Lit's start at 9:02 PM

L64

Dynamic Programming: Classical Problems 3

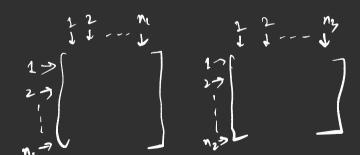
Join Discord - https://bit.ly/ly-discord

## **RECAP**

Let's dive right into it

### Matrix Chain Multiplication

N, \* N2 \* N3





Example:

$$(h0*20)$$
  $(20*20)$   $(30*10)$   $(10*30)$   
 $A \times B \times C \times D$ 

$$(A \times B \times C) \times D \implies 24000 + 12000 + 12000 = 48000$$

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## Intuition

M., 2, 2, 4 × M5

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delistis The minimum number of multiplication operations required to multiply [Mi, Mite - - - Mj]

=> dp[1][n] //n2 no of matrices



$$f(i, i+1, i+2--i)$$

$$f(i, k) + f(k+1, j) + corcost$$

$$Ri \times G_{k}$$

$$Ri \times G_{k}$$

$$Ri \times G_{k}$$

$$Ri \times G_{k+1} - - i \longrightarrow arr (i-1) \times arr (j) \times arr (j)$$

$$Ri \times G_{k+1} - - - i \longrightarrow arr (i-1) \times arr (j) \times arr (j)$$

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Recurare Relation >> How to find f(i,j)

Solution

Let's implement



### 3. Palindrome Partitioning

#### Intuition



v sli--- vill bol -> 0

2. Kg Sli----X] palindrome.

1+ 1(x+1)



Solution

\$(i) { 1 Ruse for (kri, K+1 LM; HK) { if (! bal(i, u)) an Aus 2 1+ f (K+1), aplile min (dpli), our Aus); --- K'31

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fal(i,j) = S[i] = S[j] & fal(i+1,j-3)

Let's implement

# Thank You!

Reminder: Going to the gym & observing the trainer work out can help you know the right technique, but you'll muscle up only if you lift some weights yourself.

So, PRACTICE, PRACTICE!

