Problem 8: Finding the Cat

Time Limit: 1s

Jacob loves his new cat very much. As such, he want to make sure that his cat stays inside of his house. Jacob's house is a bit peculiar, as it is shaped like a triangle and can be models with a 2D plane. He attached a GPS tracker to his cat, and he wants to know if his cat is inside of his house. Given the coordinates of the three vertices of Jacob's house $(A_x, A_y), (B_x, B_y), (C_x, C_y)$ and the coordinates of his cat, (P_x, P_y) determine if his cat is inside of his house.

Hint: You may need to use the area of a triangle to solve this problem. The area of triangle formed by the points $(A_x, A_y), (B_x, B_y), (C_x, C_y)$ is given by the following formula:

$$AREA = \frac{1}{2} |(A_x B_y + B_x C_y + C_x A_y) - (A_y B_x + B_y C_x + C_y A_x)|$$

Constraints

$$-10^3 \leq A_x, A_y, B_x, B_y, C_x, C_y, P_x, P_y \leq 10^3$$

Input Specification

The first line of input will contain the coordinates of the three vertices of Jacob's house, $A_x, A_y, B_x, B_y, C_x, C_y$. The second line of input will contain the coordinates of Jacob's cat, P_x, P_y.

Output Specification

Output `yes` if Jacob's cat is inside of his house, and `no` otherwise.

Sample Input

```
-3 4 5 2 -1 -1
1 1
```

Sample Output

```
yes
```

Explanation