3 Spiralized Matrix

3.1 Problem

You are working on a more efficient, standardized format for storing two dimensional arrays of integers in memory. Instead of storing them row-by-row or column-by-column you want to store the sequence of values given by an inwards-going spiral. The spiral starts at the value at the upper left and then continues on to contain the full first row from left to right, then wraps down to contain the last column from top to bottom, and the last row from right to left. It then continues on with the first column from bottom to top, but excluding the value in the first row, which has already been printed, and then the remainder of the second row from left to right, but excluding the value in the last column, which again has already been printed.

3.2 Input

The input file starts with one line containing two space-separated integers denoting the number of rows n and columns m of the following matrix. This is followed by n rows of text, each containing m integer values separated by whitespace. Each value and the dimensions of the matrix are non-negative and $\leq 1.000.000.000$.

3.3 Output

Output the spiralized representation of the matrix in a single line with values separated by spaces. The output should end with a single line break right after the last value.

3.4 Sample Data

Input	Output
5 5 1 2 3 4 5 16 17 18 19 6 15 24 25 20 7 14 23 22 21 8 13 12 11 10 9	1 2 3 4 5 6 7 8 9 10 11 12 13 14 ↪ 15 16 17 18 19 20 21 22 23 24 ↪ 25