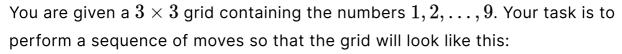
# **Swap Game**

Time: 10 sec / Memory: 2GB MB

#### **Problem Statement**



123

456

789

On each move, you can swap the numbers in any two adjacent squares (horizontally or vertically). What is the minimum number of moves required?

### Input

The input has three lines, and each of them has three integers.

#### **Output**

Print one integer: the minimum number of moves.

## **Example**

Input:

2 1 3

7 5 9

8 4 6

Output:

4