

Problem 1

Concealed Coconut

Input File: *cocoin.txt*

Output File: *cocoout.txt*

Time and Memory Limits: 1 second, 1 GB

Ishraq and Clement have lost their coconut and need help finding it again!

Ishraq, Clement and the coconut are standing on a 2d-plane. The locations of Ishraq and Clement are given by their x - and y -coordinates, where x and y are whole numbers.

Both Ishraq and Clement think they know how far away from the coconut they are, but in their sadness their memory may be wrong. Given the location of Ishraq and Clement, and their respective distances to the coconut, figure out whether there is *at least* one location that the coconut could be. Note that the distance from each person to the coconut will also be a whole number.

Input

The first line will contain Ishraq's location, followed by his distance to the coconut; I_x , I_y and I_d respectively. The second line will contain Clement's location, followed by his distance to the coconut; C_x , C_y and C_d respectively.

Output

If there is at least one location that the coconut could be in, your program should output 'yes', otherwise it should output 'no'.

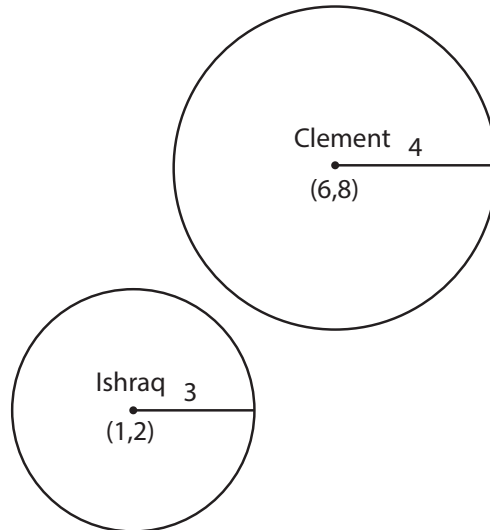
Sample Input 1

```
1 2 3
6 8 4
```

Sample Output 1

```
no
```

Explanation 1



The circles in the diagram give the points where the coconut could be given Ishraq and Clement's distances. Since these circles share no points there are no places where the coconut could be, so the result is 'no'.

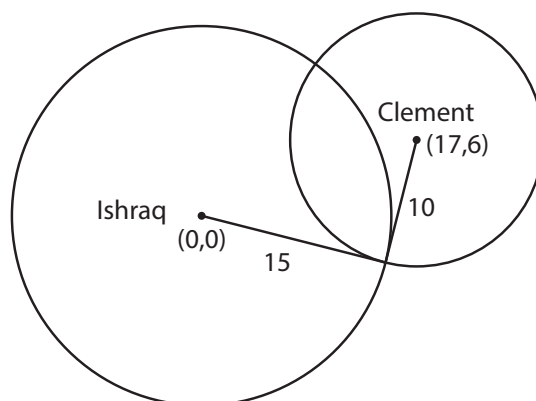
Sample Input 2

```
0 0 15
17 6 10
```

Sample Output 2

yes

Explanation 2



Given the diagram, we can see that there are two points that are distance 15 from Ishraq at (0,0) and distance 10 from Clement at (17,6). Their actual locations do not matter, we only need to determine if possible locations exist. So the result is 'yes'.

Sample Input 3

```
0 0 5
6 8 5
```

Sample Output 3

```
yes
```

Explanation 3

There is exactly one possible location for the coconut $(3, 4)$, so the answer is ‘yes’.

Sample Input 4

```
1 1 10
1 2 3
```

Sample Output 4

```
no
```

Explanation 4

In this case Clement’s circle lies completely inside Ishraq’s, so there is no possible place for the coconut to be. Therefore the answer is ‘no’.

Subtasks & Constraints

For all cases, $0 \leq I_x, I_y, I_d, C_x, C_y, C_d \leq 10\,000$.

- For subtask 1 (35 marks), given that K is the distance between Ishraq and Clement, $I_d < K, C_d < K$.
- For subtask 2 (65 marks), no further constraints apply.