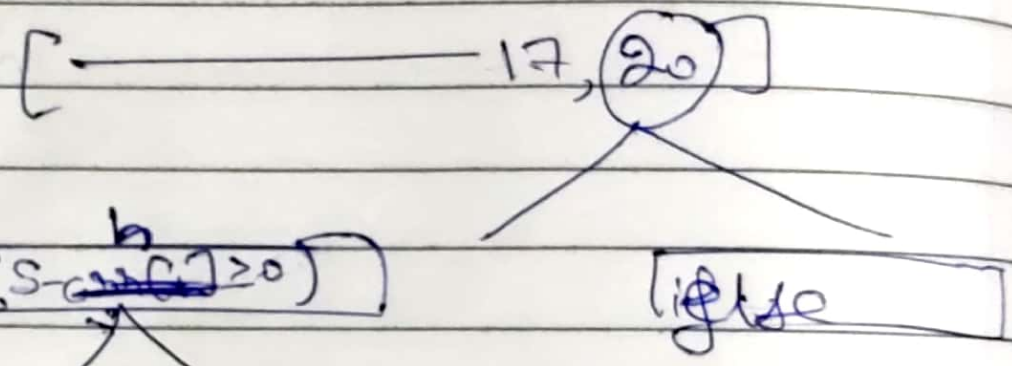


Knapsack

coins $[1, 5, 8, 9, 10, 17, 18, 20]$
 $8 \leq 8$

* choice diagram



return max(
 \dots solve $(n, S - \text{coin}[i]) + \text{coin}[n-i]$
 $\text{solve}(n-1, S)$)

return
 $\text{solve}(n-1, S)$

* Base Case

$n / \text{coin} \rightarrow 0$
 $8 \rightarrow 0$

if $S = 0$!
 return 0
 if $n = 0$
 return $\text{coin}[i]$