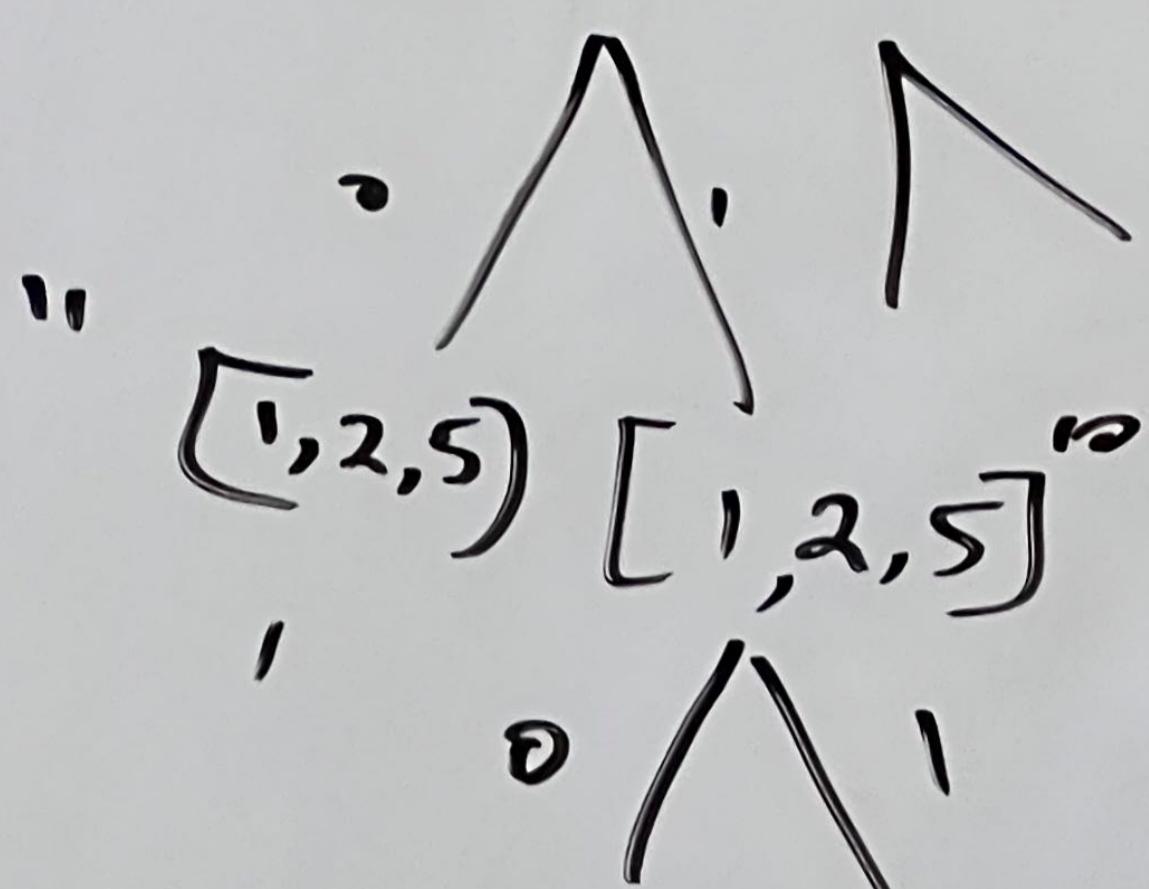


$[1, 2, 5] \equiv$



// base

NL → amount

C → (amount ≤ amount)

(amount ≤ amount)

Min(t=1)

