## Problem 1 – Triangle

You are given a two-dimensional Cartesian coordinate system and three points A, B, C with coordinates: A(Ax, Ay), B(Bx, By), C(Cx, Cy). Write a program to check if these **three points can form a triangle**. Then calculate the area of this triangle. To find the distance between two points with the coordinates (x1, y1) and (x2, y2) use the formula:

You can use the inequalities of a triangle to check whether three segments **a**, **b** and **c** can form a triangle:

; ;

To calculate the area you can use Heron`s formula (a method for calculating the area of a triangle when you know the lengths of all three sides). Let **a**, **b**, **c** be the lengths of the sides of a triangle. Thus:

, where **p** is half the perimeter: .

### Input

The input data comes from the console. It consists of exactly 6 lines holding the coordinates of the three points: **Ax**-coordinate, **Ay**-coordinate, **Bx**-coordinate, **By**-coordinate, **Cx**-coordinate and **Cy**-coordinate. The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

The output data should be printed on the console and must contain two lines.

* **First line:** If the given points can form a triangle you must print the message “**Yes**”, otherwise “**No**”.
* **Second line:** If the given points can form a triangle you must print the **area of the triangle** rounded to two decimal places (see the examples), otherwise you must print the **distance between point A and point B**. Use "**.**" as decimal separator.

### Constraints

* The coordinate **X** is integer in the range [-10000… 10000] inclusive.
* The coordinate **Y** is integer in the range [-10000… 10000] inclusive.
* Allowed work time for your program: 0.1 seconds.
* Allowed memory: 16 MB.

### Examples

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** | **Comments** |  | **Input** | **Output** | **Comments** |
| 2  2  0  0  1  1 | No  2.83 |  |  | 0  2  3  0  -1  4  -2 | Yes  2.00 |  |