Problem: Mixed Set

Filename: `mixedset`

A mixed-set is a set of positive integers such that the difference between every pair of distinct numbers in the set is different. For example, {1, 2, 5, 12} is a mixed set since the six pairwise differences between elements is 1, 3, 4, 7, 10 and 11. But the set {2, 5, 7, 10} is not a mixed set because 5 - 2 = 10 - 7. For this problem, you'll be asked about determining mixed sets of a particular length chosen from a set of positive integer ranging from 1 through a given value n. Specifically, you'll be asked to find the k^{th} mixed set that fits the specification of all possible mixed sets, in lexicographical order.

Note: To determine lexicographical ordering between two sets of the same size, sort the sets in numeric order and compare corresponding elements until you reach the first mismatch. The set with the lower number in this slot comes first lexicographically. For example, the set {1, 2, 5, 12} comes before the set {1, 2, 6, 8} because the first mismatch is between 5 in the first set and 6 in the second set and 5 < 6.

Given integers n, s and k, find the k^{th} mixed set in lexicographical order of s values chosen out of the positive integers from 1 through n, inclusive.

Input

The first line of the input file will contain a single positive integer, *c* (*c* ≤ 100), representing the number of test cases to process. Each of the test cases will follow, one per line. Each test case will have three space separated positive integers, *n (n ≤ 50)* and *s (s ≤ 9),* and *k (k ≤ 1000000)* representing the maximum integer with which to form the mixed sets, the length of the mixed sets, and the rank of the specific set desired. It is guaranteed that each query will be well-formed. Namely, for each given combination of *n* and *s*, there will be at least *k* mixed sets that fit the specification.

Output

For each test case, output each item in the desired mixed set in sorted order, followed by a space on a line by itself.

Samples

Input	Output
3 3 2 3 8 4 1 14 4 15	2 3 1 2 4 8 1 2 6 9