
Problem A. Counting Time

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

Ahmed Aly is a software engineer at Google, and the chief judge of the ACM ACPC for many years. Today while he was on his way to work he invented a new game for his son Omar.

The new game played on a grid consisting of 3 rows each of which is divided into 3 columns. The goal of the game is to fill the grid with a series of consecutive **unique** numbers (between 1 and 9) such that each cell in the grid can hold only one number. Numbers need to be placed in the grid such that each number x ($1 \leq x < 9$) and $(x + 1)$ must be in two cells adjacent to each other vertically, horizontally, or diagonally. Initially, some cells in grid may be filled at the beginning of the game with some numbers.

Omar is very smart boy, and he managed to solve the game very fast. So Ahmed decided to make the game more difficult. In the new version of the game Omar is not required to fill the grid with numbers, instead of that he required to count in how many ways he can fill it correctly.

Even though that Omar is very smart, but he is still newbie in counting so you decided to help him. Can you?

Input

The input consists of 3 lines, each one consists of 3 digits, giving the grid. If the j^{th} digit in the i^{th} row is equal to '0', then the cell (i, j) is empty and Omar needs to fill it. The number of empty cells is between 0 and 9 (inclusive). Each digit can appear at most one time in the given grid.

Output

Print the number of ways Omar can fill the grid correctly in order to solve the game.

Examples

standard input	standard output
076 005 234	4
103 000 709	3
100 608 040	1

Note

In the first test case the grid can be filled correctly in 4 ways, which are:

876	876	976	976
195	915	185	815
234	234	234	234

In the second test case the grid can be filled correctly in 3 ways, which are:

123	123	153
654	684	624
789	759	789