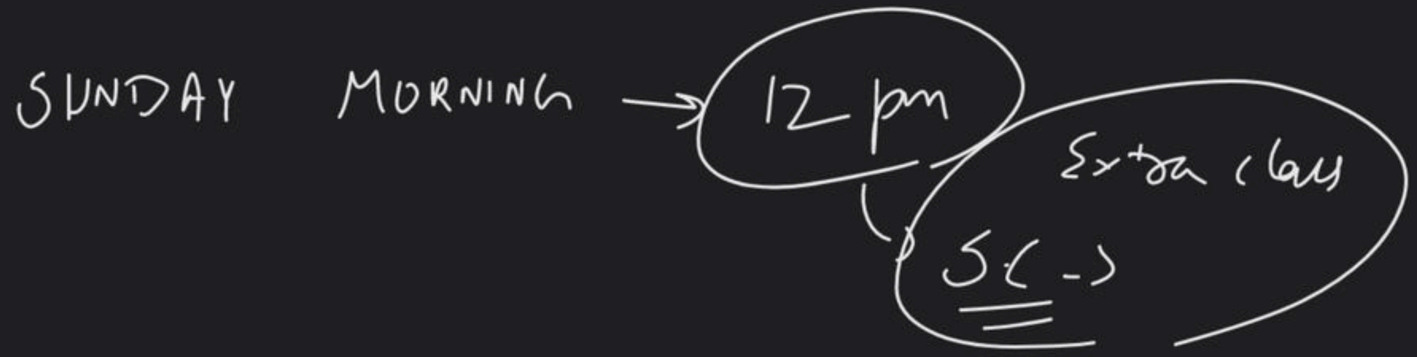


Solving Medium Questions - Level 2 & Doubt Clearing Session - LIVE

Special class

2 minute wait

Vishal Pachauri • Sept 17, 2022

① Painting fence

"N" post

"k" colors

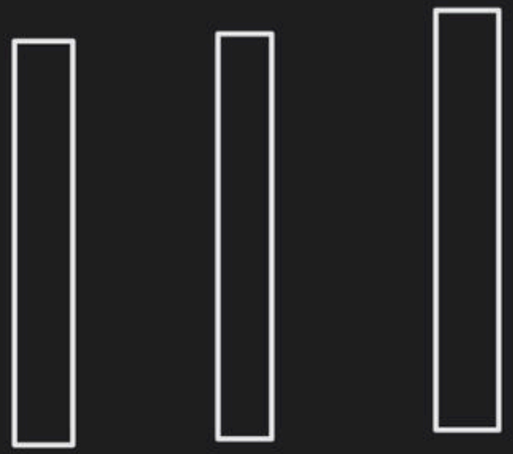
not more than 2 adjacent post have same color

