Puncher is a device with several needles for making holes in tickets. At the factory there is a rectangular form with M rows and N columns, as shown in the picture ($M = 3$, $N = 4$), to make different punchers with $1, 2, \ldots, M * N$ needles. The rows and columns of needles are perpendicular to each other. The distance between rows is equal to the distance between columns. Obviously, it is possible to make $2^{M*N} - 1$ different punchers in this way.
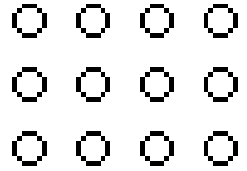
However, sometimes it is not possible to distinguish tickets that are perforated by different punchers. Let us assume that while punching two opposite borders of the ticket are parallel to the rows of the needles, the other pair of opposite borders being parallel to the columns of the needles. The number of the holes in a perforated ticket is always equal to the number of the needles in the corresponding puncher. A composition of the following transformations is allowed:

- a ticket may be perforated on any side (axial symmetry),

- it may be inserted into the puncher with any of its four borders downwards (rotation by 90, 180 and 270 degrees),

- parallel translations are also available.

Your task is to write a program to determine how many actually different punchers can be made with an $M \times N$ form. Two punchers are considered actually different, if it is impossible to match using any combination of the above described operations the holes in the two tickets perforated by these punchers.

Input

The input file contains several test cases, each of them (on a line by itself) consists of two positive integer numbers M (not greater than 4) and N (not greater than 8) separated by a single space.

Output

For each test case, write to the output a single integer indicating the number of the actually different punchers, on a line by itself.

Sample input

3 3

Sample Output

85