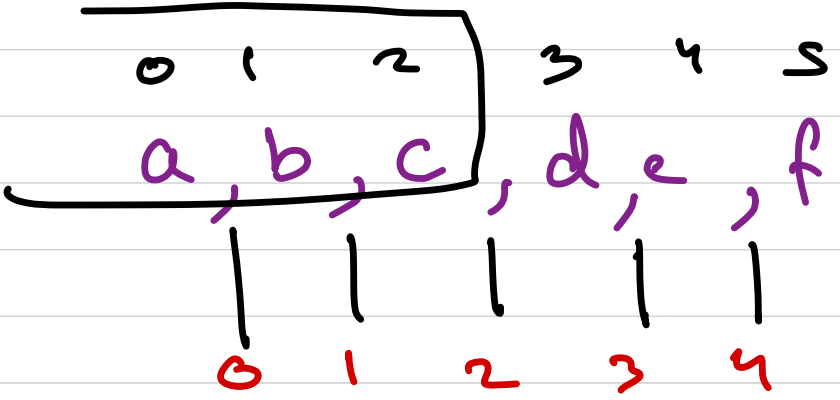
Mixtures

Coming in 2 mins



X-9

$$f(0,2) + f(2+1,5) + g(\quad)$$

$$f(i,j) = \begin{cases} 0 & i == j \\ \min\left(f(i,k) + f(k+1,j) + g(i,k) * g(k+1,j) \right) & \forall k \in [0, n-2] \end{cases}$$

returns min smoke for mixing mixtures from i, j

$$\boxed{g(i,j) = \sum_{m=i}^{j} a_m \text{ Poles}}$$

→ Prefer

X - Y

optimal game strategy

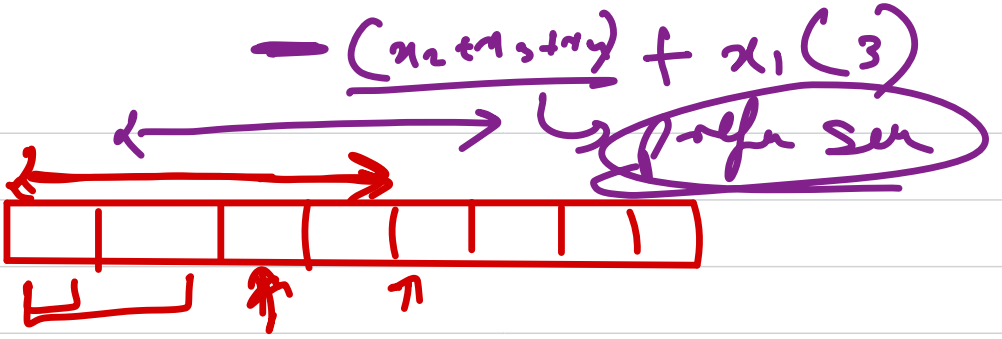
1 8 9 3

1 - f(8,9,3), 3 - f(1,8,9)

$f(i,j) = \max(a_i - f(i+1,j),\ a_j - f(i,j-1))$

ad hoc

O(n)

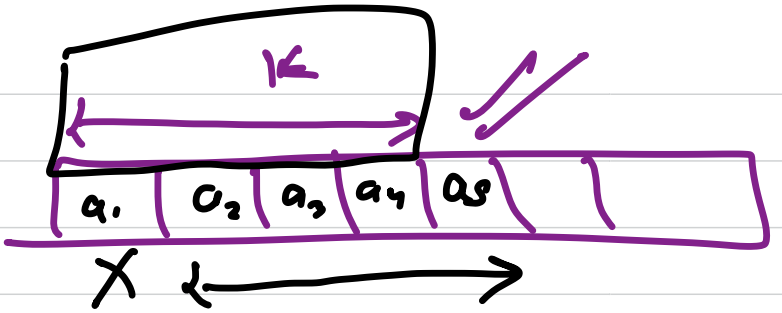


Sum = $(x_2 - x_1) + (x_3 - x_2) + (x_3 - x_1)$

$+ (x_4 - x_3) + (x_4 - x_2) + (x_4 - x_1)$

Sum = Sum of $4(x_3) - (x_1 + x_2 + x_3 + x_4)$

Prefix sum



$$\text{Sum} = (a_2 - a_1) + (a_3 - a_2) + (a_3 - a_1) + (a_4 - a_3) + (a_4 - a_2) + (a_4 - a_1)$$

$$\left[\text{Sum} + (3 \times a_1) - (a_2 + a_3 + a_4)\right] \quad (p[4] - p[1])$$

$$\text{Sum} + (a_5 - a_4) + (a_5 - a_3) + (a_5 - a_2)$$

$$\Rightarrow 3 \times a_5 - (p_4 - p_1)$$

[3, 1, 5, 8]

