

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

Explanation

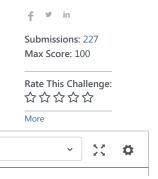
Matrix s initially looks like this:

Current Buffer (saved locally, editable) & 5

- 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.



C#

1 lucina Systam https://www.hackerrank.com/contests/acm-icpc-practice-contest/challenges/magic-square-forming

```
Justing System,
  2
          using System.Collections.Generic;
  3
          using System.IO;
  4
       ▼ class Solution {
  5 ▼
                     static void Main(String[] args) {
  6
                                /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be
           named Solution */
  7
                                   List<string> entrada = new List<string>();
  8
                                           for (int i = 0; i < 3; i++)
  9
10
                                                     entrada.Add ( String.Join("", Console.ReadLine().Split(' ')));
11
12
                                           //foreach (string s in entrada)
13
                                           //{
                                                           Console.WriteLine(s);
14
15
                                           //}
16
                                          List<List<string>> todos = new List<List<string> (new string[] { "816", new string[] { "618", new string[] { "
17
                                           List<List<string>> todos = new List<List<string>>();
18
                                                                                                                                                                             "753", "294" }));
19
                                                                                                                                                          "438",
                                                                                                                                                                             "951",
                                                                                                                                                                                               "276" }));
20
                                           todos.Add(new List<string>(new string[] {
                                                                                                                                                                             "951",
"753",
21
                                           todos.Add(new List<string>(new string[] {
                                                                                                                                                           "276"
                                                                                                                                                                                                "438"
                                                                                                                                                                                                                })):
                                                                                                                                                          "294",
                                                                                                                                                                                                "618"
22
                                           todos.Add(new List<string>(new string[]
                                                                                                                                                                                                                }));
                                           todos.Add(new List<string>(new string[] {
                                                                                                                                                          "492", "357",
23
                                                                                                                                                                                               "816" }));
                                          todos.Add(new List<string>(new string[] { "672", "159", "834" }));
todos.Add(new List<string>(new string[] { "834", "159", "672" }));
24
25
26
                                           int min_costo = int.MaxValue;
27
28
                                           foreach (List<string> lista in todos)
29
30
31
                                                      int costo = 0;
                                                     for (int i = 0; i < 3; i++)
32
33
34
                                                                for (int j = 0; j < 3; j++)
35
36
                                                                          costo += Math.Abs(int.Parse(entrada[i][j].ToString()) - int.Parse(lista[i]
            [j].ToString()));
37
38
39
40
                                                     min_costo = Math.Min(min_costo, costo);
41
42
43
                                           Console.WriteLine(min_costo);
44
45
46
                                                                                                                                                                                                                                                                   Line: 36 Col: 25
```

Test against custom input **1** Upload Code as File

Run Code

Submit Code

```
Testcase 0 ✓
Congratulations, you passed the sample test case.
Click the Submit Code button to run you code against all the test cases.
Input (stdin)
 4 9 2
 8 1 5
Your Output (stdout)
Expected Output
 1
```

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