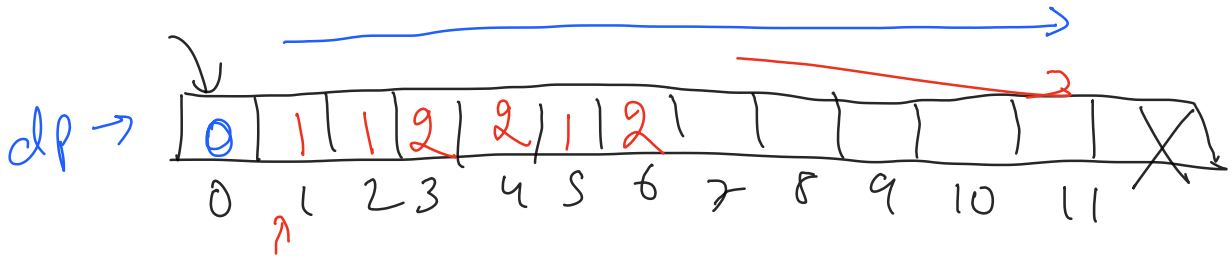
Thursday, 18 July 2019 9:32 AM

Min Coin Change Bottom Up

[5, 1, 2] value = 11



dp[i] → Min no. of coins reqd to amount of i.