find total no of ways

k → color

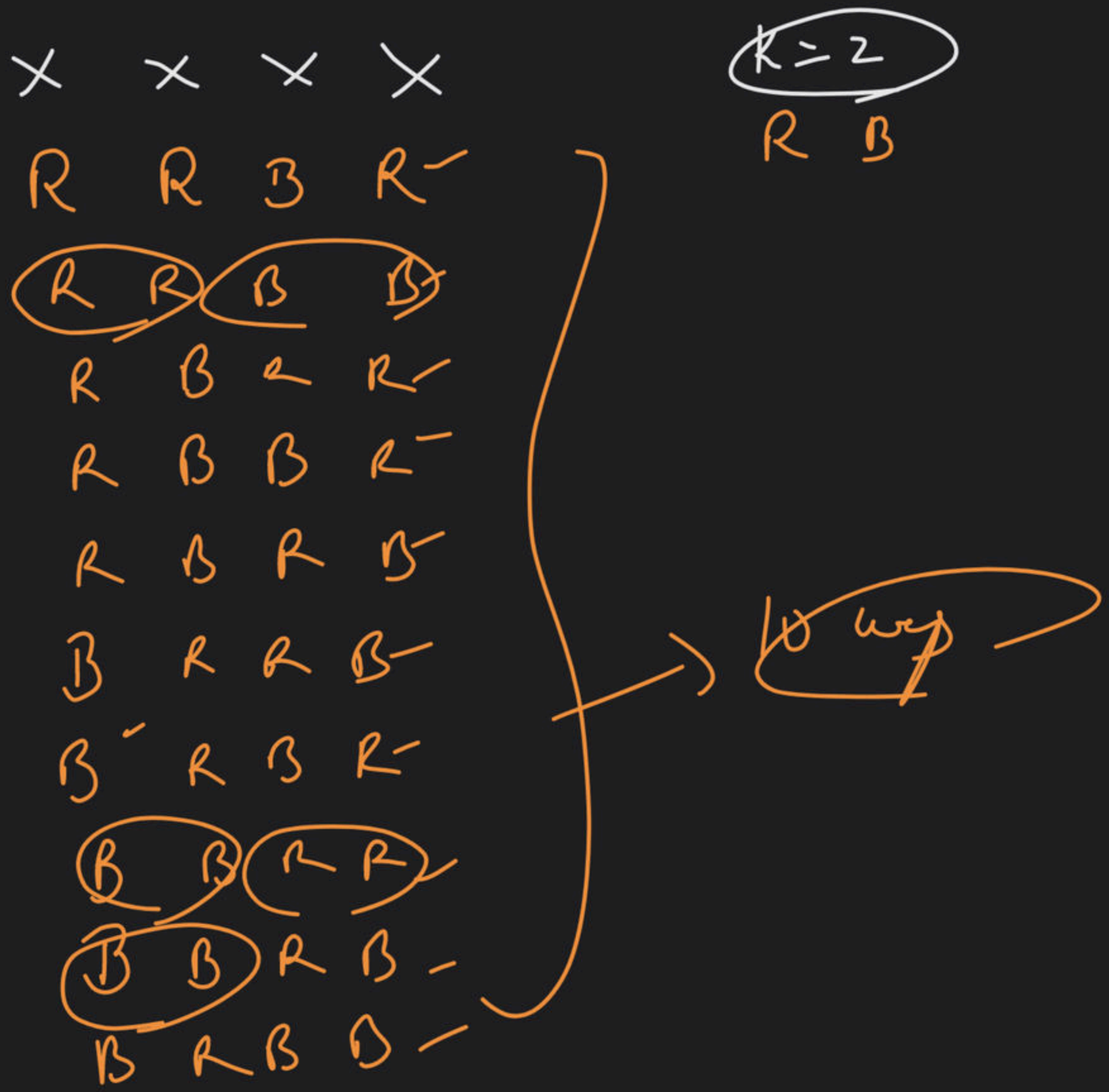
K = 2

R B

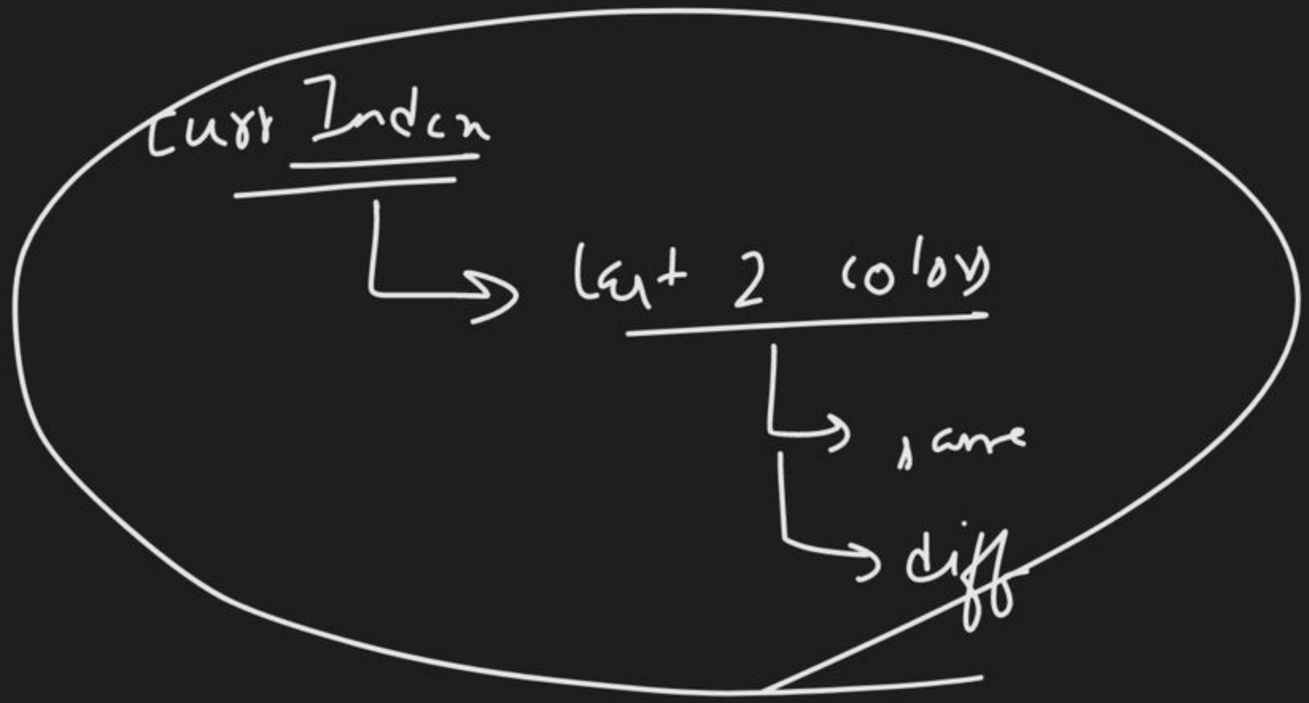


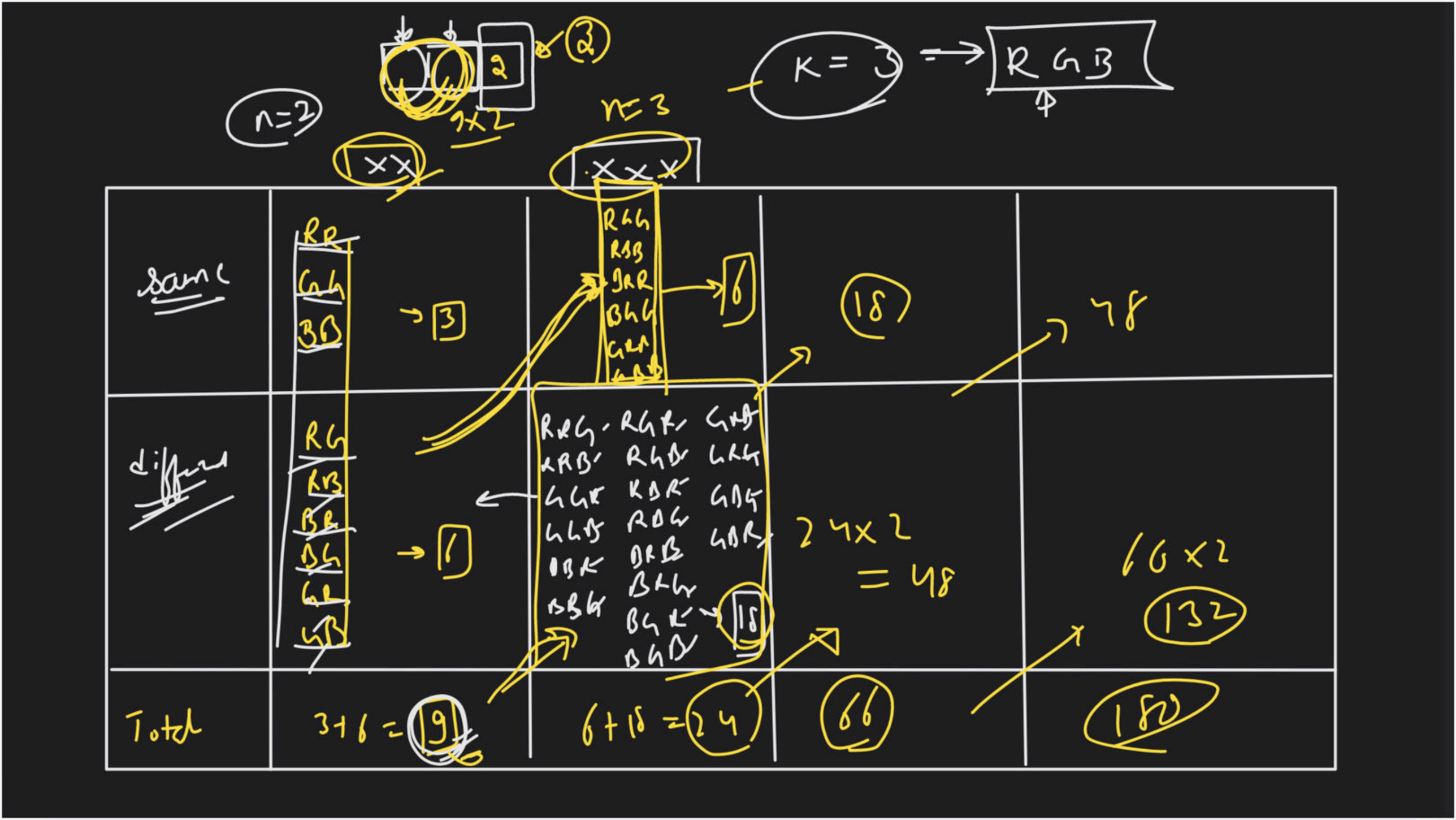
R	R	B
R	B	R
R	B	B
B	R	R
B	R	B
B	B	R

ans = 6

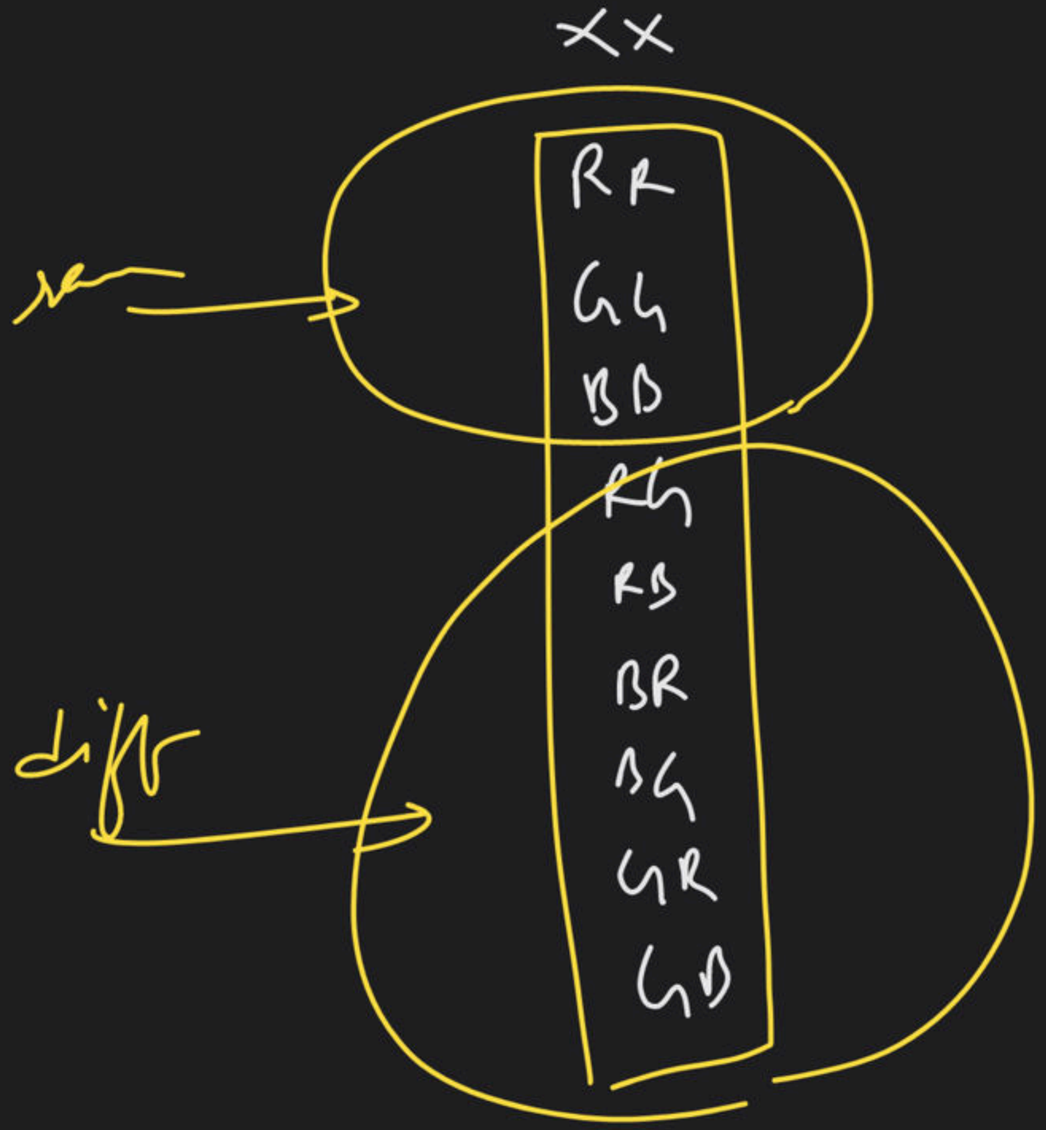

X X X X
R R B R
R R B B
R B R R
R B B R
R B R B
B R R B
B R B R
B B R R
B B R B
B R B B
K = 2
R B


R R R

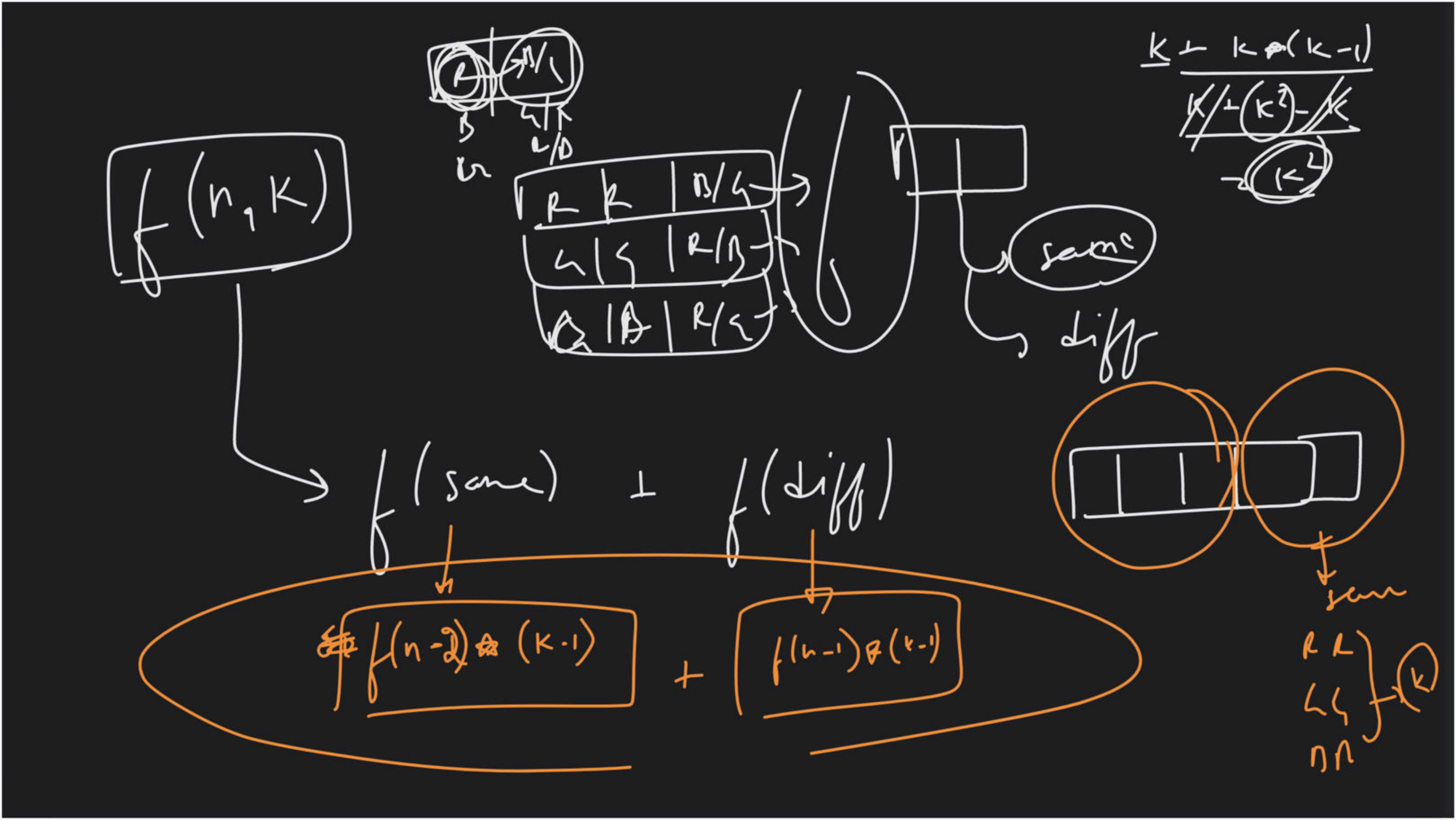

Curr Index
last 2 colors
same
diff

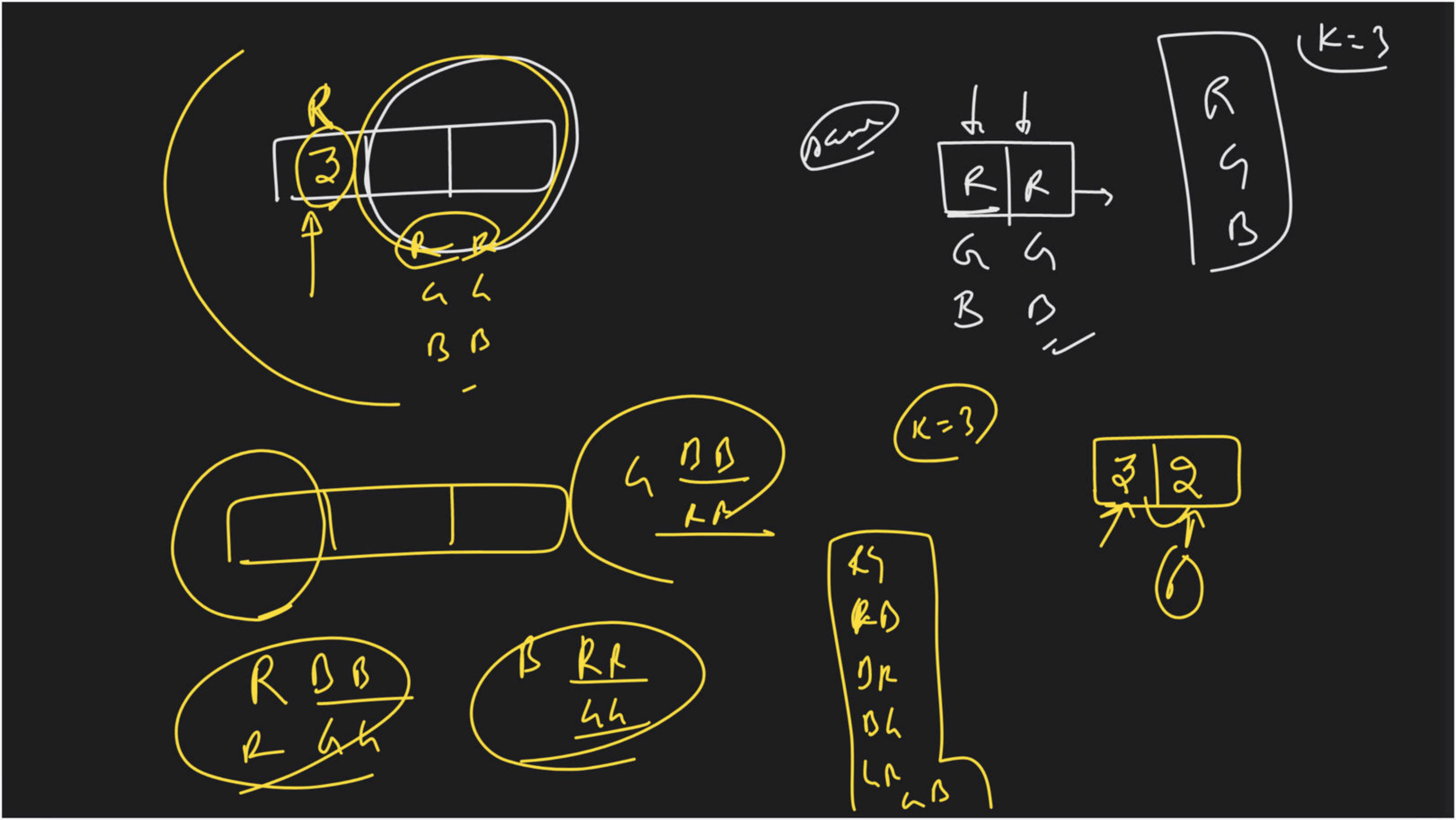

n=2
1x2
2
3
K = 3
RGB
n=3
XX
XXX
same
diff
3
6
18
48
1
24x2
= 48
16x2
132
15
Total
3+6 = 9
6+18 = 24
66
180

