```
3
1 3 -1 3 3 4
1 1 67 0 0 67
67 67 1 0 0 1
```

#### Sample Output 1

```
YES
NO
YES
```

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