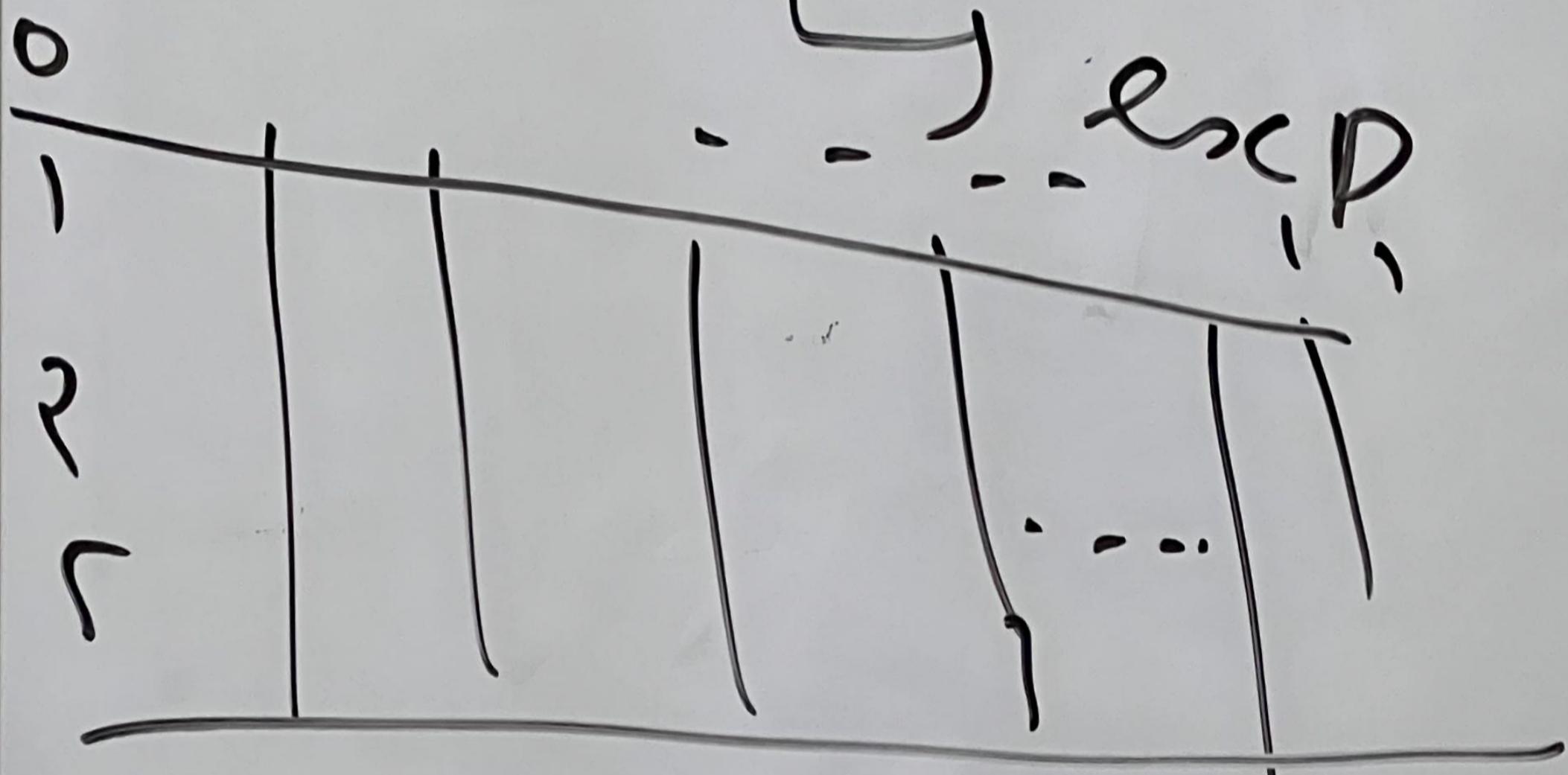
HW

↓ B.F

TC for Coin Change?

