Problem M: Move & Meet

Ernesto and Penelope are playing a board game on an infinite grid. Instead of rolling dice, both of them have generated a random number, and now they have to move their pieces that number of times. A single move consists of placing the piece in an adjacent cell; moving diagonally or waiting in place are not legal moves. However, it *is* permitted to move the piece in the direction it just came from in the previous move.

Ernesto and Penelope are trying to move in such a way that their pieces will end up in the same cell. Is there a cell for which this is possible?

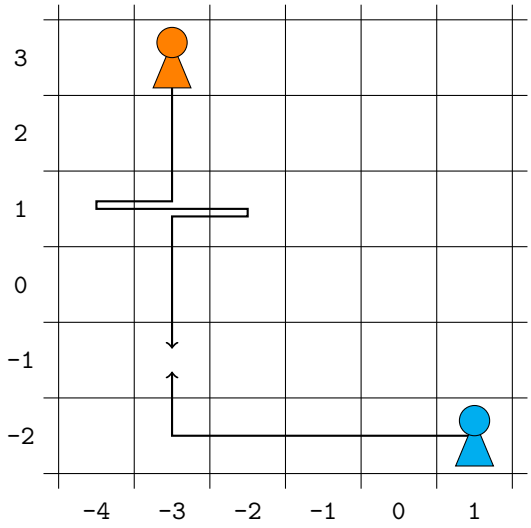

Figure M.1: Visualisation of the first sample, including possible paths for the given output.

Input

The input consists of two lines, both containing three integers x, y ($-10^{12} \leq x, y \leq 10^{12}$) and d ($0 \leq d \leq 10^{12}$), giving for either player the pieces' initial coordinates and the randomly generated number.

Output

If there is a cell that both players can end up on, output its coordinates. If there are multiple valid solutions, any will be accepted. If there is no valid cell, output `impossible`.

Sample Input 1

```
1 -2 5
-3 3 8
```

Sample Output 1

```
-3 -1
```

Sample Input 2

```
0 -1000000000000 0
0 -1000000000000 0
```

Sample Output 2

```
0 -1000000000000
```

Sample Input 3

```
-5 -426 932111
83 -870 478692
```

Sample Output 3

```
impossible
```