

Partition

A *partition* of positive integer m into n components is any sequence a_1, \dots, a_n of positive integers such that $a_1 + \dots + a_n = m$ and $a_1 \leq a_2 \leq \dots \leq a_n$. Your task is to determine the partition, which occupies the k -th position in the lexicographic order of all partitions of m into n components.

The lexicographic order is defined as follows: sequence a_1, \dots, a_n comes before b_1, \dots, b_n iff there exists such an integer $i, 1 \leq i \leq n$, that $a_j = b_j$ for all $j, 1 \leq j < i$, and $a_i < b_i$.

Input

The input begins with the integer t , the number of test cases. Then t test cases follow.

For each test case the input consists of three lines, containing the positive integers m , n and k respectively ($1 \leq n \leq 10$, $1 \leq m \leq 220$, k is not larger than the number of partitions of m into n components).

Output

For each test case output the ordered elements of the sought partition, separated by spaces.

Example

Sample input:

```
1
9
4
3
```

Sample output:

```
1 1 3 4
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