

Isoball: 2D Version

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

Isoball is a challenging and fun game, and in this problem, we consider its 2D version. Given the radius of a circle and its initial position, there is a rectangle on the plane, and your goal is to let the circle be in the interior of the rectangle. To do this, you determine the direction of movement for the circle (represented by a vector). Now, you want to know if there exists a moment (including the initial moment) when the circle moves in this direction to reach the goal.

For a circle with center at (p, q) and radius r , it is considered to be inside a rectangle with bottom-left corner at (l_x, l_y) and top-right corner at (r_x, r_y) if and only if $\forall p \in \{(x, y) \mid (x - p)^2 + (y - q)^2 \leq r^2\}$, it holds that $l_x \leq p_x \leq r_x$ and $l_y \leq p_y \leq r_y$, where p_x, p_y are the horizontal and vertical coordinates of point p , respectively.

Input

The first line contains an integer T ($1 \leq T \leq 10^4$), indicating the number of test cases.

For each test case, the first line contains five integers x, y, r, v_x, v_y ($-10^6 \leq x, y, v_x, v_y \leq 10^6, 1 \leq r \leq 10^6$), representing the initial horizontal and vertical coordinates of the circle's center, the radius of the circle, and the direction of movement. It's guaranteed that both v_x and v_y are not simultaneously equal to 0.

The second line contains four integers l_x, l_y, r_x, r_y ($-10^6 \leq l_x, l_y, r_x, r_y \leq 10^6$), representing the horizontal and vertical coordinates of the bottom-left and top-right corners of the rectangle. It's guaranteed that $l_x < r_x$ and $l_y < r_y$.

Output

For each test case, output one line. If the goal can be achieved, output **Yes**; otherwise, output **No**.

Example

| standard input | standard output |
|----------------|-----------------|
| 5 | Yes |
| 0 0 1 1 0 | No |
| 2 -2 6 2 | Yes |
| 0 0 1 1 0 | No |
| 2 0 6 2 | Yes |
| 0 0 1 1 1 | |
| 1 1 3 3 | |
| 0 0 1 -1 -1 | |
| 1 1 3 3 | |
| 0 0 1 -1 1 | |
| -5 -5 5 5 | |