T

... escp,

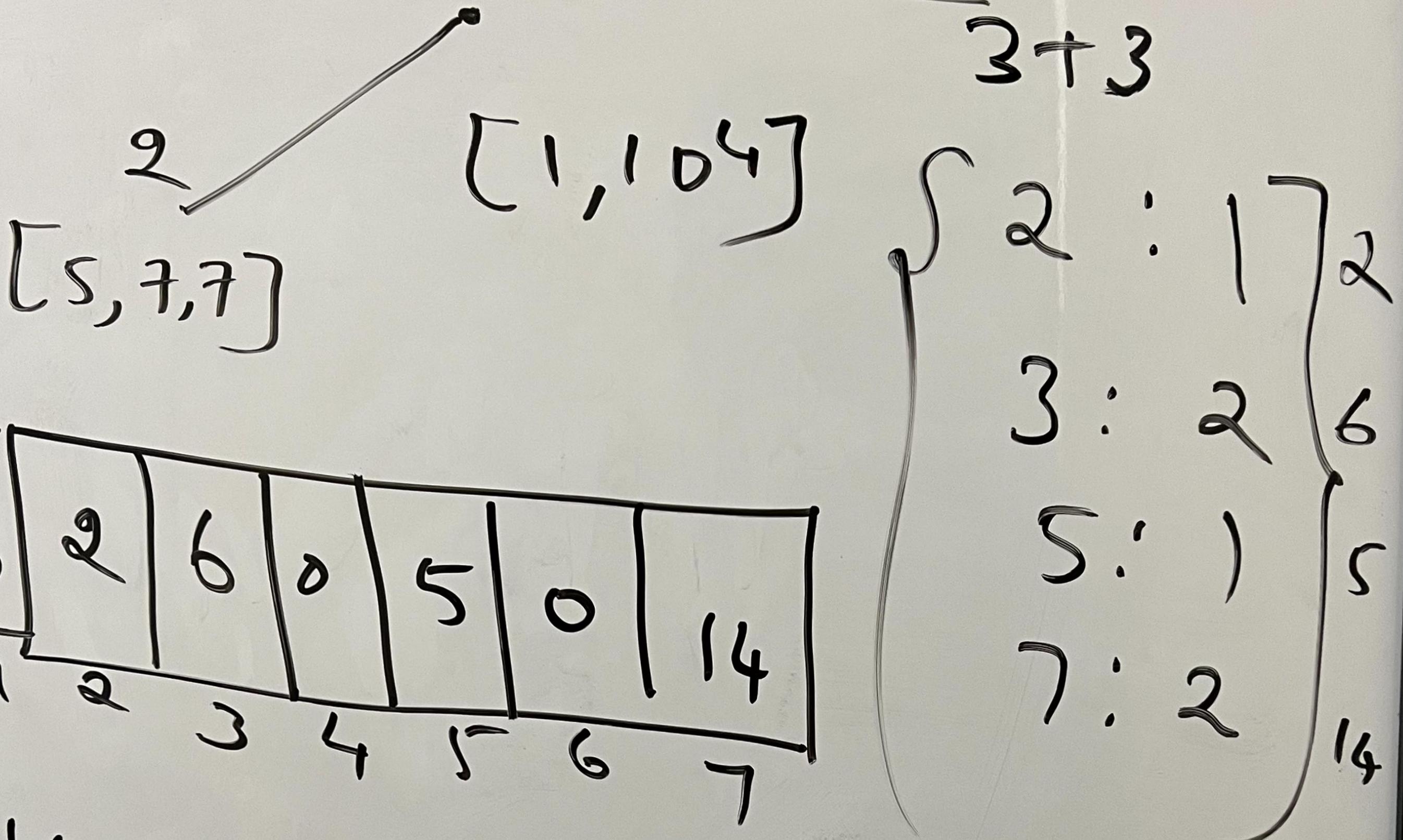


$$\alpha^{29} = 536870912$$

$$O(n) = 29$$

$[2, 3, 3, 5, 7, 7]$

$1 \leq n[i] \leq 10^4$



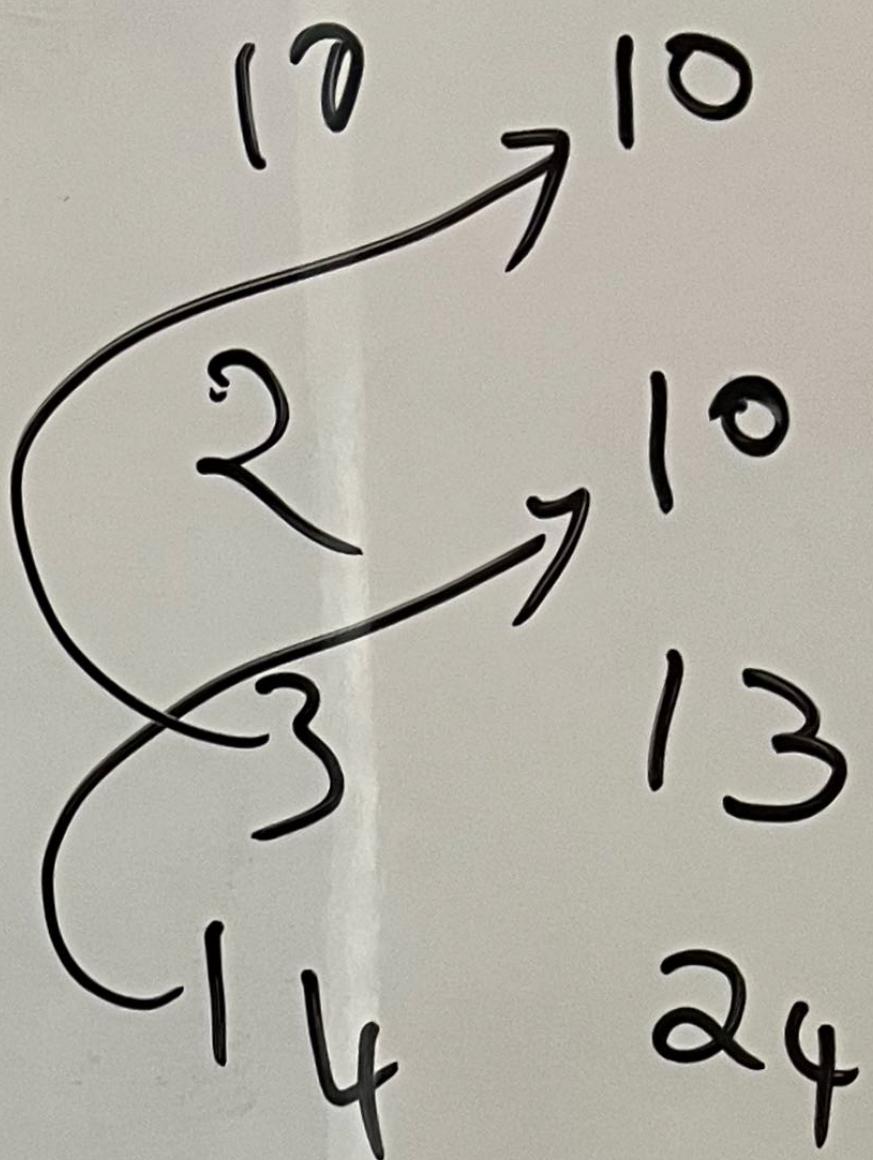
0  
1  
2  
3  
4

$$10^2 \times 10^2$$

$[1, 2, 4, 4, 6, 6, 4, 7, 4, 3, 2, 1, 8, 3]$

	0	2	4	6	16	0	12	7	8
E	0	1	2	3	4	5	6	7	8
D	dp								
2	1	2							
4	2	4							
6	3	8							
16	4	20							
0	5	20							
12	6	32							
7	7	32							
8	8	40							

$\text{curr} = \text{n}[i] + \text{dp}[i-2]$   
 $\text{prev} = \text{dp}[i-1]$   
 $\text{max}(4, 2)$  if  $\text{curr} > \text{prev}$   
 $\text{result.append(a[i])}$   
 $\text{dp}[i] = \text{curr}$   
 else:  
 $\text{dp}[i] = \text{prev}$   
 $\text{max}(20, 0+8)$   
