Magic Square Forming

Consider a 3×3 matrix, s, of integers in the inclusive range $[1, 9]$. Any digit, a, can be changed to any other digit, b, in the range $[1, 9]$ at cost $|a - b|$.

Given matrix s, convert it into a magic square by changing zero, one, or more of the digits in s. You must do this in such a way that the cost is minimal and then print the minimum possible cost on a new line.

Note: The resulting magic square must contain distinct integers in the inclusive range $[1, 9]$.

Input Format

There are 3 lines of input. Each line describes a row of the matrix in the form of 3 space-separated integers denoting the respective first, second, and third elements of that row.

Constraints

- All integers in s are in the inclusive range $[1, 9]$.

Output Format

Print a single integer denoting the smallest possible cost of turning matrix s into a magic square.

Sample Input

```
4 9 2
3 5 7
8 1 5
```

Sample Output

```
1
```

Explanation

Matrix s initially looks like this:

```
4 9 2
3 5 7
8 1 5
```

Observe that it's not yet magic, because not all rows, columns, and center diagonals sum to the same number.

If we change the bottom right value, $s[2][2]$, from 5 to 6 at a cost of $|6 - 5| = 1$, s will become a magic square at the minimum possible cost. Thus, we print the cost, 1, on a new line.