

Problem 5. Score

Sadly, Ivancho wasn't chosen to represent his school in one of its basketball teams. Instead, he was sent by the principle to record the results from the tournament against the neighbouring school. Ivancho's school sent **N** teams, and the neighbouring school sent **M** teams.

As always, Ivancho was really thorough and recorded the score his team scored against every team in the neighbouring school in a table with **N** rows and **M** columns (the numbers in any row represent the scores a certain team from his school had against all the teams from the neighbouring school and every columns represents the scores all the teams from Ivancho's school scored against a certain team from the neighbouring school), which contains integers **between 1 and 100**. In his thoroughness, he even wrote the sum from every row and every column of the table.

When the time came to present his work to the principle, Ivancho saw that the ink in some of the cells of the table was scrambled. Happily, all the sums are unchanged. Help Ivancho restore the table to its initial state.

Input: The first line of the input file **score.in** consists of two integers **N** and **M**. On the next **N** lines the matrix **A** is given. If any element of the matrix is -1, this means, that this cell is scrambled

After that there is a sequence **N** numbers, **R** - the sum of each row.

On the last line of the input file there is a sequence of **M** numbers, **C** - the sum of each column.

The rows are given from the topmost to the bottommost and columns are given from left to right.

Output: The output file **score.out** contains **N** lines with **M** numbers each representing the restored table. **If any cell in the table can have more than one value, print -1 in its place.**

Constraints:

$$1 \leq N, M \leq 50$$

$$-1 \leq A_{ij} \leq 100$$

$$0 \leq R_i, C_i \leq 5000$$

TIME LIMIT – 2 sec

Example:

score.in	score.out
5 5 -1 -1 6 -1 8	-1 -1 6 0 8 -1 -1 0 4 2

-1 -1 0 4 2 3 -1 -1 5 -1 4 0 2 -1 -1 2 1 5 -1 -1 21 10 15 13 14 18 6 17 15 17	3 3 4 5 0 4 0 2 -1 -1 2 1 5 -1 -1
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