A Triangle and Two Squares

Problem Statement

You are given two squares A and B.

- The square A has a side length of a and its left-bottom point is at $(0, 0)$, while its top-right point is at (a, a). - The square B has a side length of b. Its left-bottom point is (x, y) and its top-right point is $(x + b, y + b)$.

It is guaranteed that square B lies inside square A (it may touch the boundaries but cannot go outside). In other words,

$$0 \leq x, 0 \leq y, (x + b \leq a, y + b \leq a).$$

You have to determine whether it is possible to construct a triangle T such that:

1. All vertices of the triangle T lie on the boundary of square A. 2. One of its sides is parallel to one of the sides of square A, and this side contains one of the sides of square B as a subsegment. That is, there exists a side of the triangle T_2T_3, which is parallel to one of the sides of square A, and this side contains a side of square B, say Q_3Q_4, as a subsegment. 3. Square B is inside the triangle T (it can touch the sides of T, but cannot go outside the triangle).

Input Format

- The first line contains an integer T, the number of test cases.
- Each of the next T lines contains four space-separated integers a, b, x, y, where:
  - a is the side length of square A,
  - b is the side length of square B,
  - x, y are the coordinates of the bottom-left corner of square B.

Output Format

For each test case, print a single line containing the string `yes` if it is possible to construct such a triangle, or `no` otherwise.

Constraints

- $1 \leq T \leq 10^5$

- $1 \leq b \leq a \leq 10000$
- $0 \leq x, y \leq a - b$

Example Input

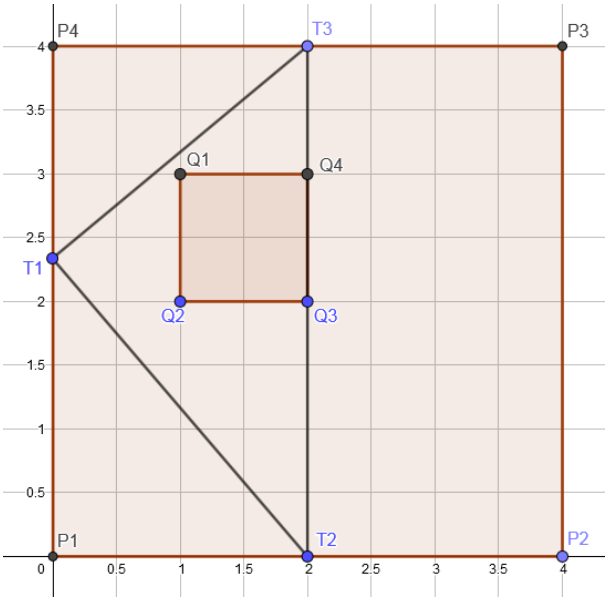
```
4
4 1 1 2
3 1 1 2
3 1 0 0
3 2 1 1
```

Example Output

```
yes
yes
yes
no
```

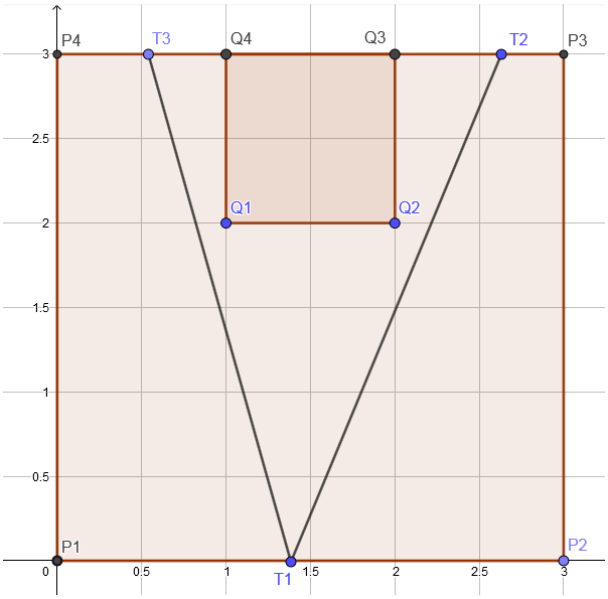
Explanation

Testcase 1: The following figure shows one possible way in which the triangle can be constructed:



Square A is $P_1P_2P_3P_4$, square B is $Q_1Q_2Q_3Q_4$, and the constructed triangle T is $T_1T_2T_3$.

Testcase 2: The following figure shows one possible way in which the triangle can be constructed:



Square A is $P_1P_2P_3P_4$, square B is $Q_1Q_2Q_3Q_4$, and the constructed triangle T is $T_1T_2T_3$.