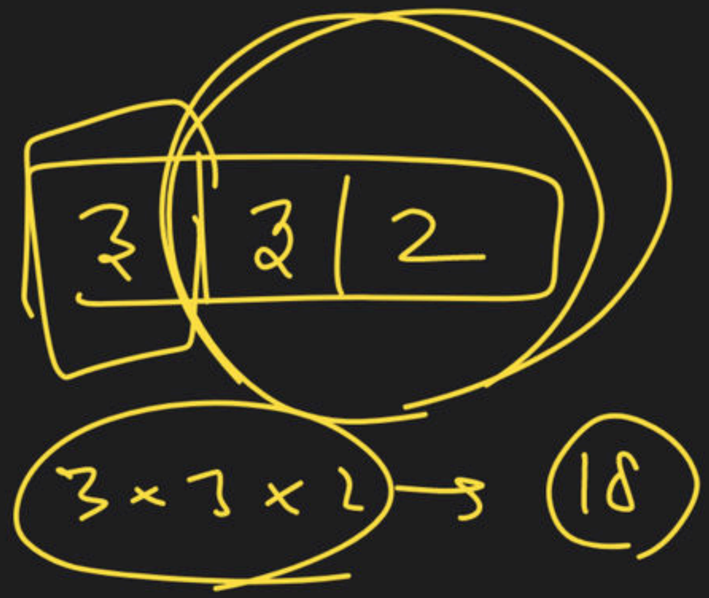
K = 3 → RGB



	n=1	n=2	n=3	n=4	n=5
same →	↗	RR, GG, BB K 3	RGG, RBB, BRR, BGG, GBB, GRR 6	18	48
diff →	↗	RG, RB, GR, BR, BG, GB K×(K−1) 3×2 6	RRB, RRG, GGR, GGB, BBR, BBG RGR, RGB, RBR, RBG, BRB, BRG BGB, BGR, GRB, GRG, GBR, GBG 9×2 = 18	24×2 = 48	132 K−1
Total →	R G B → 3	3+6 = 9	6+18 = 24	66	


f(n, K)
same
diff
f(same) + f(diff)
f(n-2) ⊕ (K-1)
f(n-1) ⊕ (k-1)
same


R
3
R R
G G
B B
K=3
R
G
B
R R
G G
B B
K=3
3 2
0

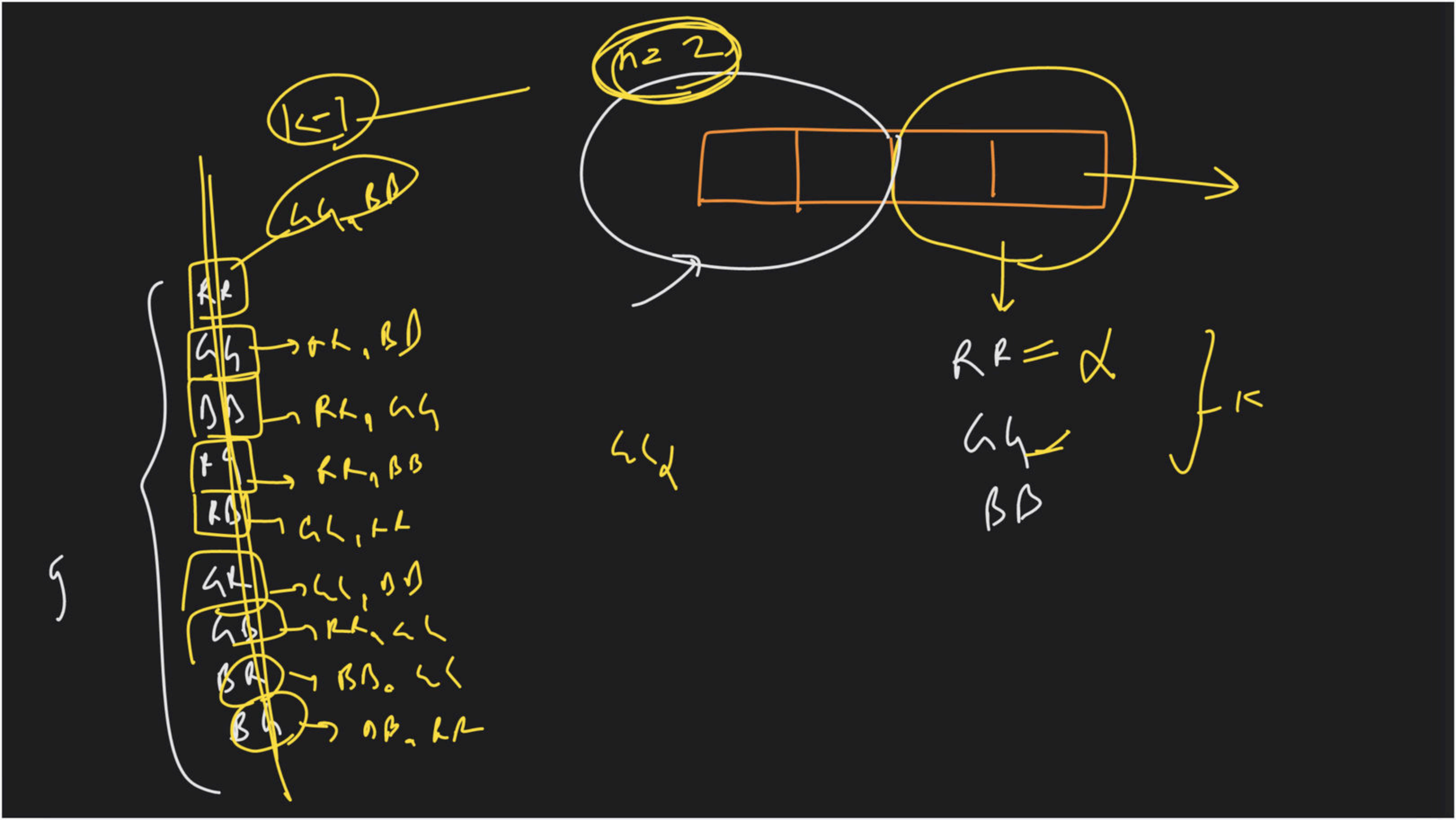

3
3
2
2
3 × 3 × 2
18

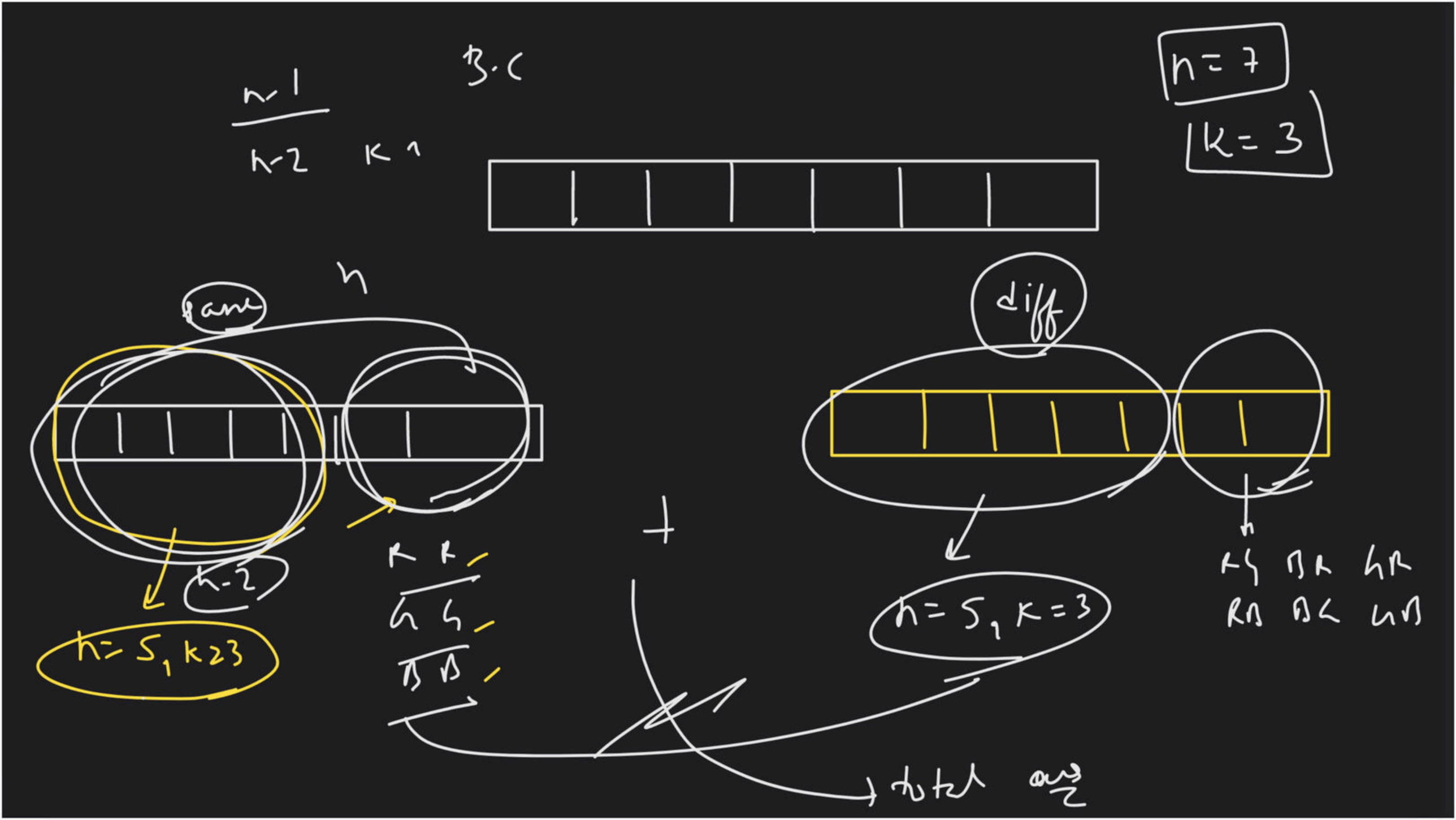
solve(n, k) = [same] + [diff]

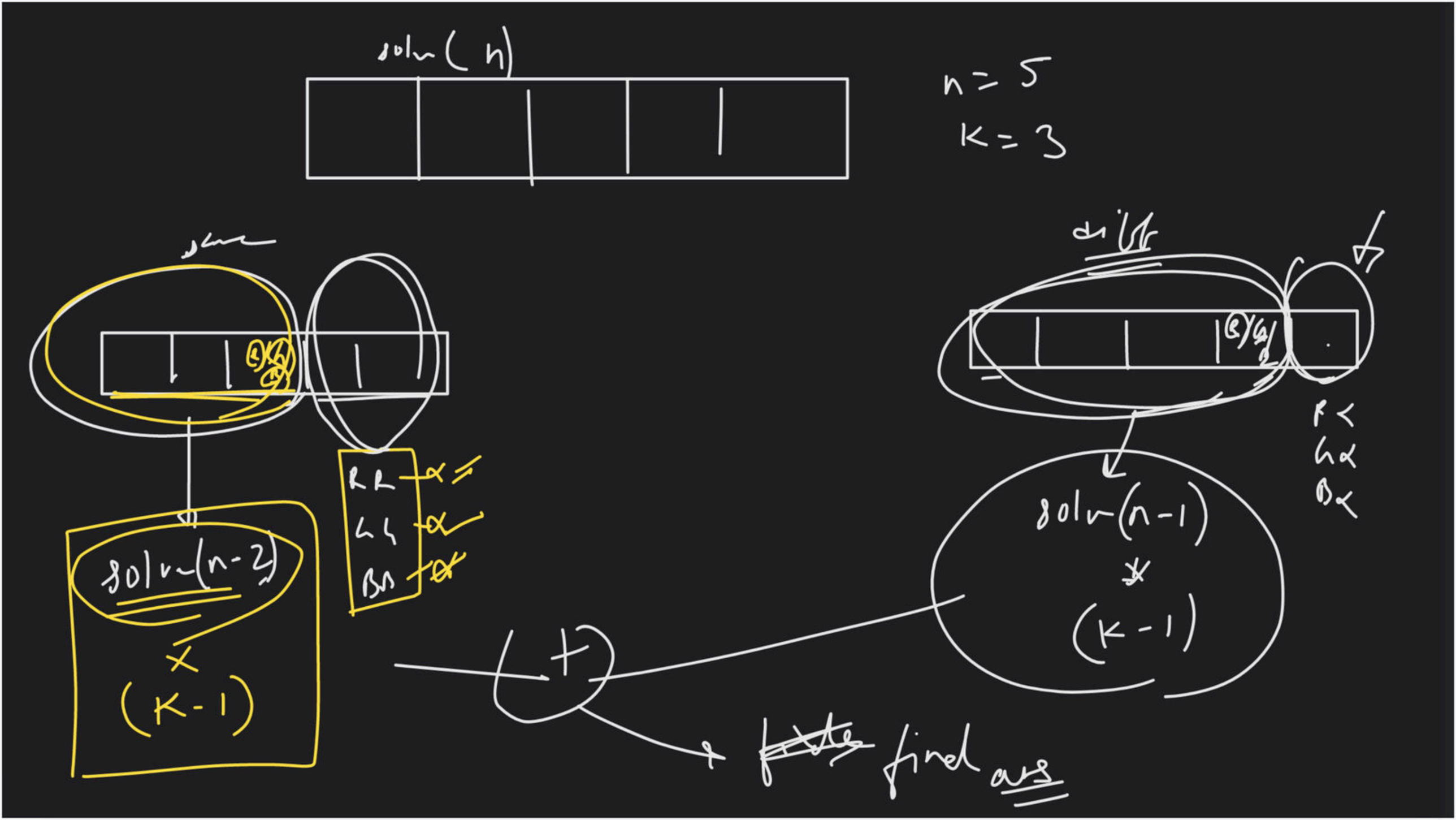
solve(n, k) = solve(n-2, k) * (k-1)

+

solve(n-1, k) * (k-1)

