

The base case will be $n \leq 1$.

use an algorithm to find all the different partitions. More specifically we want to use the divide and conquer method. So first of all we need to break the problem into smaller sub-problems.

Suppose we want to find all the partitions of the number 5. We could split all the solutions into two groups: a group which uses the number 5 itself at least once, and a group that doesn't use it. The group that uses the number 5 has only one solution: five itself. The group that doesn't use the number five is basically the problem of finding all the ways to come up with 5 using the sub-set 1,2,3 and 4.

We can again split the solutions to our second problem into two groups: a group with all the solutions that contain the number 4, and a group that doesn't. We can apply this split recursively and we'll break the problem down into many sub-problems.

Pseudo Code

Input should be sum and the largest number then if the largest number is equal to 0 it should return 0.

And if the sum is equal to 0 it should return 1.

Then we return the partition.

In the main function constructed chose a sun and the largest number and return 0.