The Major of Limonia decided to instill good principles of entrepreneurship into his son, Johnny Citrus. As part of this training Johnny started his first job as a newspaper delivery boy in Limonia. He really enjoys it because not only he will earn his first money but he will also practice cycling before the coming Limonia Bicycle Rally Round the Pen of Puffnootsy the Wombat. Therefore, in order to make a virtue of necessity Johnny does not want to deliver the newspapers as quickly as possible, but in such a manner that his leg muscles will be strengthened in the best possible way.

In the city one can find n roads going from west to east and m alleys going from north to south. On each of the nm intersections there is a block of flats where the newspapers must be delivered. Johnny wants to practice fast cycling on various distances so he does not want to ride the same distance between subsequent buildings too often. Suggest him a cycle track in which the most frequent distance will appear as infrequently as possible. The distance between intersection of the i_1-th road and the j_1-th alley and intersection of the i_2-th road and the j_2-th alley is $|i_1 - i_2| + |j_1 - j_2|$. Johnny can begin the delivery of newspapers from any intersection.

Input

In the first and only line of the input file there are two integers n and m ($1 \leqslant n \leqslant m \leqslant 400$) which specify the number of roads and alleys in Limonia.

Output

In the output file there should be n lines with m integers in each of them: the j-th number in the i-th line must stand for the order of visiting a building placed on intersection of the i-th road and the j-th alley.

Scoring

Let p stand for how many times Johnny will have to ride the most frequent distance on the cycle track suggested in the output file. In the case of correct cycle route the score for the test is p. This is a minimization task, therefore the smaller the value of p the better. The percentage of guaranteed points is 0%.

Example

For the input data:
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2 3
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the correct result is:
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3 6 4
5 1 2
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Explanation of the example: Johnny will start delivering from the intersection of the second road and the second alley. The subsequent distances traveled by Johnny are 1, 3, 2, 3 and 2. The most frequent distances are 2 and 3, both appearing two times, therefore the score is 2.