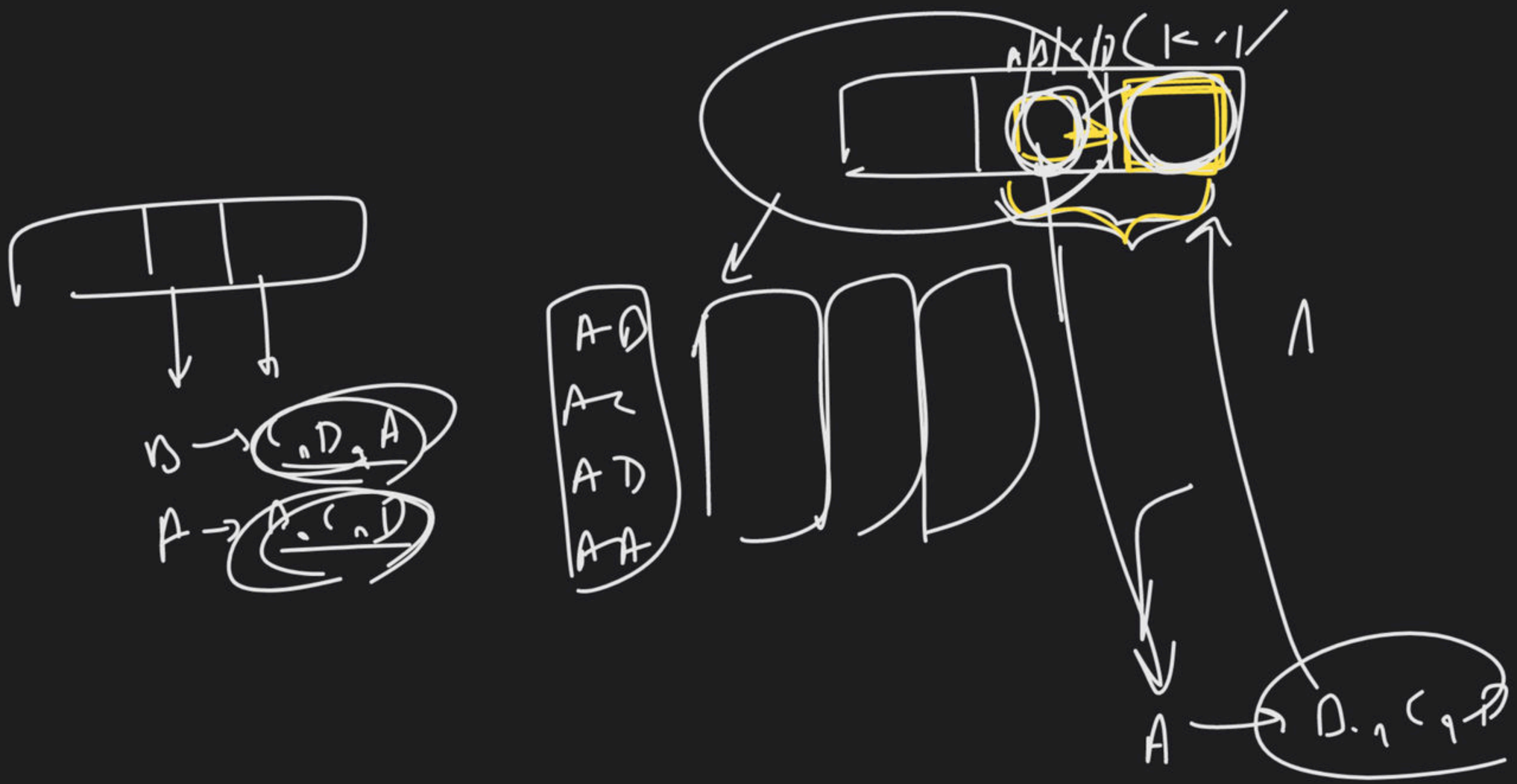


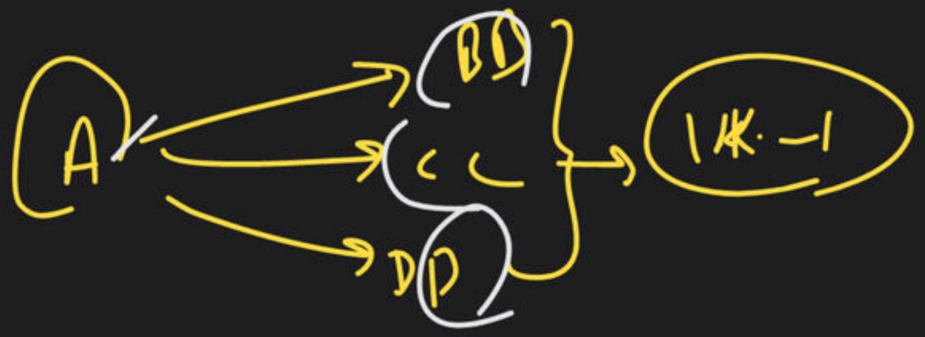

n=7
k=3
same
diff
n-2
n=5, k=3
n=5, k23

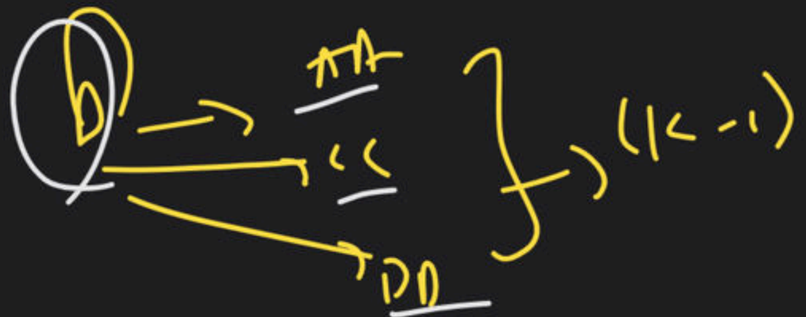

soln(n)
n = 5
K = 3
soln(n-2)
x
(K-1)
soln(n-1)
x
(K-1)
+
find ans

$K = 4$

	$n=1$	$n=2$	$n=3$	$n=4$
same		K	$K \times (K-1)$	$K^2 \times (K-1)$
diff		$K \times (K-1)$	$K^2 \times (K-1)$	$(1) \times (K-1)$
Total	$\rightarrow K$	$K + (K \times (K-1))$ $= K^2$	$K \times (K-1)$ $K^2 \times (K-1)$	

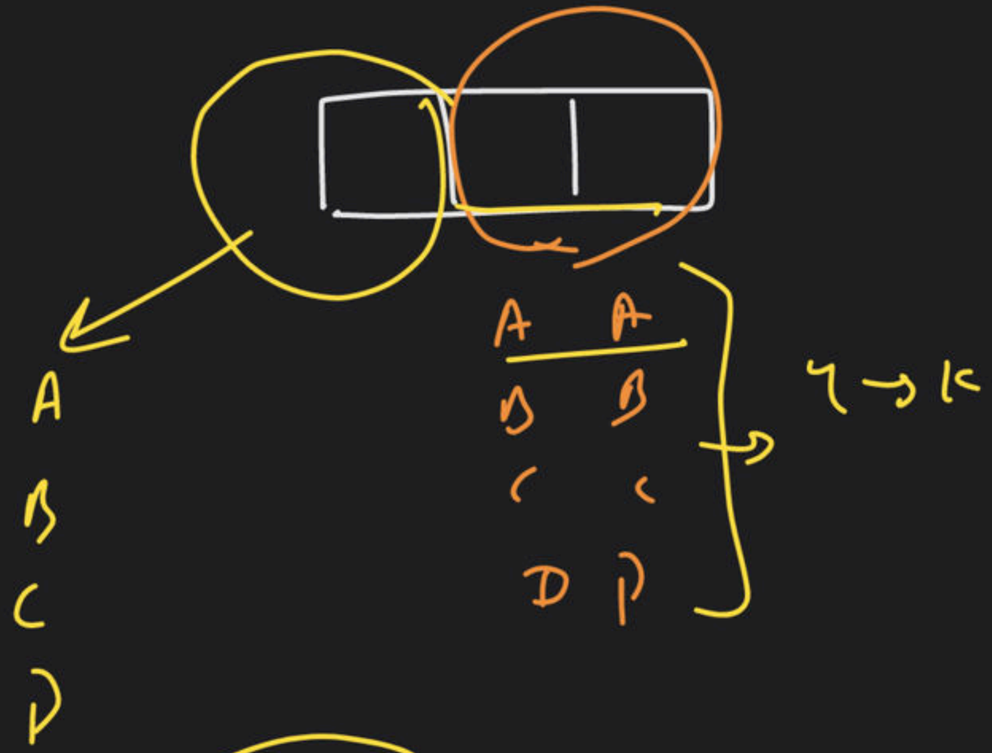






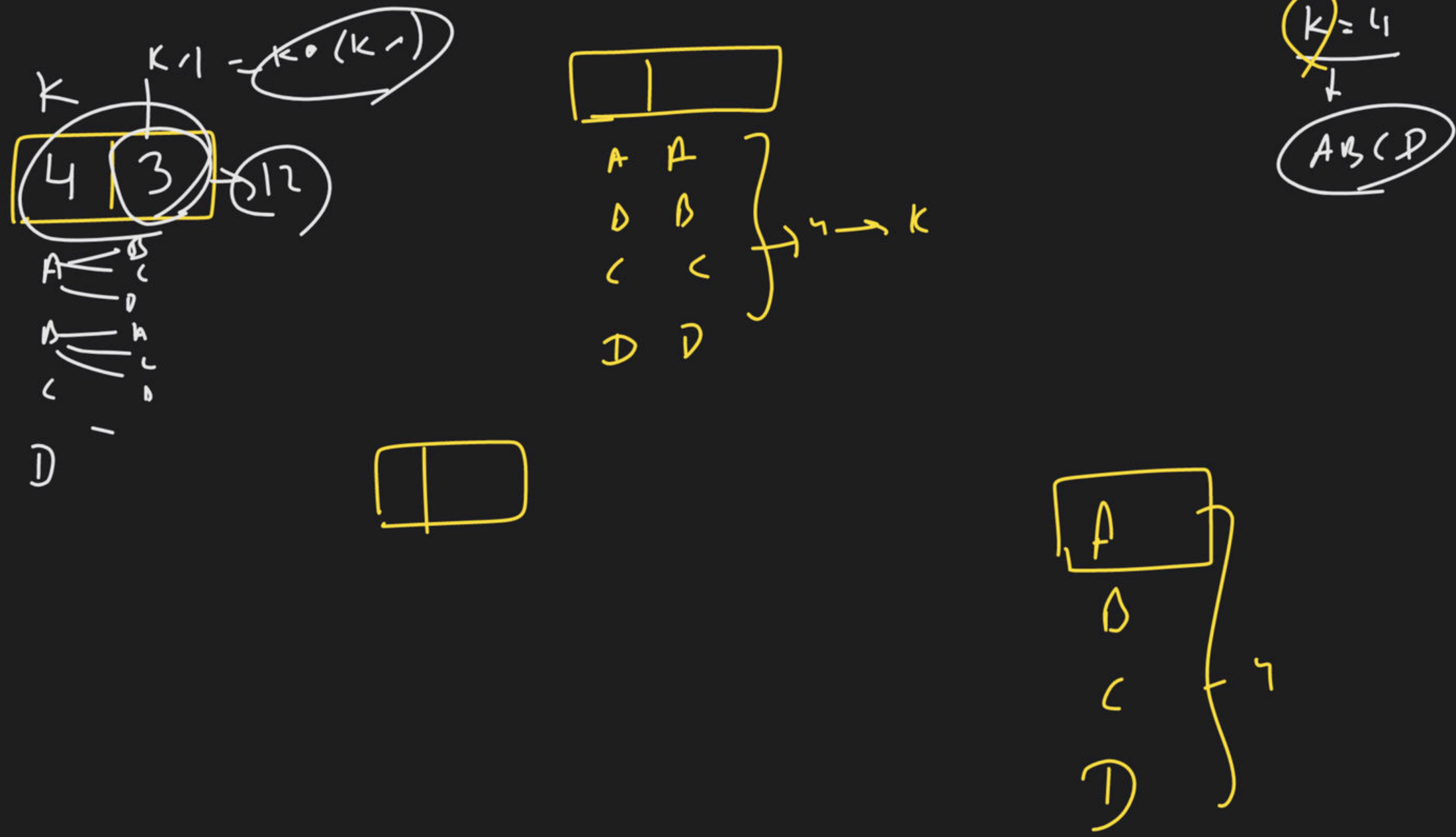
C → AA, BB, DD → (K-1)

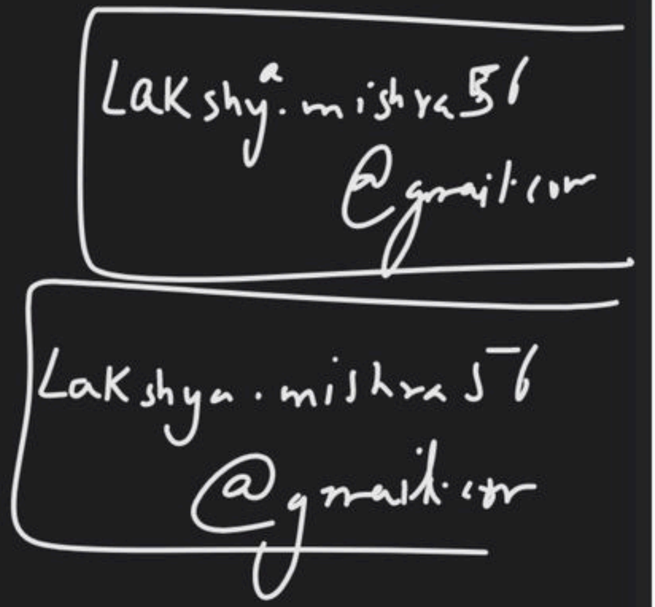
D → AA, BB, CC, DD → (K-1)



