

STNBD P5 - Fianna Ray Ordesia

Time limit: 1.0s **Memory limit:** 32M

Fianna has a special elemental waffe called «Save the Queen». She can power up all allies in a certain radius from where she deploys the elemental waffe. Today, she is fighting alongside Ellis and Kamito on a 2 dimensional coordinate plane. Fianna wants to power up Ellis and Kamito by the same amount, so she wants to be equidistant from both of them. Given the positions of Ellis and Kamito and the exact distance Fianna wants to be from both of them, where should Fianna deploy her elemental waffe?

Input Specification

All positions are given in (x, y) format, where x and y are real numbers.

The first line of input will have Ellis's position.

The second line of input will have Kamito's position.

The third line will have a real number, the distance Fianna wants to be away from Ellis and Kamito.

Output Specification

You should output all possible positions Fianna can have in increasing order of x coordinate. If there is a tie, break it by y coordinate. It is guaranteed that there is at least 1 and that there will be no more than 10 000 possible positions Fianna can be at.

Your answer will be judged correct if its absolute or relative error does not exceed 10^{-6} .

Constraints

All real numbers in the input have **absolute values** that do not exceed 300 given to exactly 6 digits after the decimal point.

Sample Input

```
0.000000 0.000000
0.000000 2.000000
1.000000
```

Sample Output

0.000000 1.000000