(i - coins[2]) = 4
6 2

3

1 + min(6

2 Keys Keyboard

n → 54 → $3^3 \times 2^1$

2×27

3×18

2	54
3	27
3	9
3	3
	1

27 → 3×9

9 9 9

1 → 3×3

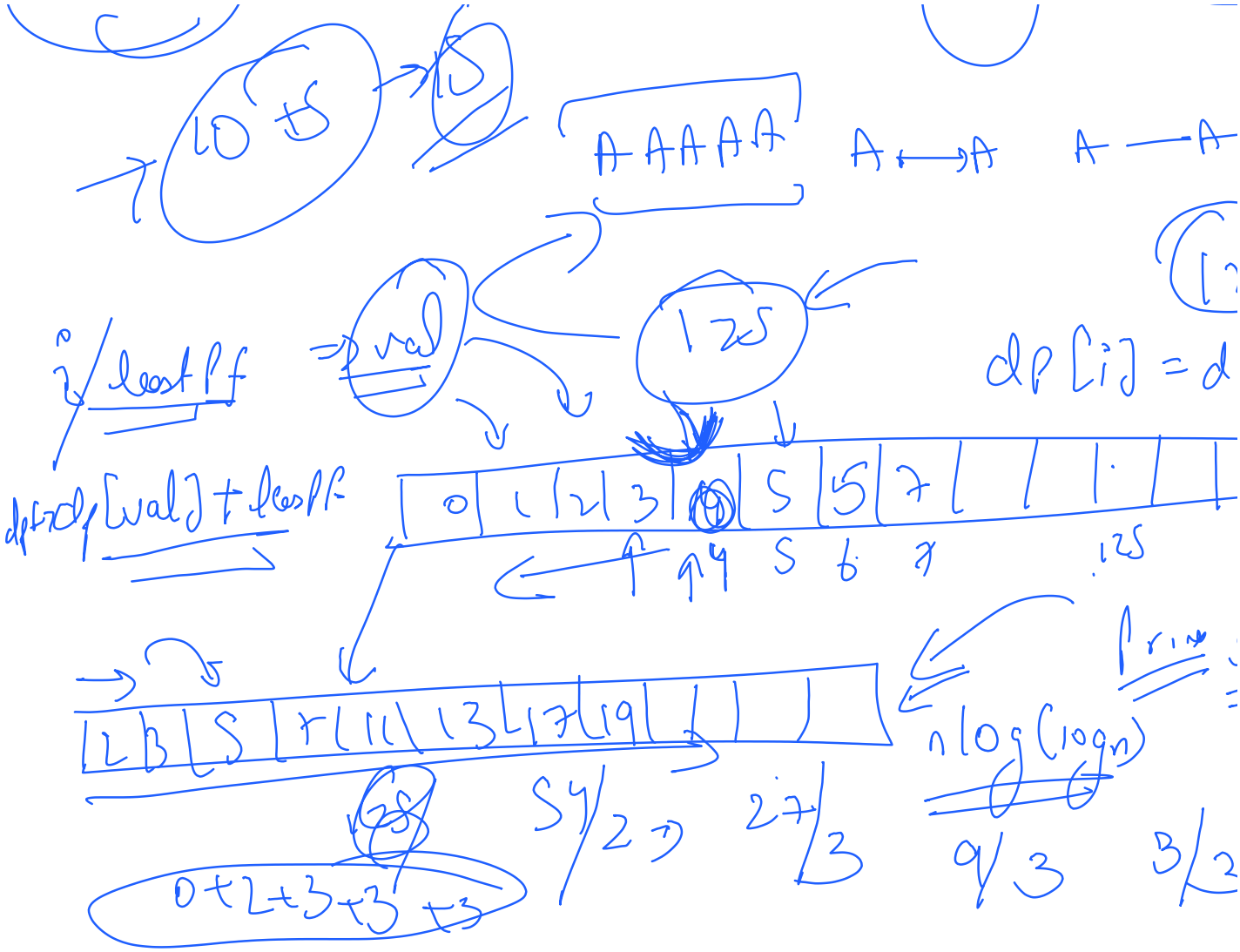
3 + 3 + 3 + 2

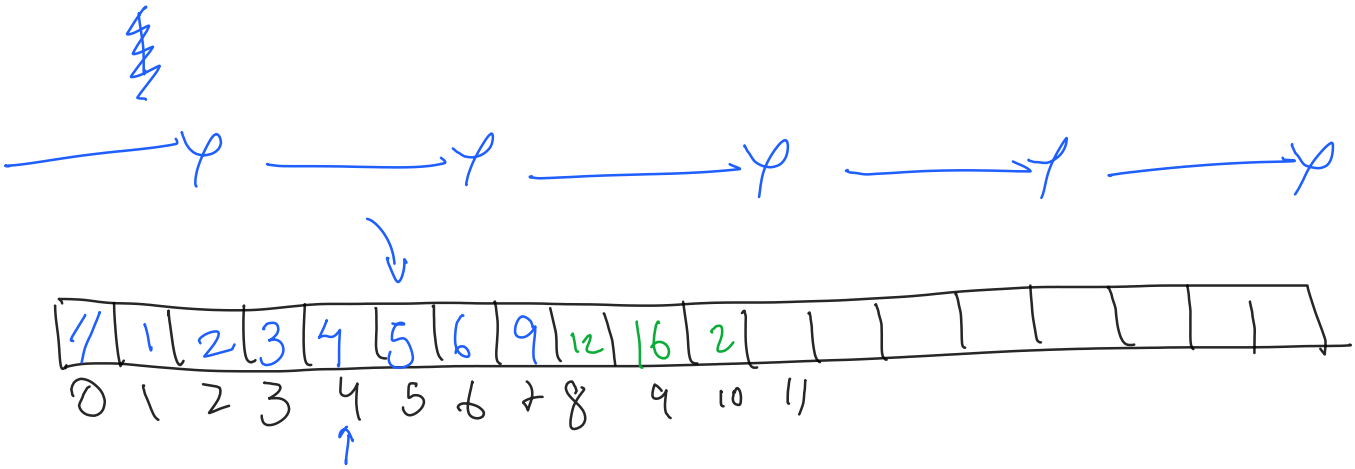
5^3

CPPP

