

Problem G

Fourth Point!!

Input: standard input

Output: standard output

Time Limit: 2 seconds

Memory Limit: 32 MB

Given are the (x, y) coordinates of the endpoints of two adjacent sides of a parallelogram. Find the (x, y) coordinates of the fourth point.

Input

Each line of input contains eight floating point numbers: the (x, y) coordinates of one of the endpoints of the first side followed by the (x, y) coordinates of the other endpoint of the first side, followed by the (x, y) coordinates of one of the endpoints of the second side followed by the (x, y) coordinates of the other endpoint of the second side. All coordinates are in meters, to the nearest mm. All coordinates are between **-10000** and **+10000**. Input is terminated by end of file.

Output

For each line of input, print the (x, y) coordinates of the fourth point of the parallelogram in meters, to the nearest mm, separated by a single space.

Sample Input

```
0.000 0.000 0.000 1.000 0.000 1.000 1.000 1.000
1.000 0.000 3.500 3.500 3.500 3.500 0.000 1.000
1.866 0.000 3.127 3.543 3.127 3.543 1.412 3.145
```

Sample Output

```
1.000 0.000
-2.500 -2.500
0.151 -0.398
```

(World Finals Warm-up Contest, Problem Source: University of Alberta Local Contest)

“You don’t get a rank in a contest if you don’t solve any problem. So there must be a Problem which can be solved by almost every team.”