

Sum of subsets

Given positive numbers  $w_i, 1 \leq i \leq n$ ,  
and  $m$ , this problem calls for  
finding all subsets of the  $w_i$   
whose sums are  $m$ .

$$n=4, (w_1, w_2, w_3, w_4) \Rightarrow (11, 13, 24, 7)$$

$m=31$  then  
EX 1 soln result is desired subsets length 2 ✓  
(11, 13, 7) / (7, 11, 13) length 3, (24, 7) / (7, 24)

Ex 50 2 The length of all tuple better be same

Answer: 0 means not to take  
1 means take it

11, 13, 24, 7

$m = 3$

11, 13, 7

7, 24

(1, 1, 0, 1)

✓ (0, 0, 1, 1)

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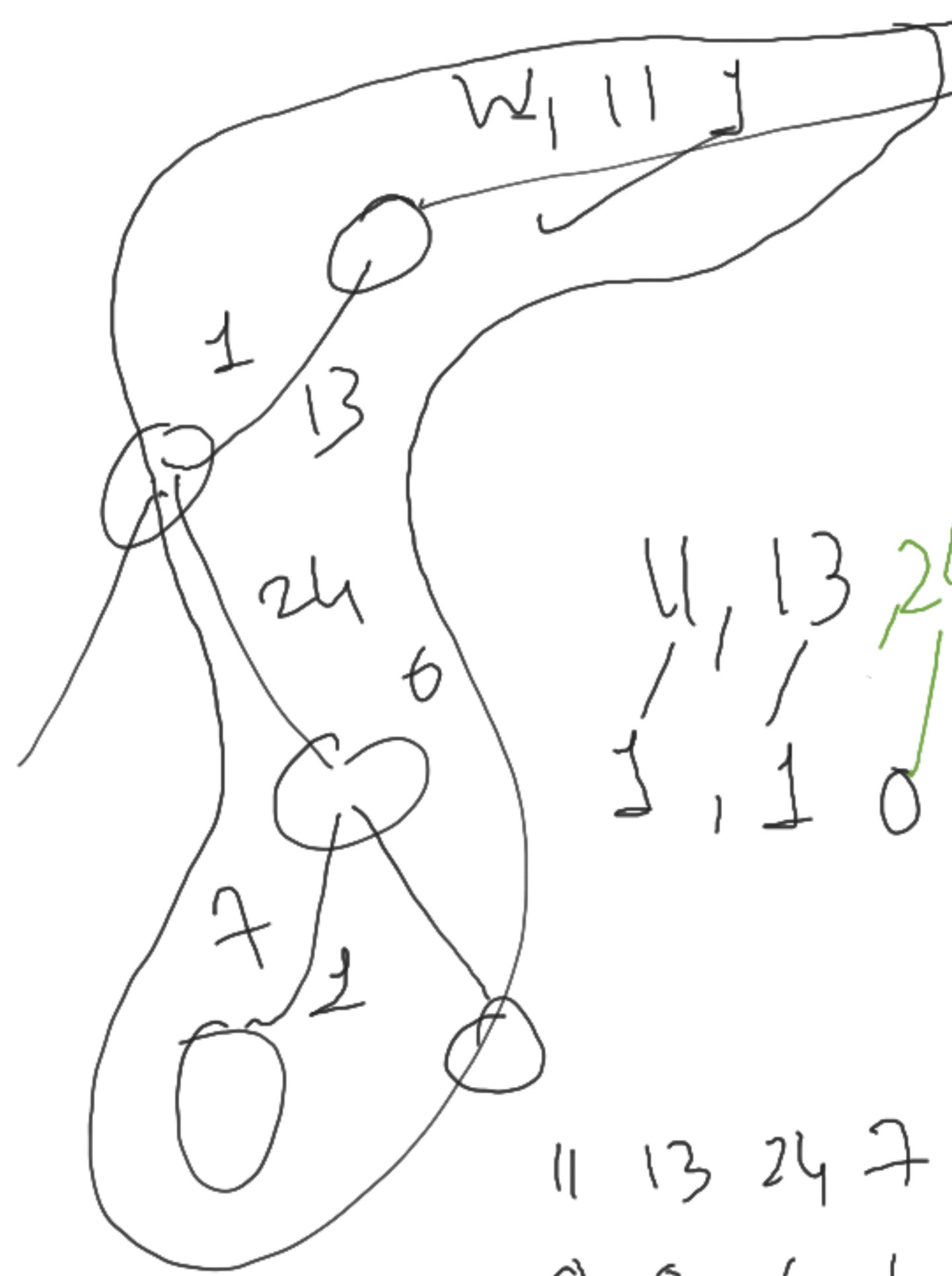
The length has to do with levels/height of tree/path.