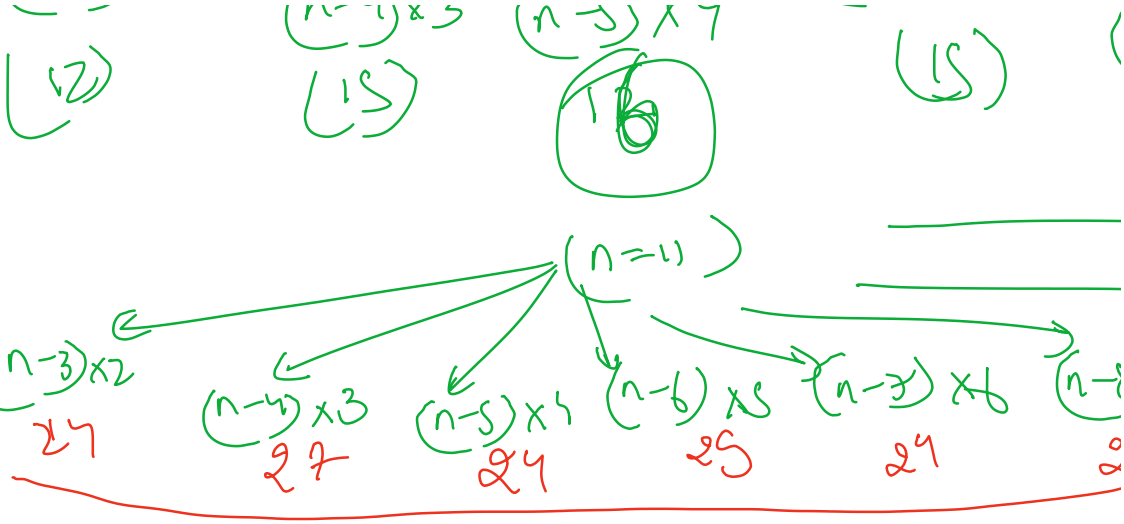
125 → 5×25

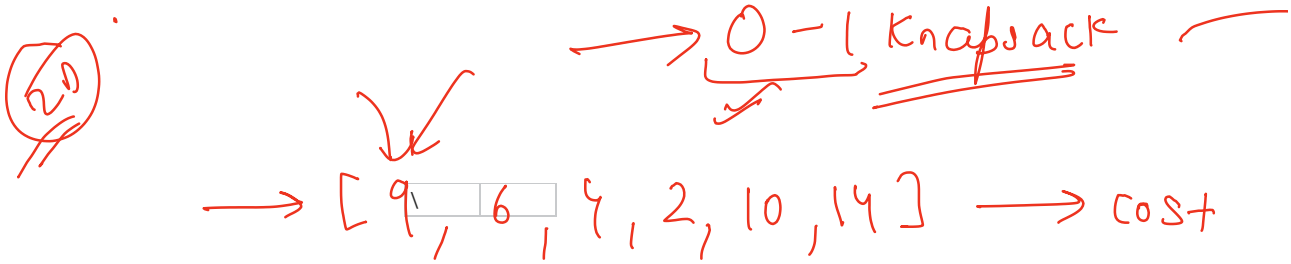
25 → 5×5

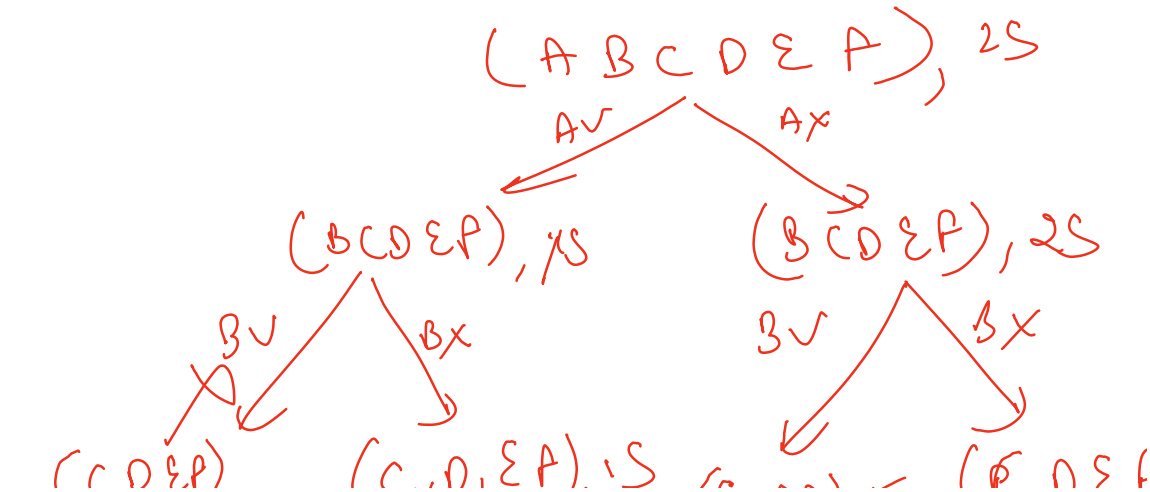


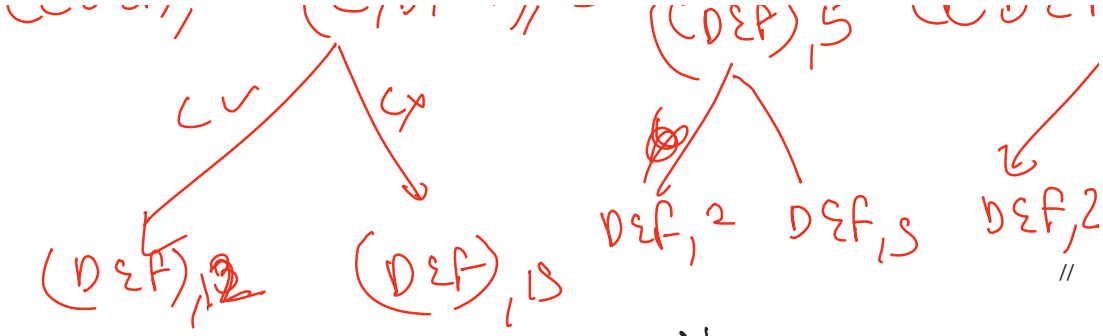


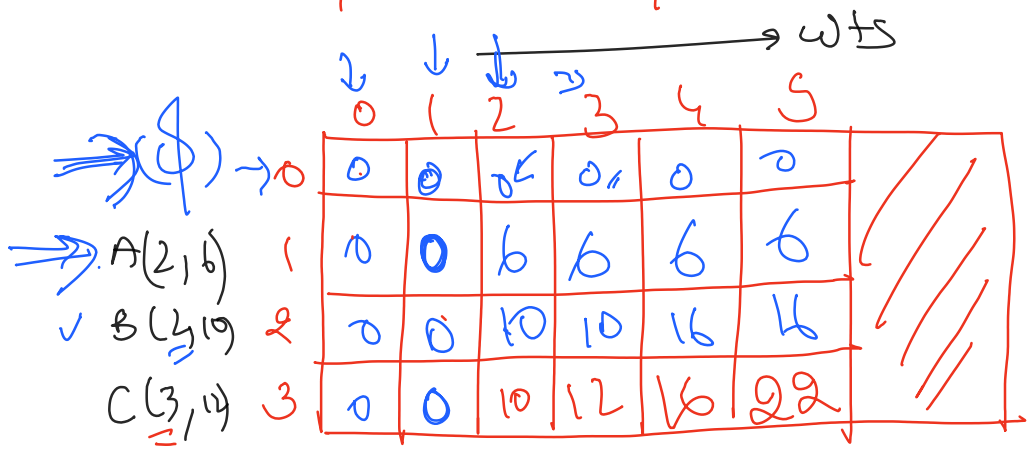
dp[i] → max A's you can print
