Printing all combinations 2

There are n fruits in the grocery store. Each fruit is numbered by integers from 1 to n. You want to buy at least 1 and **at most** k fruits today, because $(k + 1)$ fruits are too much for you. So, there will be $\binom{n}{1} + \binom{n}{2} + \cdots + \binom{n}{k}$ possible ways of buying at most k fruits. Please write a program that prints all possible ways, each in a line.

Input

Your input consists of an arbitrary number of lines, but no more than 10.

Each line consists of two integers n $(1 \leq n \leq 13)$ and k $(1 \leq k \leq n)$.

The end of input is indicated by a line containing only the value -1.

Output

For each input line, print exactly $\binom{n}{1} + \binom{n}{2} + \cdots + \binom{n}{k}$ lines. Each line should contain at least 1 and **at most** k integers ranging from 1 to n in increasing order, which describes a possible choice of 1 to k fruits. The order of printing the choices should be in *lexicographical order*, which means if two choices are different, compare them first by the smallest number, and if it's the same, then compare them by the second smallest number, and if it's the same, ..., and so on.

More formally, an sequence of integers $a_1, a_2, \cdots, a_p$ lexicographically comes first than $b_1, b_2, \cdots, b_q$ if and only if

- there exists an integer i $(1 \leq i \leq \min(p, q))$ such that $a_1 = b_1, a_2 = b_2, \cdots, a_{i-1} = b_{i-1}, a_i < b_i$.
- or $p < q$ and $a_1 = b_1, a_2 = b_2, \cdots, a_p = b_p$.

For example, (5,7,8) comes first than (5,9,10) and (1,2) comes first than (1,2,6).

Example

Standard input	Standard output
5 2 4 1 6 3 - 1	1 1 2 1 3 1 4 1 5 2 2 3 2 4 2 5 3 3 4 3 5 4 4 5 5 1 2 3 4 1 1 2 1 2 3 1 2 4 1 2 5 1 2 6 1 3 1 3 4 1 3 5 1 3 6 1 4 1 4 5 1 4 6 1 5 1 5 6 1 6 2 2 3 2 3 4 2 3 5 2 3 6 2 4 2 4 5 2 4 6 2 5 2 5 6

	2 6
	3
	3 4
	3 4 5
	3 4 6
	3 5
	3 5 6
	3 6
	4
	4 5
	4 5 6
	4 6
	5
	5 6
	6

Time Limit

1 second.