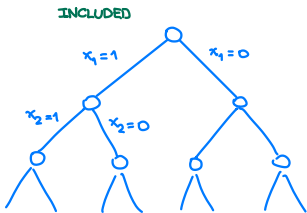


Sum of Subsets

we have to take subsets of those weights such that their sum total is exact equal to m

$w[1:6] = \{5, 10, 12, 13, 15, 18\}$
 $n = 6 \quad m = 30$



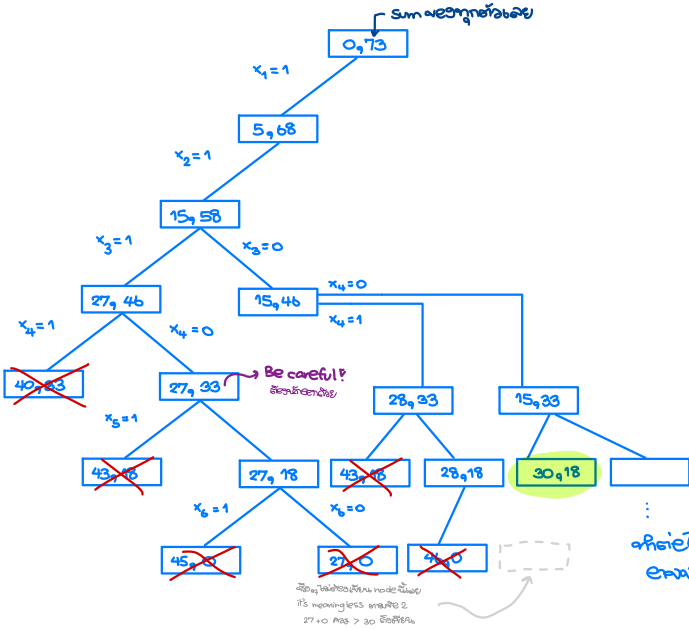
x

1	2	3	4	5	6

$x_i = 0/1$ (Value 0 means not included, 1 means included)

$2^6 \rightarrow 2^n$ (time consuming)

Apply backtracking



$w[1:6] = \{5, 10, 12, 13, 15, 18\}$
 $n = 6 \quad m = 30$

x

1	1	0	0	1	0
1	2	3	4	5	6

$x_i = 0/1$ (Value 0 means not included, 1 means included)

Condition: $\sum_{i=1}^k w_i x_i + w_{k+1} \leq m$
(Bounding f)

$\sum_{i=1}^k w_i x_i + \sum_{i=k+1}^n w_i > m$

අපි බැලිය යුතුය $\Rightarrow$ සකස් කළ යුතුය