Problem A
Outstanding Outlines
Time limit: 2 seconds

Cai, the outstanding billionaire, has a very particular obsession: he only feels comfortable when his feet are planted firmly on an edge or vertex of the tiling — that is, on the boundary of some floor tile. Recently, he acquired a collection of identical, high-end triangular floor tiles. He plans to use these tiles to tile a long, straight corridor in his new mansion.

The corridor is an infinite strip on a two-dimensional plane. To ensure the design meets his supreme standards, Cai has dictated a strict tiling rule: every single triangular tile must be placed such that it spans the entire width of the corridor, touching both parallel boundary lines. This creates a continuous, single-row *tessellation* of the strip. One of these tiles must exactly match his favorite reference triangle, and all other tiles must be congruent to it.

Cai is currently standing at a fixed location in the hallway. He is exhausted after a long day of terraforming work and, quite frankly, will not move at all. He wants the tiles to grow automatically across the floor starting from his reference triangle, as long as the resulting pattern follows his rules. Of course, it is only a success if an edge or vertex of the tiles coincides with his current position!

Your task is to determine if it is possible to tile the corridor such that Cai's current position, point D, lies exactly on an edge or a vertex of the *tessellation* containing $\triangle ABC$. The corridor's boundaries are defined as the two unique parallel lines l_1 and l_2 such that l_1 passes through A and B, and l_2 passes through C. A *tessellation* of the strip formed by (l_1, l_2) is a tiling of the entire strip using congruent copies of triangle $\triangle ABC$ (allowing translation, rotation, and reflection), with no overlaps and no gaps.

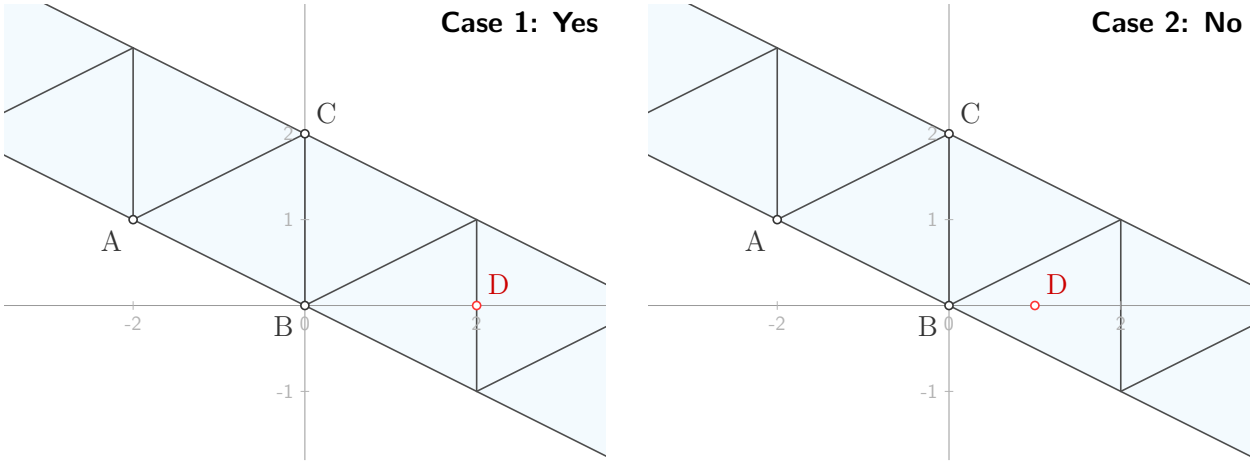

Illustration of the first two sample test cases.

Input

There are multiple test cases. The first line of the input contains an integer T ($1 \le T \le 10^3$) indicating the number of test cases. For each test case:

The first line contains two integers x_a and y_a ($-100 \le x_a, y_a \le 100$), the coordinates of point A.

The second line contains two integers x_b and y_b ($-100 \le x_b, y_b \le 100$), the coordinates of point B.

The third line contains two integers x_c and y_c ($-100 \le x_c, y_c \le 100$), the coordinates of point C.

The fourth line contains two fractions x_{d_1}/x_{d_2} and y_{d_1}/y_{d_2}, where $x_{d_1}, x_{d_2}, y_{d_1}, y_{d_2}$ are integers satisfying $-10^7 < x_{d_1}, y_{d_1} < 10^7$ and $0 < x_{d_2}, y_{d_2} < 10^7$, representing the coordinates of point D.

It is guaranteed that A, B, and C form a non-degenerate triangle.

Output

For each test case, output "Yes" in a line if there exists a valid tessellation such that point D lies on an edge or a vertex of at least one triangle in the pattern. Otherwise, output "No".

Sample Input 1

```
4
-2 1
0 0
0 2
2/1 0/1
-2 1
0 0
0 2
1/1 0/1
0 1
-2 1
0 2
1/2 7/4
0 1
-2 1
0 2
-3/2 3/4
```

Sample Output 1

```
Yes
No
Yes
No
```