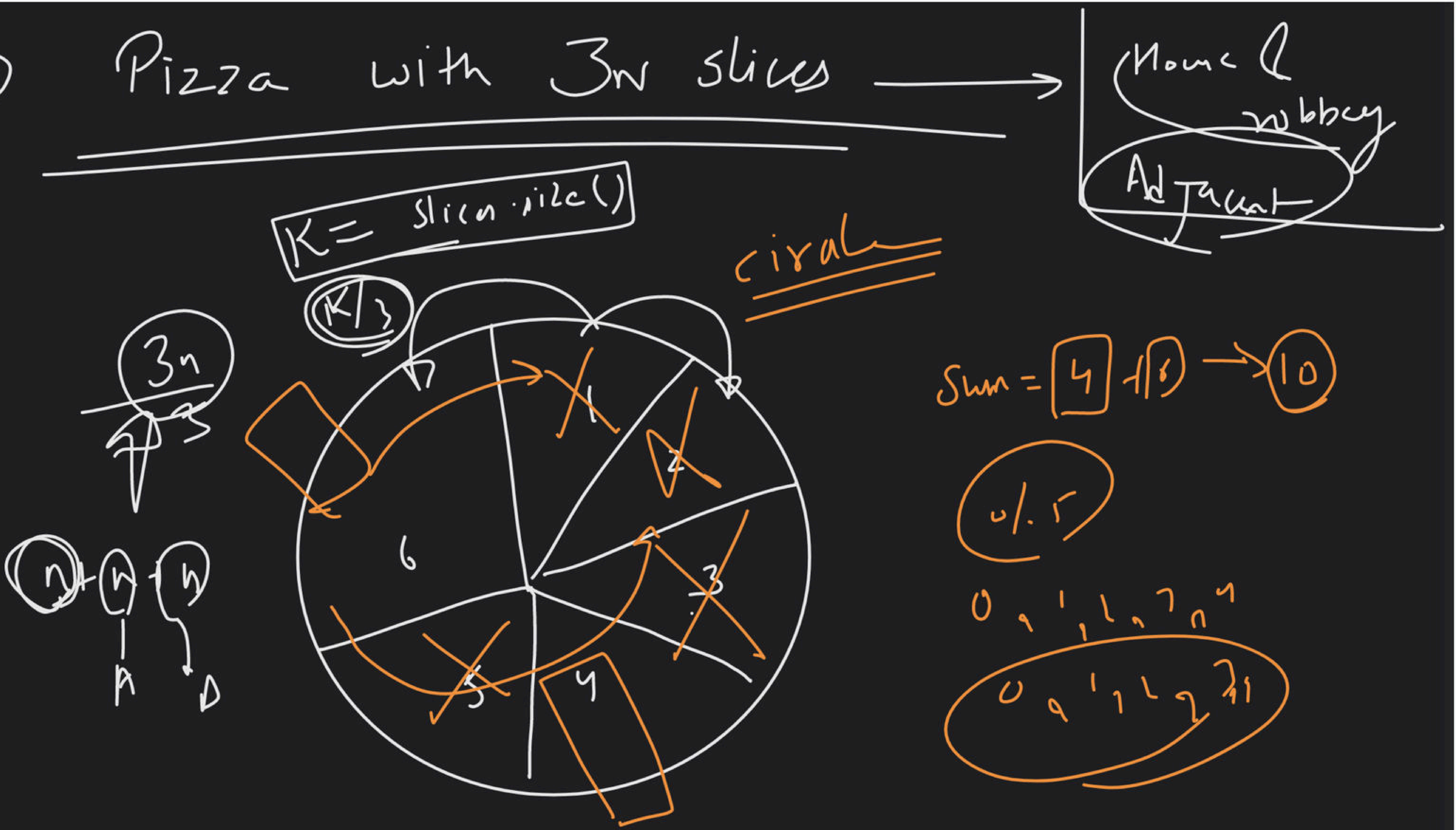
FB(K-1)