i keys (any of the 4)


(n-1)x3
(n-3)x7
(12)
(15)
16
(15)
(n-1)
(n-3)x2
(n-4)x3
(n-5)x1
(n-6)x5
(n-7)x4
27
27
24
25
24

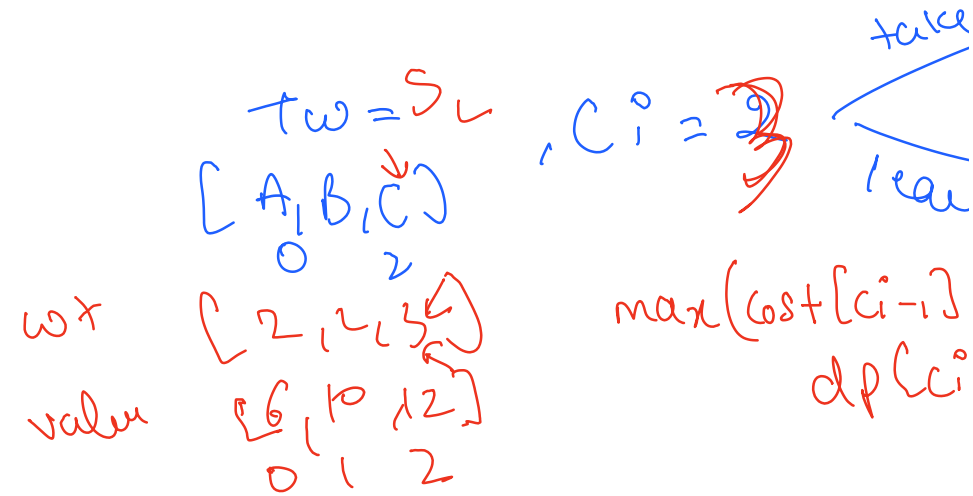

2D
0-1 Knapsack
[9, 6, 4, 2, 10, 14] → cost
[10, 20, 3, 7, 6, 12] → weight
A B C D E A