 $\text{max}(20, 12+20)$   
 $\text{max}(32, 7+20)$   
 $\text{max}(32, 32+8)$

$$[1, 2, 5]^{3^n}$$
$$\left[ \begin{matrix} 1 \\ 5 \\ 6 \end{matrix} \right]^9$$
$$5, 5, 1$$


HW

0/1 Knapsack

Total WC=7

Problem

m

$$P_i = [1, 4, 5, 7]$$
$$W_i = [1, 3, 4, 5]$$

# O/I Knapsack Problem

$$P = [1, 2, 5, 6]$$

$$m = 8$$

$$W = [2, 3, 4, 5]$$

$$100011$$

item i      0    1    2    3  
              WC

$i$	0	1	2	3	4	5	6	7	8
$P_i, W_i$	0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
1	2 0	0 1 1	1	1	1	1	1	1	1
2	3 0	0 0 1	2	2	3	3	3	3	3
5	4 0	0 0 1	2	5	5	6	7	7	3
6	5 0	0 0 1	2	5	6	6	7	8	3

$$DP(i, w) = \max \{ DP[i-1, w], P[i] + DP[i-1, w - W[i]] \}$$

$$7-5=2$$

$$P[i]$$

$$DP[i-1, w_c - W[i]]$$

Choose or not choose