The Tower Problem

You have a collection of toy bricks of various heights. The problem is build a tower from these bricks to exactly a given height.

problem state: 3 element list, two sublists and an integer. First sublist is blocks used up so far, second sublist is blocks left to be used. Final integer is target height of tower e.g.

[[1 3 4] [5 9] 17]

Next States — Program

```
define nextfrom(state) -> states;
vars sofar, left, target, early, late block;
state --> [?sofar ?left ?target];
[% for block in left do
    left --> [??early ^block ??late];
    [[^^sofar ^block][^^early ^^late] ^^target]
    endfor
%] -> states
enddefine;
```

Next States — Output

```
nextfrom([[1 3 4][5 9] 17]) ==>

** [[[1 3 4 5] [9] 17] [[1 3 4 9] [5] 17]]

nextfrom([[1][2 3 4 5] 20]) ==>

** [[[1 2] [3 4 5] 20]
    [[1 3] [2 4 5] 20]
    [[1 4] [2 3 5] 20]
    [[1 5] [2 3 4] 20]]
```