In this problem you are to generate a triangular wave form according to a specified pair of Amplitude and Frequency.

Input

The input begins with a single positive integer on a line by itself indicating the number of the cases following, each of them as described below. This line is followed by a blank line, and there is also a blank line between two consecutive inputs.

Each input set will contain two positive integers, each on a separate line. The first integer is the Amplitude; the second integer is the Frequency.

Output

For each test case, the output must follow the description below. The outputs of two consecutive cases will be separated by a blank line.

For the output of your program, you will be printing wave forms each separated by a blank line. The total number of wave forms equals the Frequency, and the horizontal "height" of each wave equals the Amplitude. The Amplitude will never be greater than nine.

The waveform itself should be filled with integers on each line which indicate the "height" of that line.

NOTE: There is a blank line after each separate waveform, excluding the last one.

Sample Input

1

3

2

Sample Output