

## Problem A. Balance

Input file: *standard input*  
Output file: *standard output*  
Time limit: 1 second  
Memory limit: 512 mebibytes

We say that a matrix  $A$  of size  $N \times N$  is *balanced* if  $A[i][j] + A[i+1][j+1] = A[i+1][j] + A[i][j+1]$  for all  $1 \leq i, j \leq N-1$ .

You are given a matrix  $A$  of size  $N \times N$ . Your task is to output another matrix  $B$  of equal size such that  $B$  is balanced and  $B[i][j] \geq A[i][j]$  for all  $1 \leq i, j \leq N$ . Furthermore, your  $B$  must have the minimum possible sum of entry values.

### Input

The first line of input contains an integer  $N$ , the number of rows and columns of the matrix ( $1 \leq N \leq 50$ ).

Each of the following  $N$  lines contains  $N$  integers. Together they describe the matrix  $A$ . It is guaranteed that  $0 \leq A[i][j] \leq 35\,000$  for all  $1 \leq i, j \leq N$ .

### Output

On the first line, print the sum of the values of the balanced matrix  $B$  you found. On the next  $N$  lines, print the balanced matrix in the same format as given in the input.

Any output matrix that meets the constraints described in the statement will be accepted. The values of the output matrix are not constrained in any way (specifically, they may exceed the value 35 000).

### Example

standard input	standard output
4	16
1 1 1 1	1 1 1 1
1 1 1 1	1 1 1 1
1 1 1 0	1 1 1 1
1 1 1 1	1 1 1 1