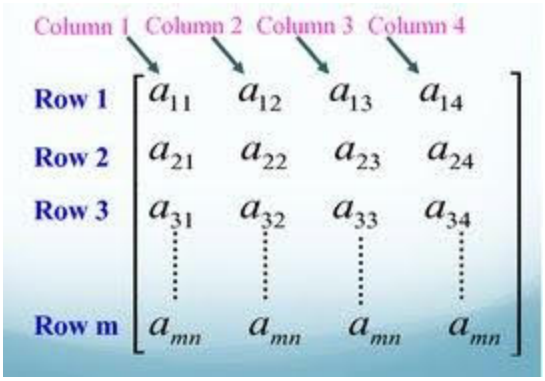
1 Maximum Z-Sum

Z-Sum(i,j) in a matrix M is defined as the sum of the elements in matrix M
at positions (i, j), (i, j+1), (i+1, j), (i+1, j+1). Z-Sum(1,1) of the matrix shown in the figure is a11+a12+a21+a22.



Given a mXn matrix, value of i and j,
write a program to find the maximum Z-Sum in the matrix.
Print the elements that form Z-structure in order
that is print elements at positions (i, j), (i, j+1), (i+1, j), (i+1, j+1).
And also print all the positions i,j of the matrix that corresponds to maximum Z-Sum.
For example, given a 3X3 matrix as shown below:
1 2 3
2 4 7
1 2 3
The maximum z-sum is 16, the z-structures start with elements in position 1, 2
and 2, 2, the elements that is on the maximum z-structures are 2 3 4 7 and 4 7 2 3.

Input Format:
First line contains the number of rows in the matrix m, r
Next line contains the number of columns in the matrix m, c
Next r lines contain the elements of the matrix, one line has the elements of one row and the elements in each column is separated by a space

Output Format:
In the first line, print the maximum z sumIn the next 2*m lines, print the position of first element of Z-structure that has maximum z sum followed the elements in the Z-structure with maximum sum in the next line, where 'm' is the number of z-structures with maximum z sum

The position of first element of Z-structure with maximum sum and elements in the Z-structure with maximum sum has to be separated by a **space**. Print the elements in the Z-structure in such a way that Z shape is formed when traversed

Input/Output

Input	Output	
3 3 1 2 3 2 4 7 1 2 3	16 1 2 2 3 4 7 2 2 4 7 2 3	
5 4 12 11 46 7 2 3 4 17 3 4 53 21 4 6 17 4 3 7 8 15	95 2 3 4 17 53 21 3 3 53 21 17 4	

2 Enlarge Move in Gain-Coins Game

Gain-Coins is a mxn board game, in which the number of coins in each square increases during enlarge move. The number of coins on each square 's' which is row 'r' and column 'c' increases by the maximum number of coins in the row 'r' and also increases by the minimum number of coins in the column of 'c'. Given the number of coins in the board write a C program to print the number of coins in the board after enlarge move. For example if the number of coins in a 3X3 board is:

2 3 4
5 7 3
3 8 1

Then after enlarge move the number of coins will be:
8 10 9
14 17 11
13 19 10

Input Format:
First line contains the number of rows in the board, r
Next line contains the number of columns in the board, c
Next 'r' lines contain the number of coins on each row separated by a space

Output Format:
Print the number of coins on the board after enlarge operation
Print the number of coins in one row on each line separated by a space
Note: A space is present at the end of each row

Input/Output

Input	Output
3 **3** **2 3 4** **5 7 3** **3 8 1**	**8 10 9** **14 17 11** **13 19 10**
4 **3** **1 2 3** **4 5 6** **7 8 9** **10 11 12**	**5 7 9** **11 13 15** **17 19 21** **23 25 27**