



## Bangladesh Artificial Intelligence Olympiad (Preliminary)

2:05:38

- O Dashboard
- A. Welcome to Bang...
- B. Take Angle, Giv...
- C. Odd Subset XOR
- D. Can you predict...
- ☐ E. Cycle of life
- F. Lost in bracket...
- G. Sum in summer
  - © 2024 Toph | Furgan Software
- (i) Announcements
- ? Clarifications
- **Standings**
- ✓ Submissions

# H. I think, therefore I am

Limits 1s, 512 MB

You are given a Cartesian plane divided into four quadrants. The task is to determine if a straight line segment defined by two points (x1,y1) and (x2,y2) crosses any integer coordinate points other than its endpoints.

#### Input

- The first line contains an integer  $T(1 \le T \le 100000)$ , the number of test cases.
- Each of the next T lines contains four integers x1,y1,x2,y2 representing the coordinates of the two endpoints of the line segment.
- The values of the coordinates will be in the range [-999999, 999999].

#### Output

• For each test case, output "YES" if the line segment crosses any integer points between the endpoints (x1,y1) and (x2,y2), excluding the endpoints themselves. Otherwise, output "NO".

# Sample

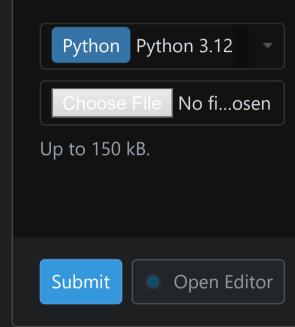
Input	Output
4	NO
0 0 1 1	YES
0 0 2 2	NO
0 0 2 1	YES
3 3 6 6	

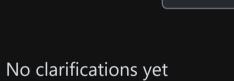
### Explanation

- 1. The line segment from (0,0) to (1,1) passes directly through the points and does not cross any other integer points.
- 2. The line segment from (0,0) to (2,2) crosses through the integer point (1,1).
- 3. The line segment from (0,0) to (2,1) does not cross any other integer points directly.
- 4. The line segment from (3,3) to (6,6) crosses through the integer points (4,4) and (5,5).

# Submit

Choose a programming language, select your solution file, and click on Submit.





Request

Clarifications