

## Online problem

Given a positive integer  $n$  ( $n \leq 30$ ), generate all distinct ways to write  $n$  as the sum of positive integers using recursion. For example, with  $n = 4$ , the options are 4,  $3 + 1$ ,  $2 + 2$ ,  $2 + 1 + 1$ , and  $1 + 1 + 1 + 1$ .

- Each combination of sum will be considered as a distinct way. For example,  $2 + 1 + 1$ ,  $1+2+1$  and  $1+1+2$  represent the same way. You need to print the combination so that higher number are placed before the lower numbers.
- You need to print the outputs in an increasing order of integers that are present in the representation. For example,  $3 + 1$  should be printed before  $2 + 1 + 1$
- If two representations have same number of integers, the one with the highest number should be printed before. For example,  $3+1$  should be printed before  $2+2$

Sample input	Corresponding output
4	4 3+1 2+2 2+1+1 1+1+1+1
3	3 2+1 1+1+1
5	5 4+1 3+2 3+1+1 2+2+1 2+1+1+1 1+1+1+1+1