$f(i, j) =$ $f(i, k) * f(k+1, j)$, concat

3 1 5 8

S = " "

↳ count subseq → a^b^c

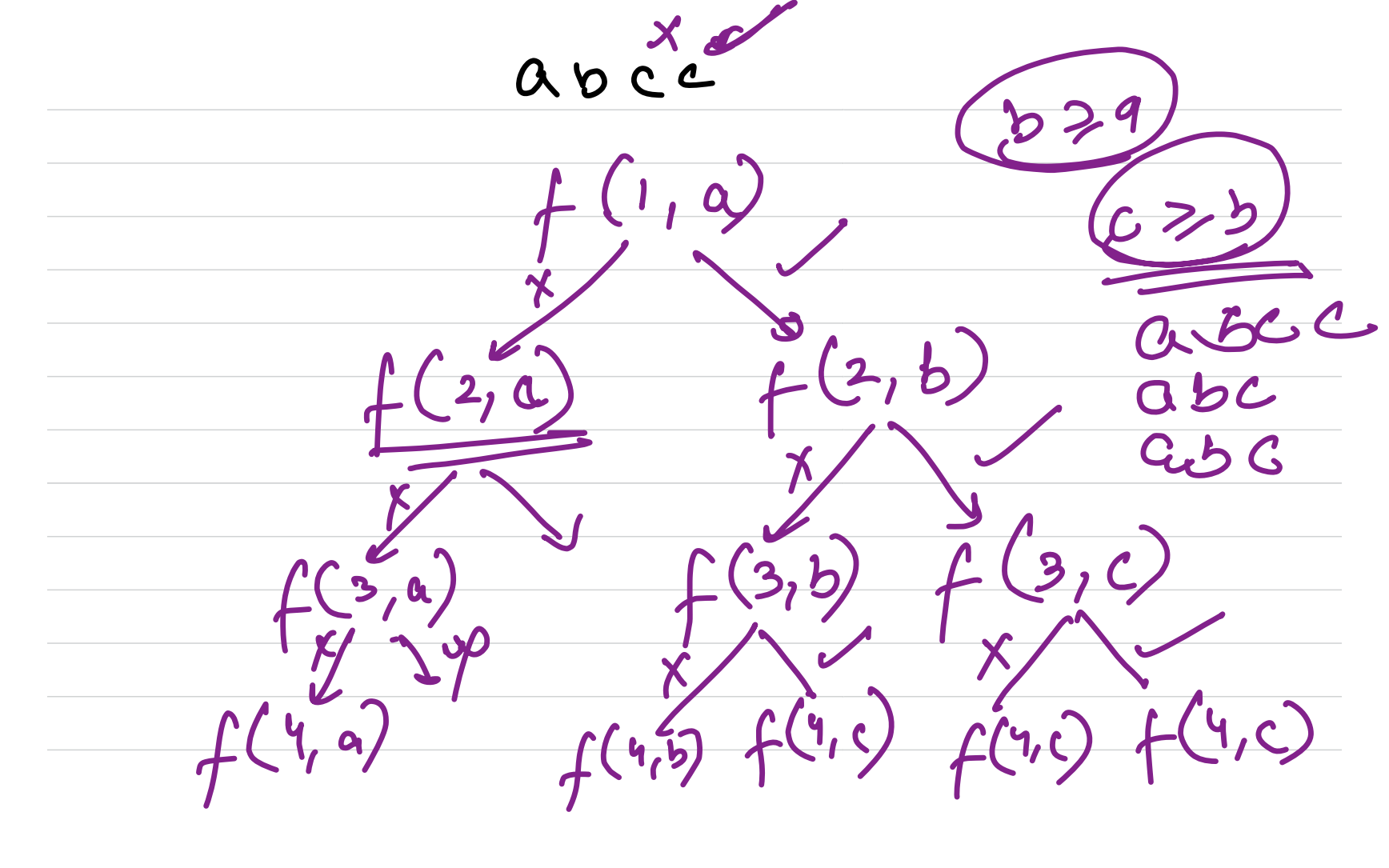
$$f(i, ch) = \begin{cases} f(i+1, ch) \\ + \\ f(i+1, a[i]) \end{cases}$$

not pick

pick

a[i] ≥ a[i-1]

$[10^9+5][2]$


a b c c
x
f(1, a)
x
f(2, a)
x
f(3, a)
x
f(4, a)
f(2, b)
x
f(3, b)
x
f(4, b)
f(4, c)
f(3, c)
x
f(4, c)
f(4, c)
b ≥ a
c ≥ b
a b c c
a b c
a c b c