(A B C D E A), 25
AV
AX
(B C D E A), 15
(B C D E A), 25
BV
BX
BV
BX





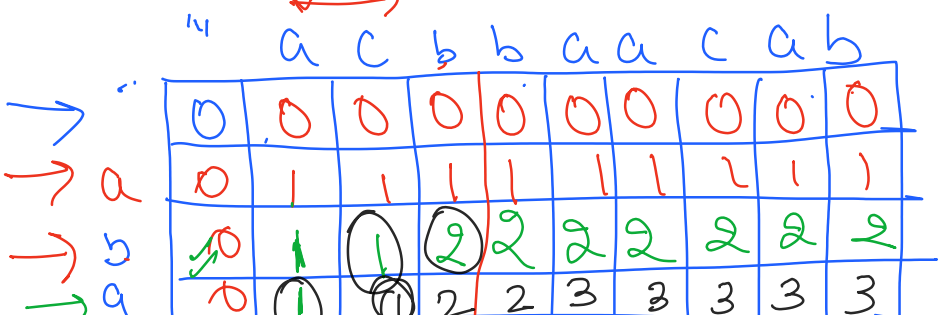
items

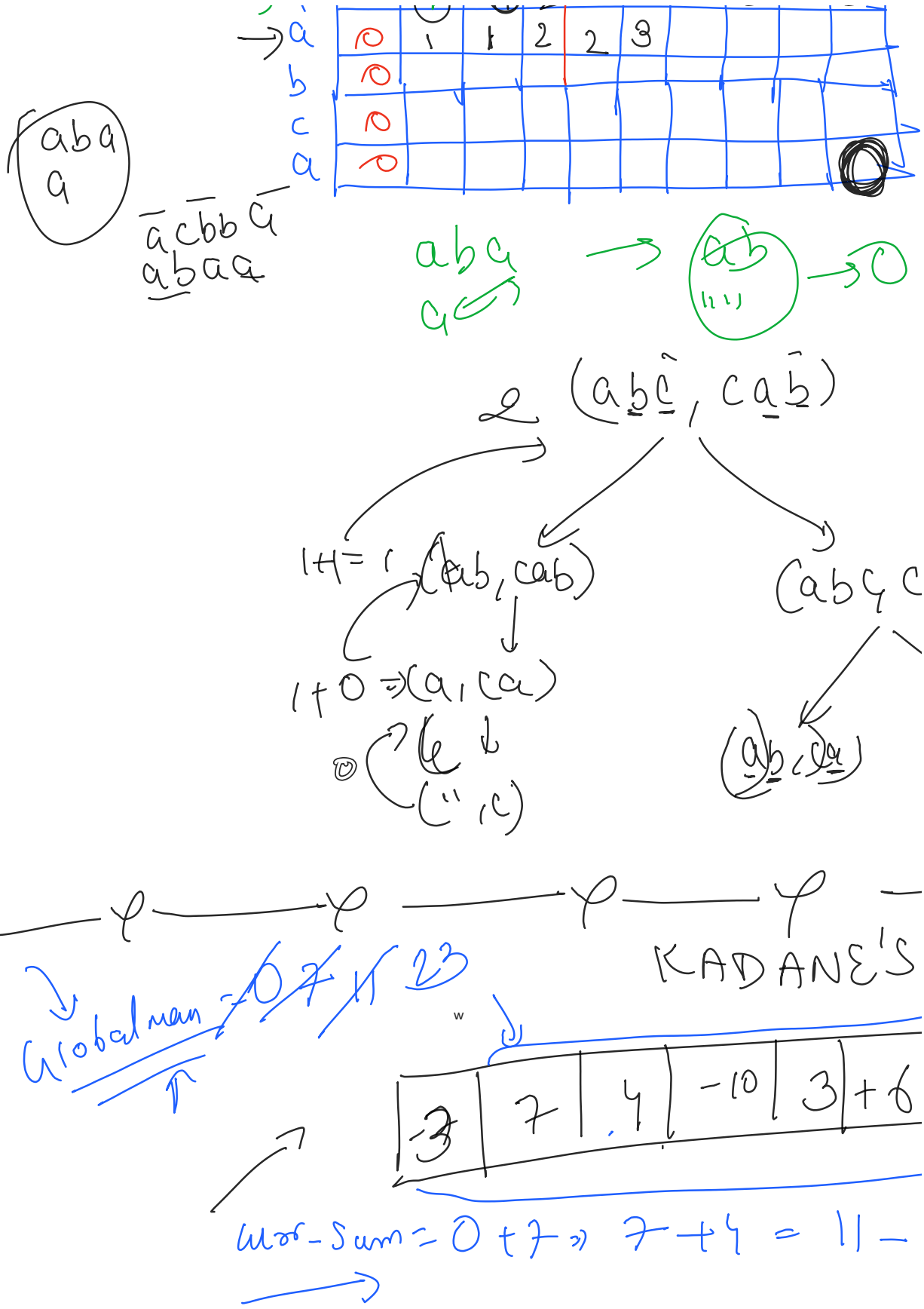


Longest Common Subsequence

→ q ⇒ a b a a b c a

→ b ⇒ a c b b a a c a b




KADANE'S
Global max = 0 7 11 23
Cur-Sum = 0 + 7 ⇒ 7 + 4 = 11