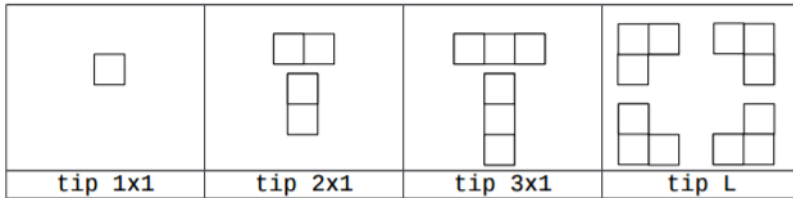


Problem K. Tris

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

You are given some domino-like pieces. The following types of pieces are possible:



Note that there are only four types, and you may rotate and reflect any piece for further use. You want to place all the pieces in a matrix of size at most 800×800 so that you get a single non-self-touching cycle. Formally, this means:

- All pieces must fully fit in the matrix and be aligned with the grid.
- No two pieces may overlap.
- If a certain matrix cell is occupied by a piece, then exactly two of its four neighbours must also be occupied.
- All occupied cells are connected. In other words, you can travel from any occupied cell to any other occupied cell by only moving to adjacent occupied cells.
- The “interior” of the cycle must be a single 4-connected area.

Input

The input consists of a single line containing four integers: the number of pieces of each type (in the order they are shown in the image). It is guaranteed that each number is at least 2 and at most 100, and that at least one valid answer exists.

Output

The first line of output must contain two integers N and M ($N, M \leq 800$) denoting the number of rows and columns in your matrix. The next lines must describe the matrix in the following format:

- The matrix must contain integers between 0 and the total number of pieces, inclusive.
- Cells occupied by the same piece must have the same value.
- Cells occupied by different pieces must have different values.
- Cells that are not occupied by a piece must have the value 0.

If there are several valid answers, print any one of them.

Example

standard input	standard output	picture
3 4 3 4	11 6 0 1 2 4 4 4 1 1 0 0 0 3 8 0 0 0 3 3 8 0 0 0 9 0 8 0 0 0 9 9 10 0 0 0 0 13 10 0 0 0 0 11 12 0 0 0 0 11 12 0 0 0 0 14 6 0 0 0 0 7 6 5 5 5 7 7	