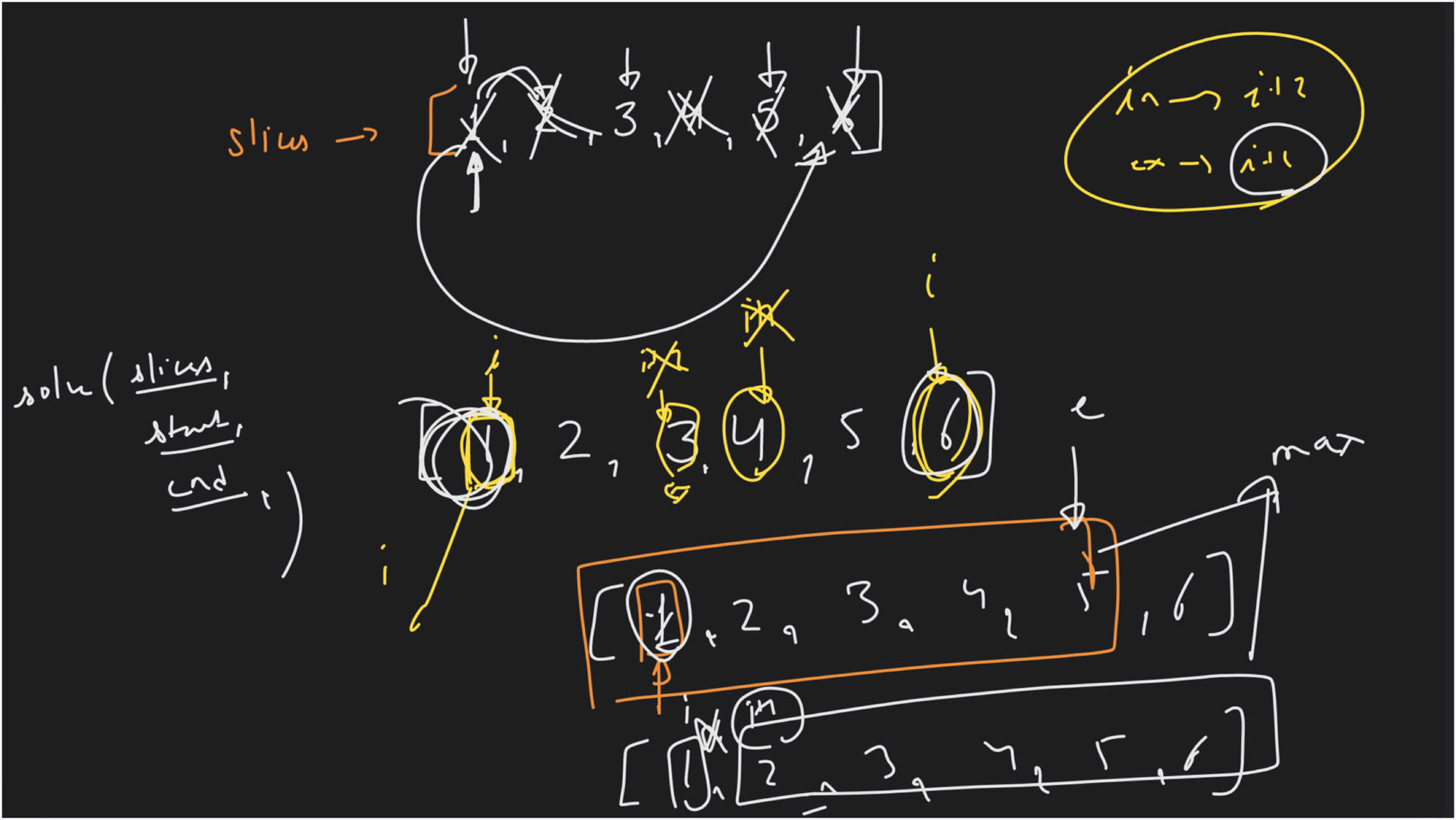
AAA

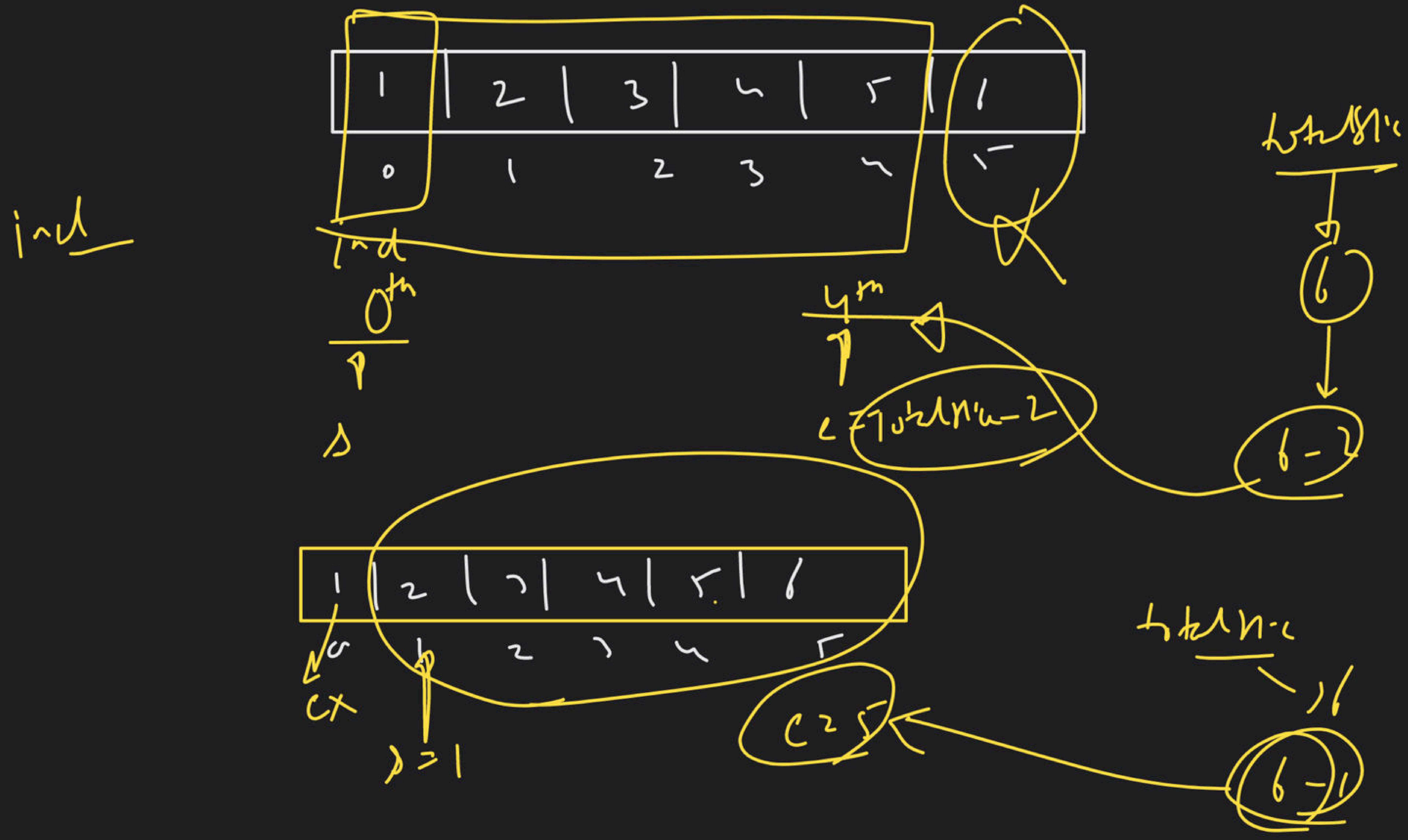

K
K-1
4
3
12
A
D
C
D
A
B
C
D
C
D
A A
D B
C C
D D
4 → K
K = 4
ABCD
A
D
C
D
4


Lakshya.mishra56
@gmail.com
Lakshya.mishra56
@gmail.com

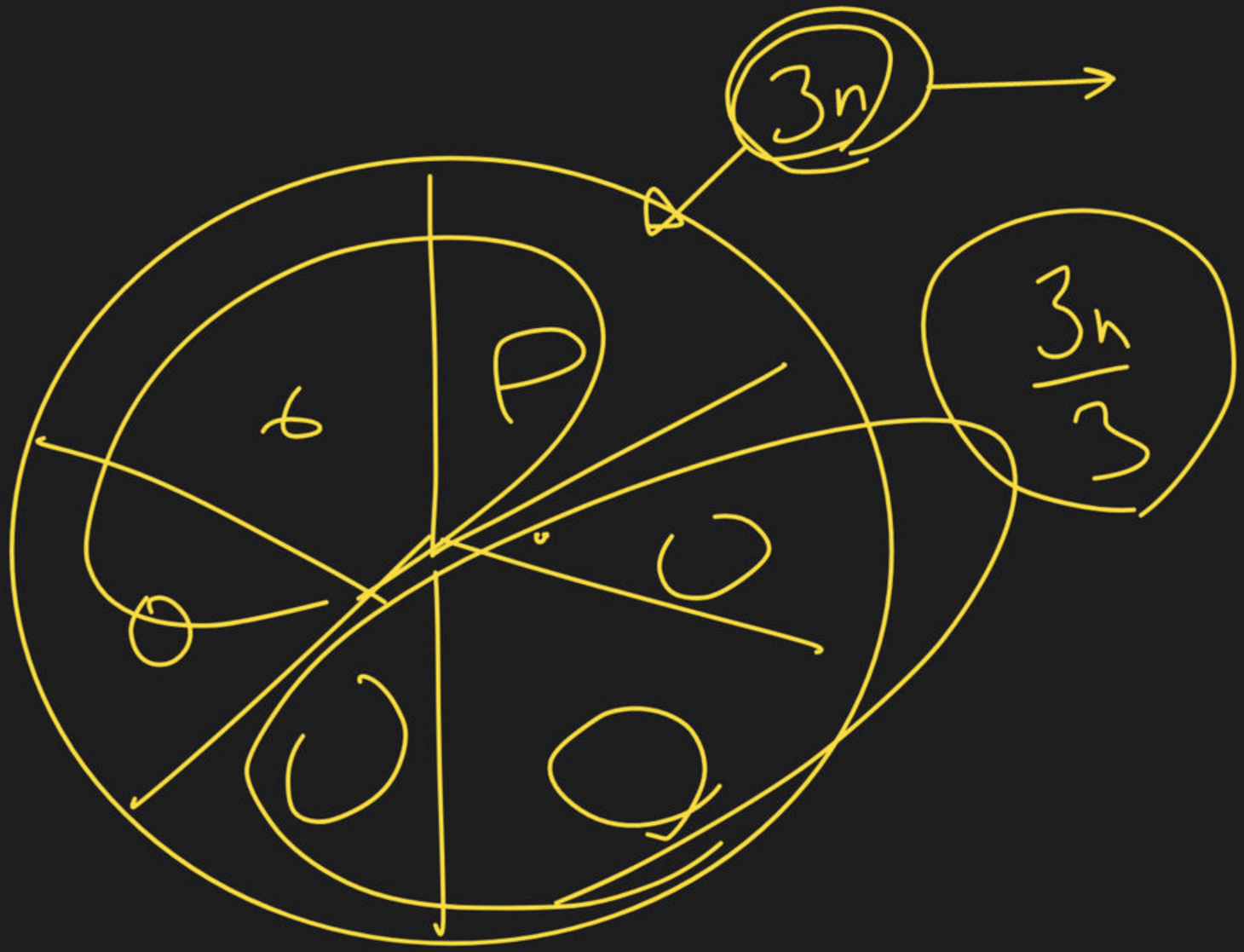
(2) Pizza with 3n slices



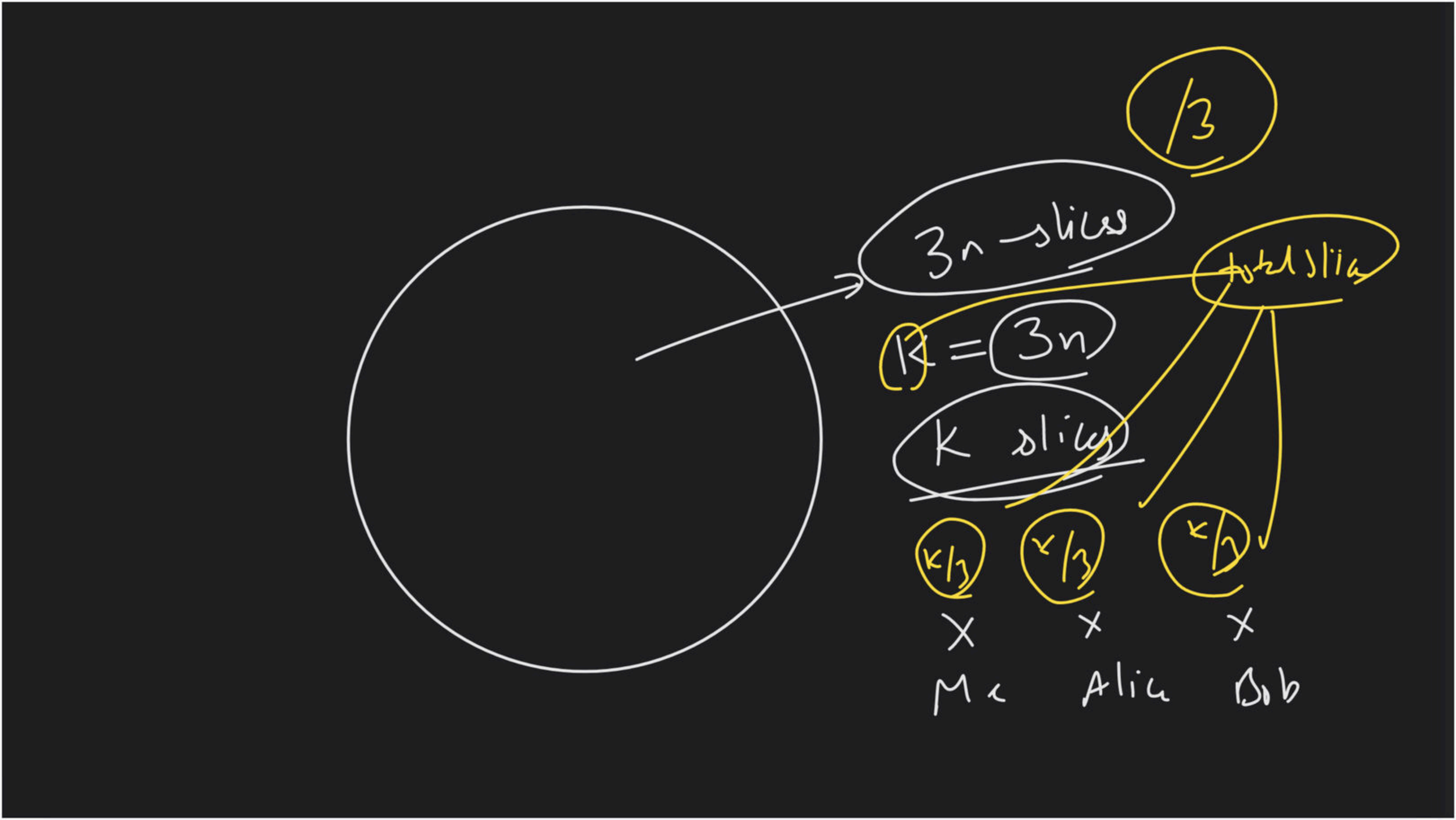

slices →
solve(slices,
start,
end,)
1, 2, 3, 4, 5, 6
max



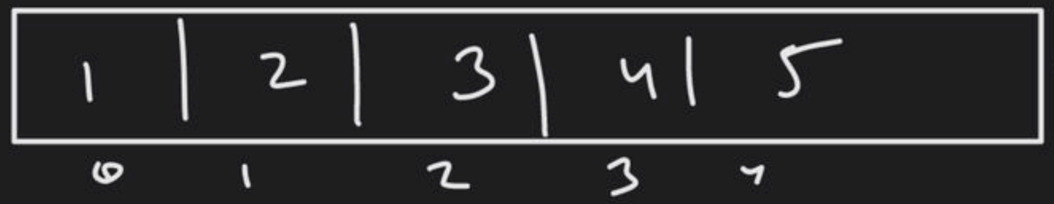
ind
1 2 3 4 5 1
0 1 2 3 4 5
ind
0th
4th
6
6-2
1 2 3 4 5 6
0 1 2 3 4 5
cx
s = 1
c = 5
6-1


