Forming a Magic Square

We define a magic square to be an $n \times n$ matrix of distinct positive integers from 1 to n^2 where the sum of any row, column, or diagonal (of length n) is always equal to the same number (i.e., the *magic constant*).

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

Given s, convert it into a magic square at *minimal* cost by changing zero or more of its digits. Then print this 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 an integer denoting the minimum cost of turning matrix s into a magic square.

Sample Input 0

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

Sample Output 0

```
1
```

Explanation 0

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 becomes a magic square at the minimum possible cost. Thus, we print the cost, 1, on a new line.

Sample Input 1

```
4 8 2
4 5 7
6 1 6
```

Sample Output 1

```
4
```

Explanation 1

Considering 0 - based indexing if we make $s[0][1]$->9 at a cost of : $|9-8|=1$, $s[1][0]$->3 at a cost of : $|3-4|=1$ and $s[2][0]$->8 at a cost of : $|8-6|=2$, then net cost will be ($1+1+2=4$).