A. Lights Out

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Lenny is playing a game on a 3×3 grid of lights. In the beginning of the game all lights are switched on. Pressing any of the lights will toggle it and all side-adjacent lights. The goal of the game is to switch all the lights off. We consider the toggling as follows: if the light was switched on then it will be switched off, if it was switched off then it will be switched on.

Lenny has spent some time playing with the grid and by now he has pressed each light a certain number of times. Given the number of times each light is pressed, you have to print the current state of each light.

Input

The input consists of three rows. Each row contains three integers each between 0 to 100 inclusive. The j-th number in the i-th row is the number of times the j-th light of the i-th row of the grid is pressed.

Output

Print three lines, each containing three characters. The j-th character of the i-th line is "1" if and only if the corresponding light is switched on, otherwise it's "0".

Examples

input
1 0 0 0 0 0 0 0 1
output
001 010 100

input
1 0 1 8 8 8 2 0 3
output
010 011 100

Codeforces Round #168 (Div. 2)
Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Problem tags

implementation

No tag edit access

→ Contest materials

- Announcement
- Tutorial