3n
3n/3
P
C
C
C


remainder
15/3
0/1


1/3
3n slices
total slices
k = 3n
k slices
k/3
k/3
k/3
X
X
X
Me
Alice
Bob

option 1 →

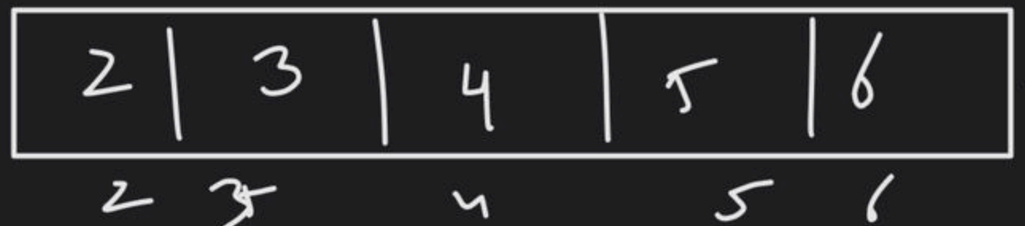


→ ans → 6

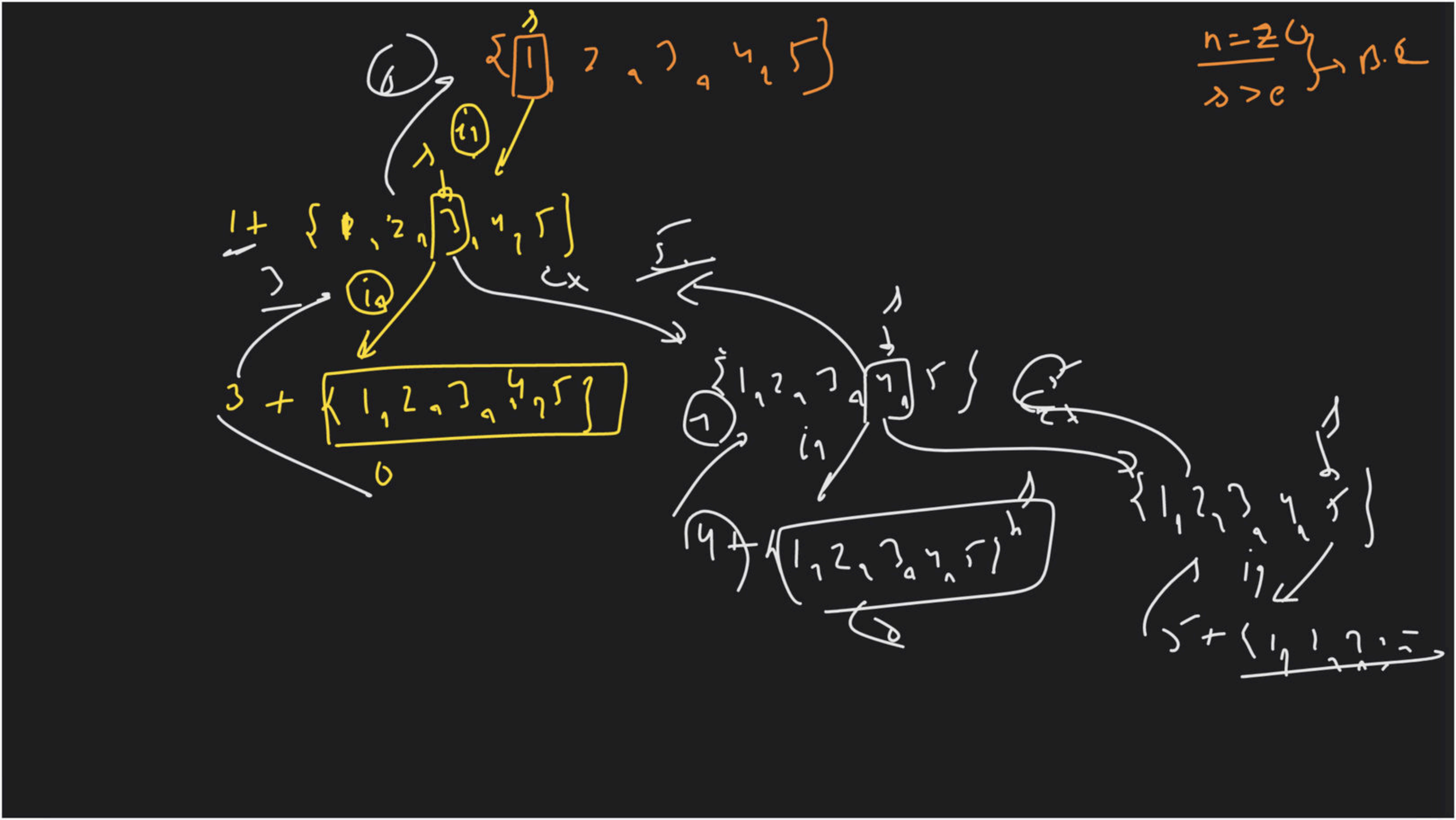
max

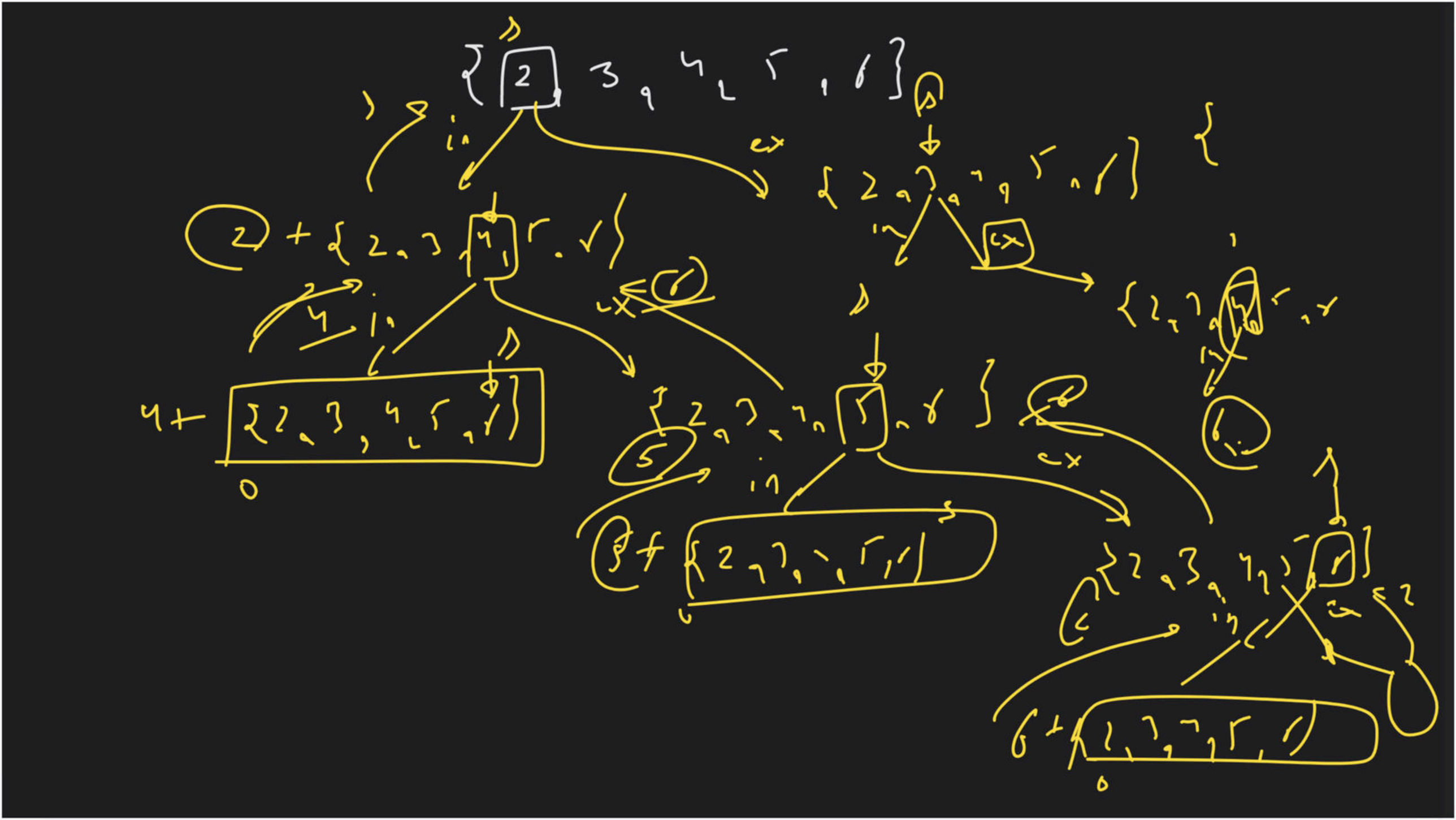
10

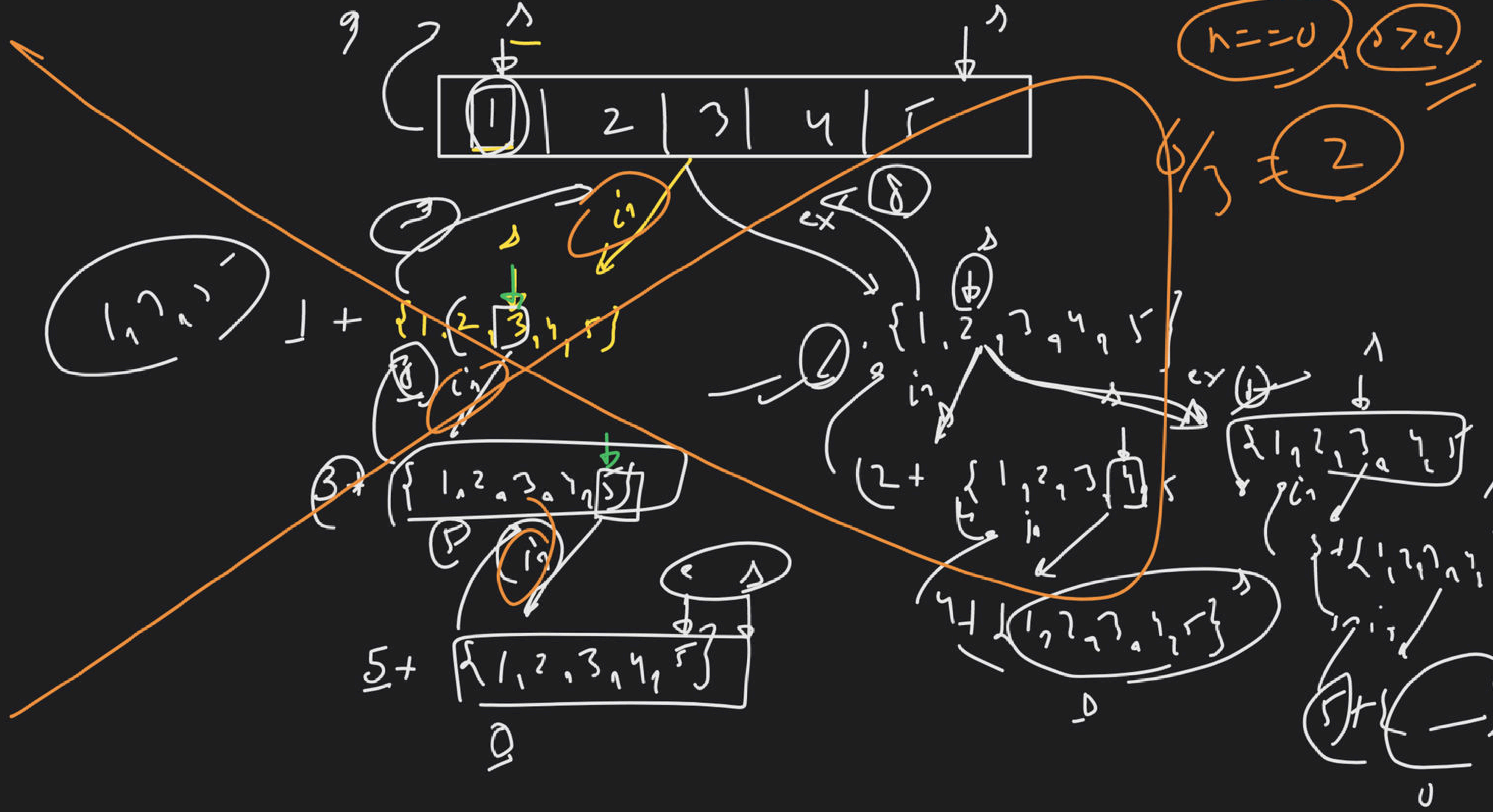
option 2 →

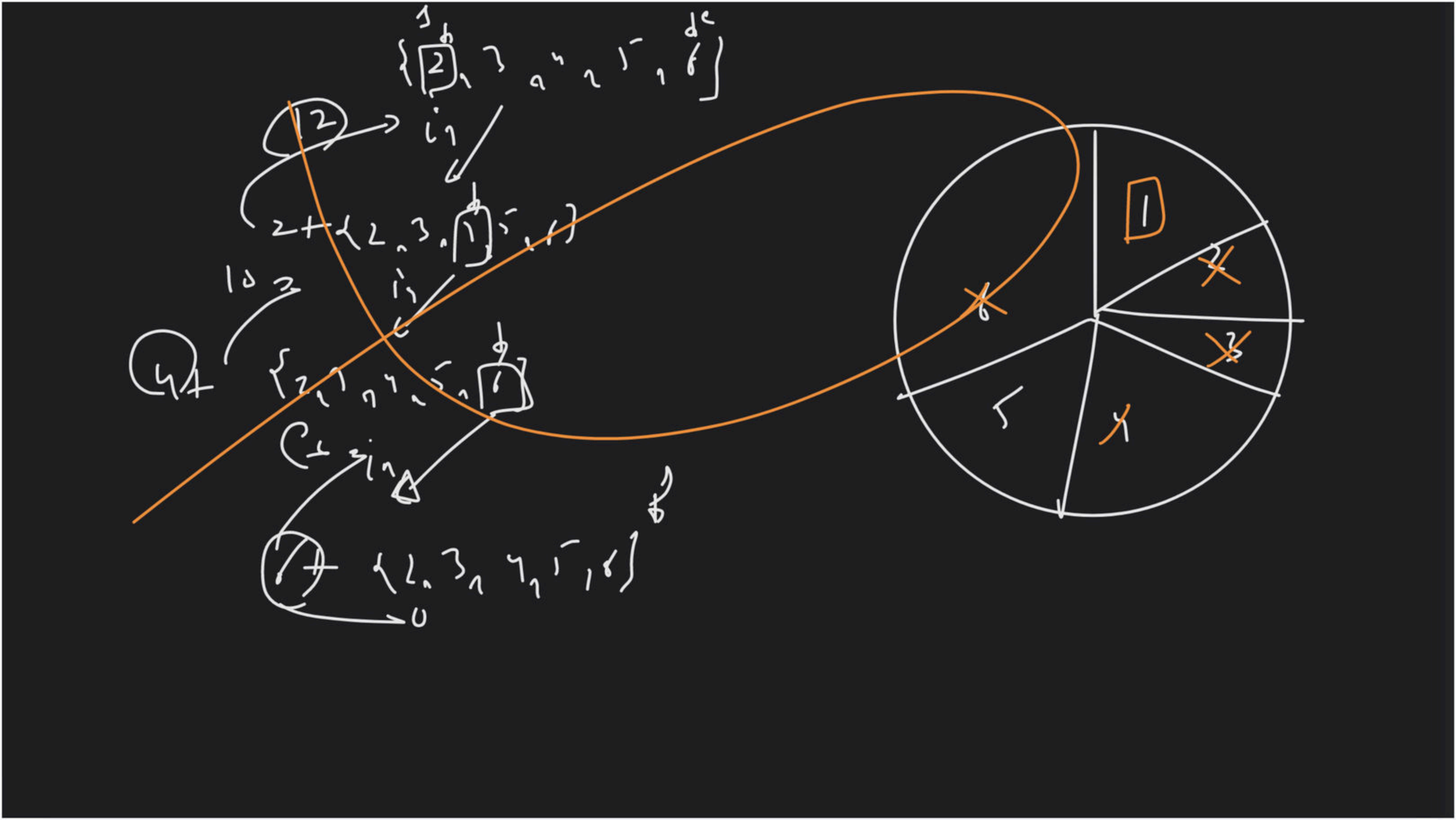


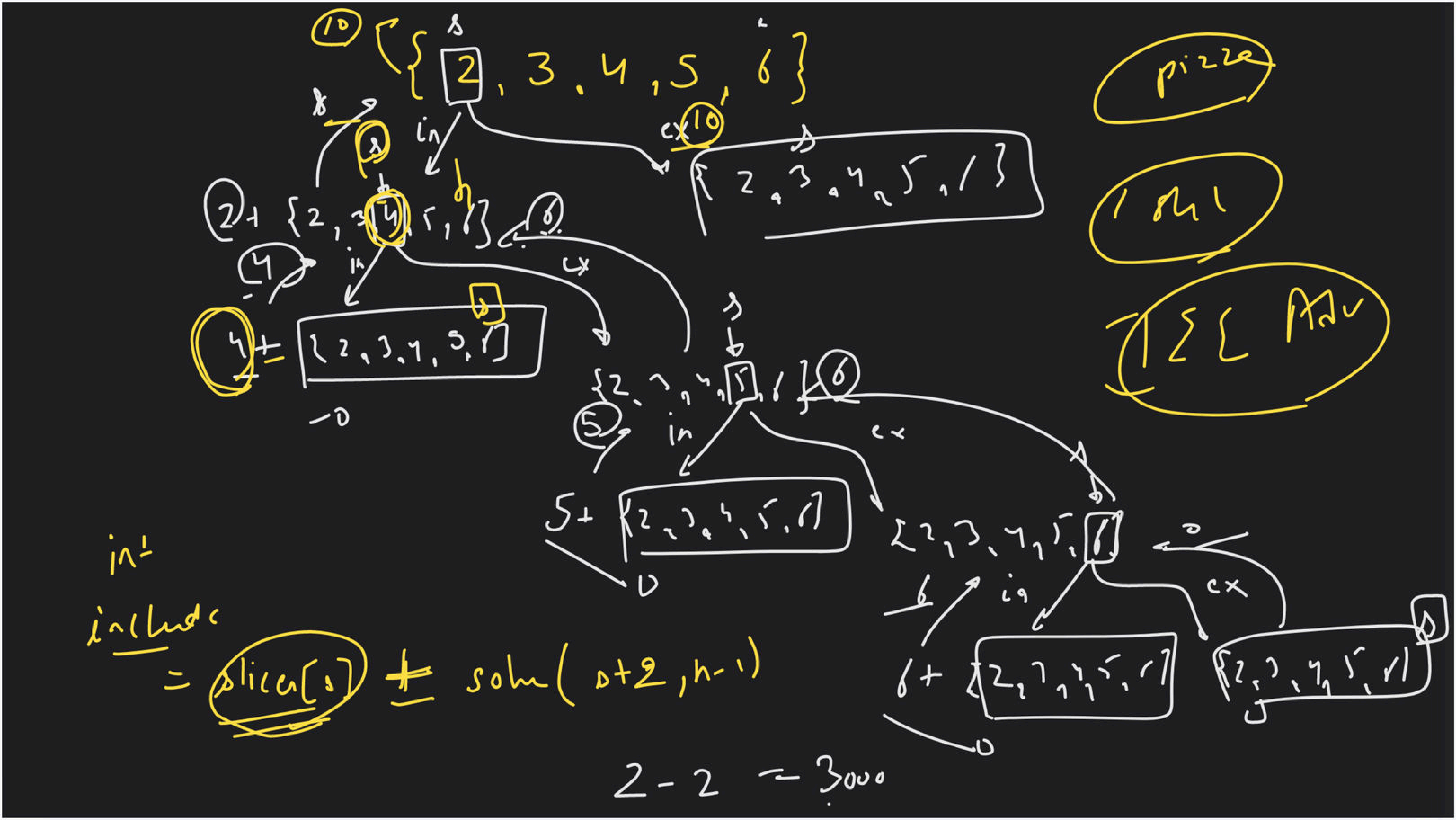
→ ans → 10