possible solution space organization for the sum  
of subsets problem

✓  $7 \rightarrow 11 \rightarrow 13$  ✓

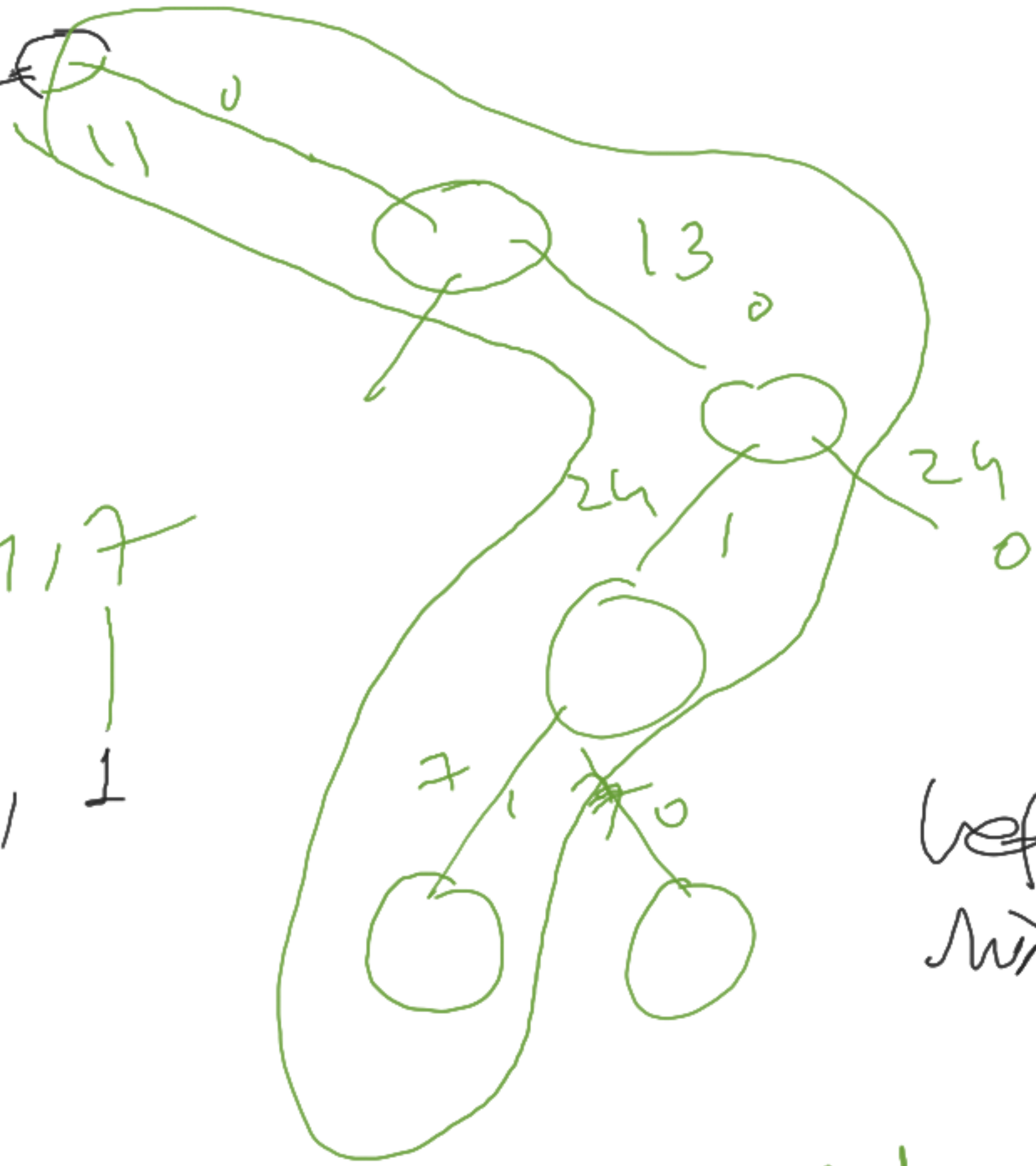
$11 \rightarrow 7 \rightarrow 13$  .

$13 \rightarrow 11 \rightarrow 7$  .



11, 13, 24, 7  
1, 1, 0, 1

11 13 24 7  
0 0 1 1



left 1  
right 0

Better be done sorted and then  
7, 11, 13, 24. Indeed