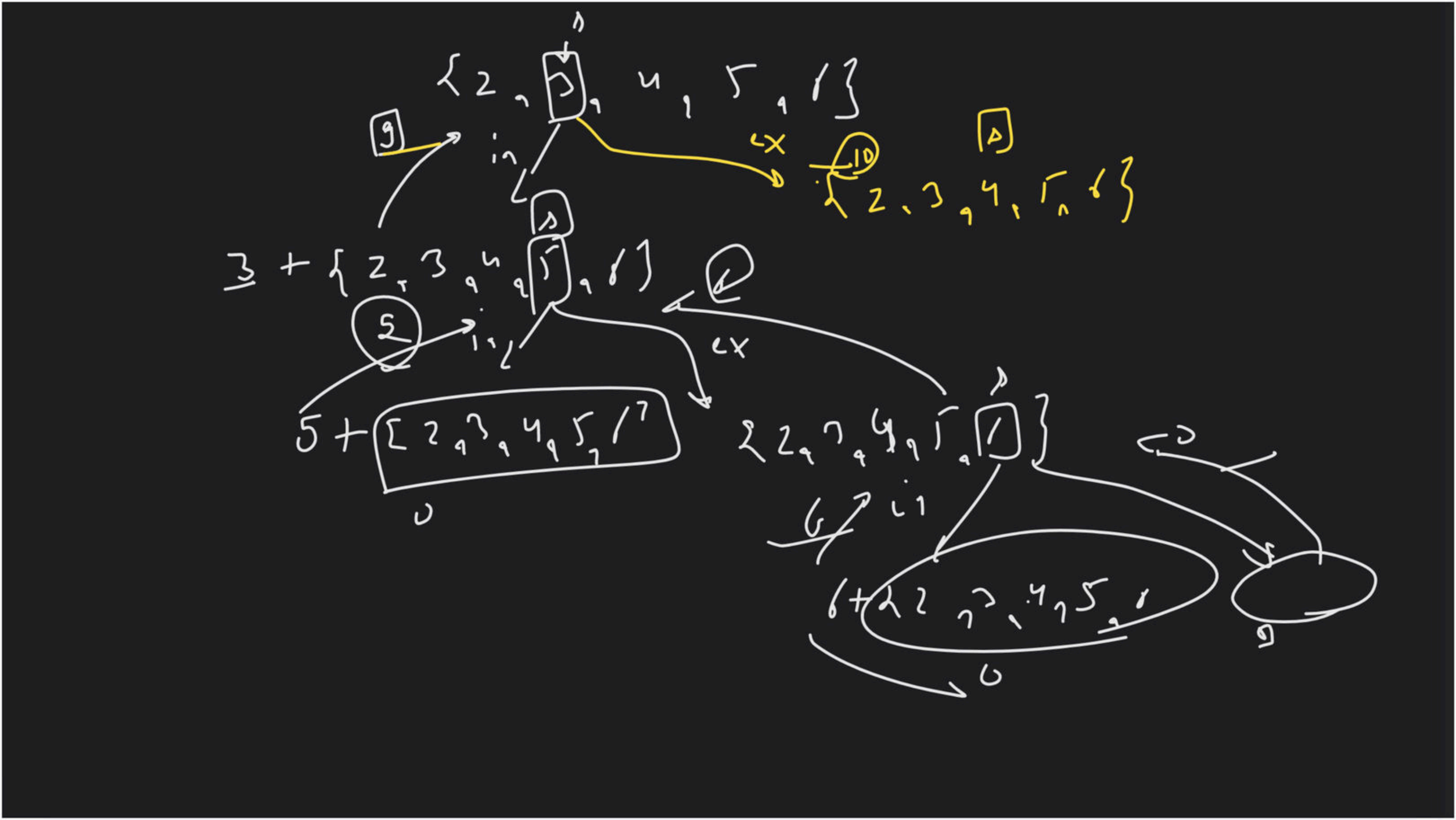


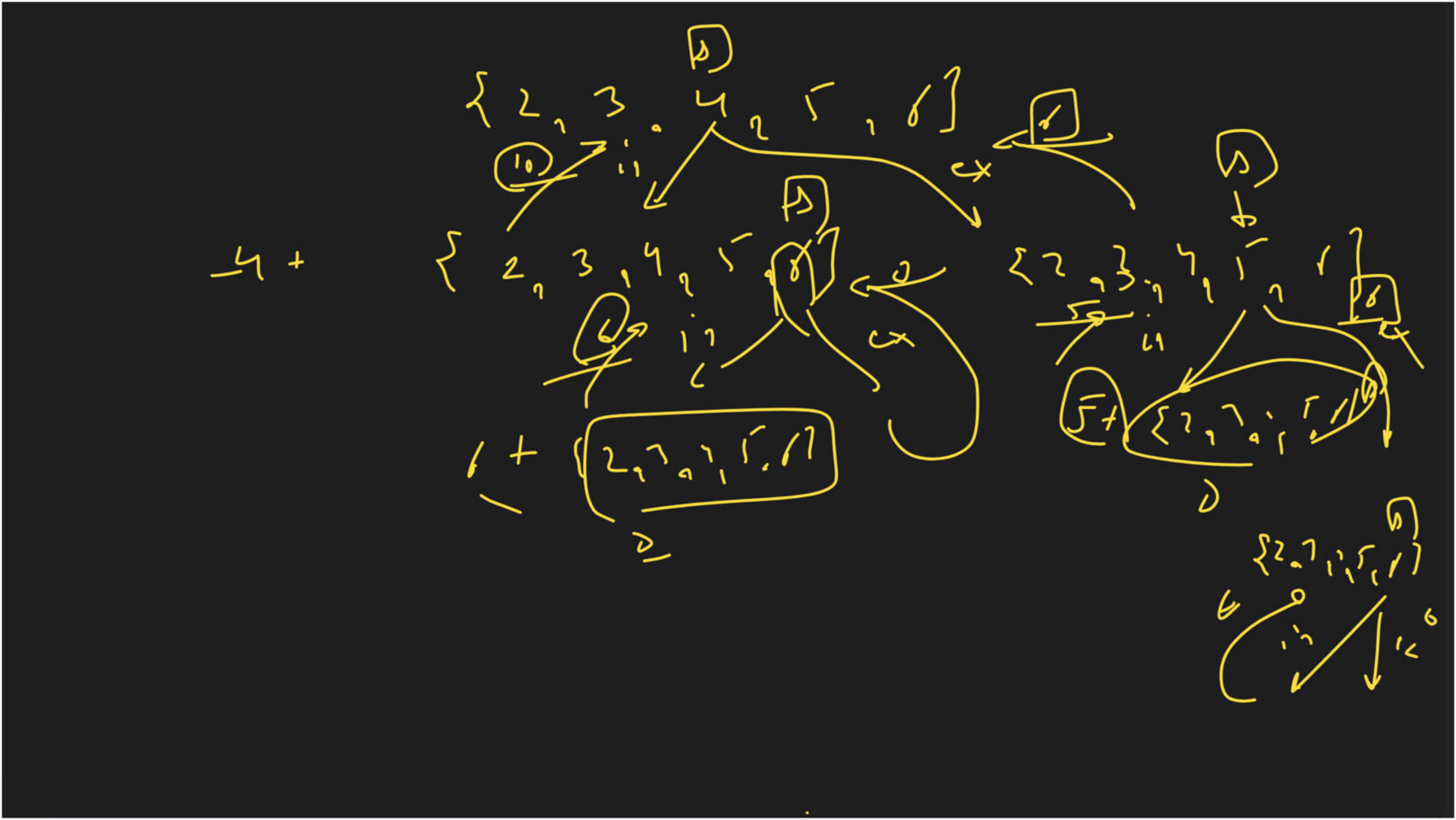


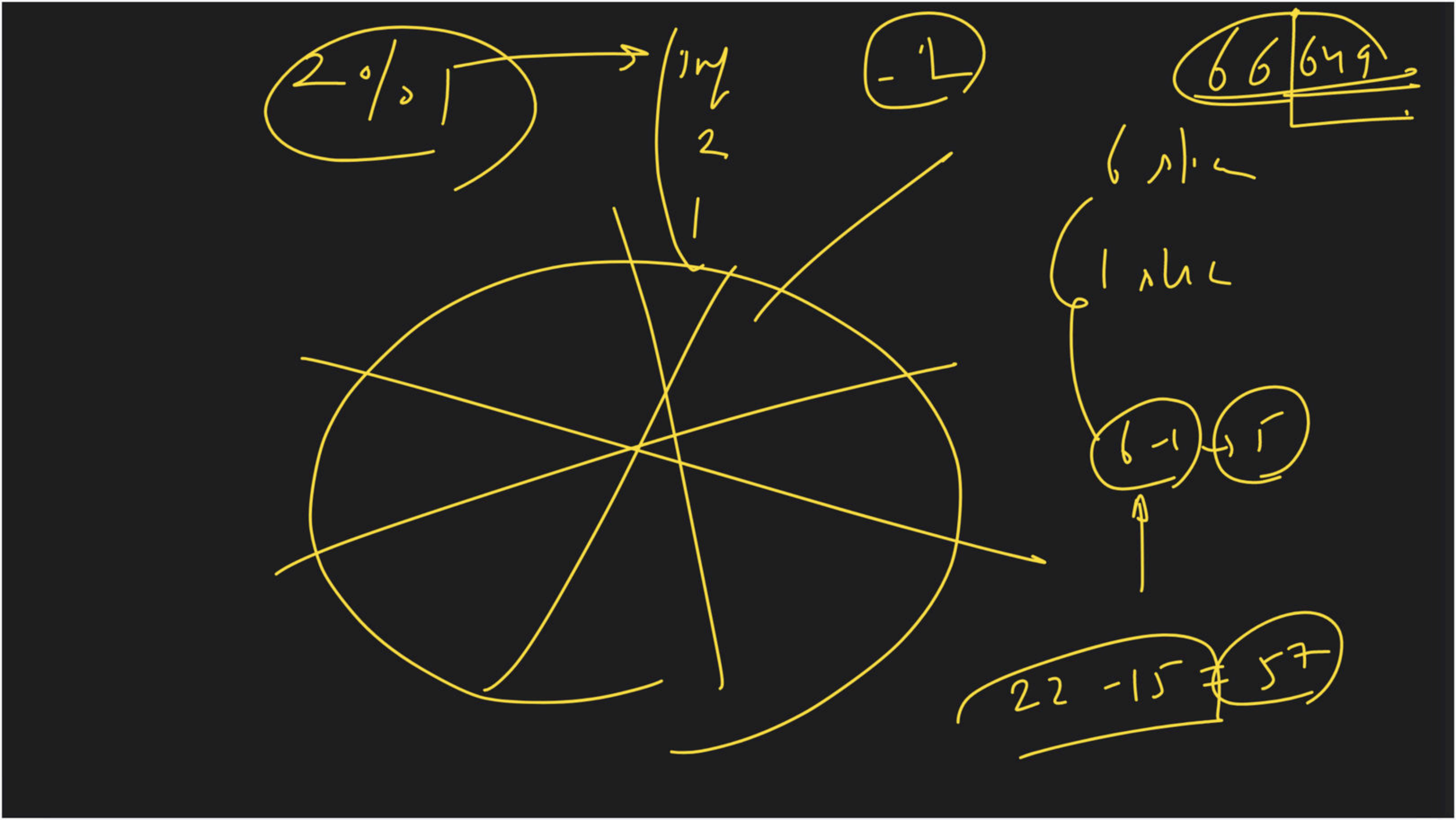





{2, 3, 4, 5, 6}
pizza
include
= slice[s] + solve(s+2, n-1)
2-2 = 3000







int ~~int~~

int exclude =  + solve(arr, n-1)

(3) Max Height by Stacking Cuboids → Longest Inc Subsequence

C_1 C_2 C_3 C_4 C_5 C_6 C_7

C_y
C_z
→ round

12 pm

C_7
C_6
C_4
C_1

$h_1 + h_4 + h_6 + h_7$