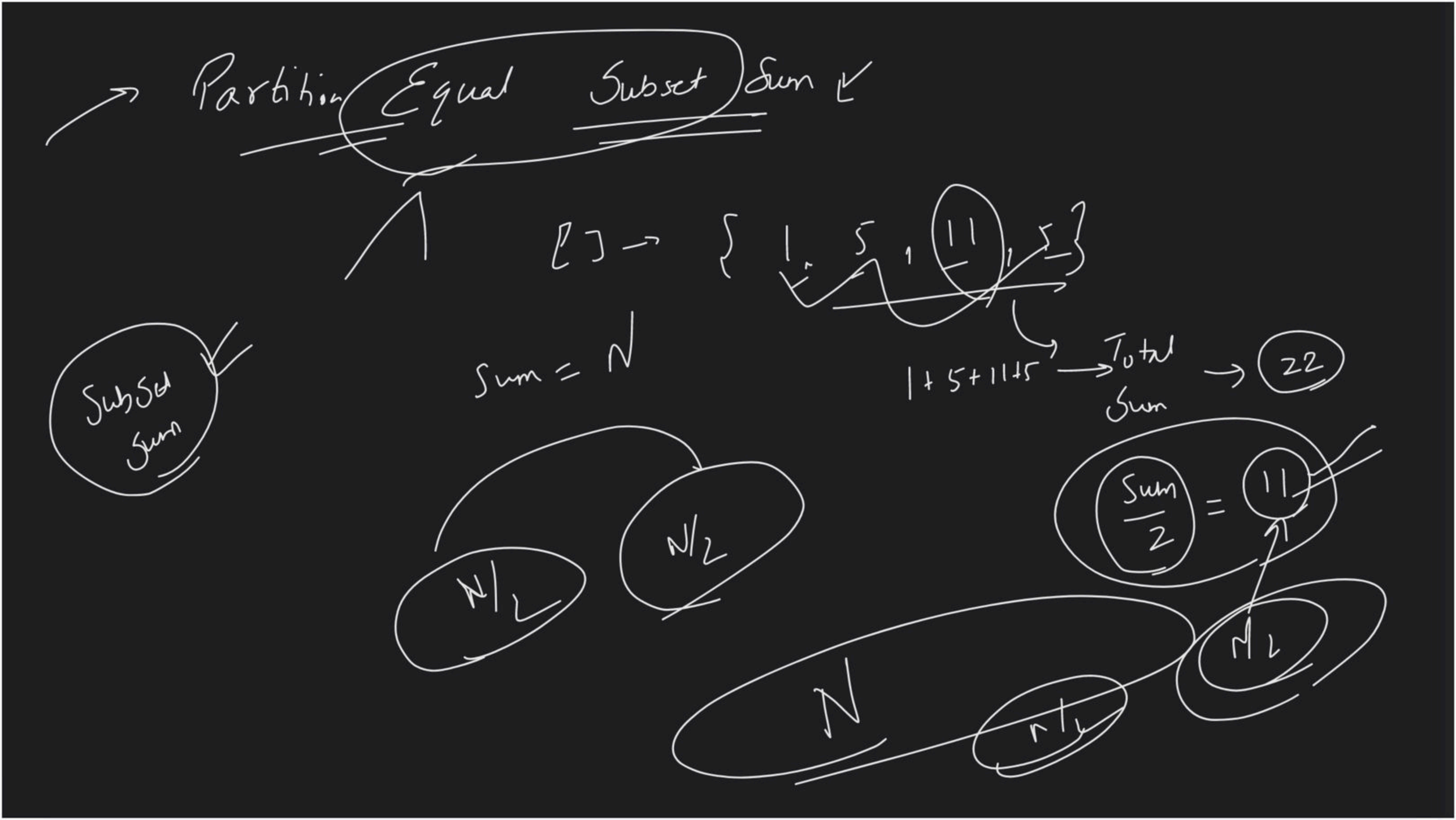
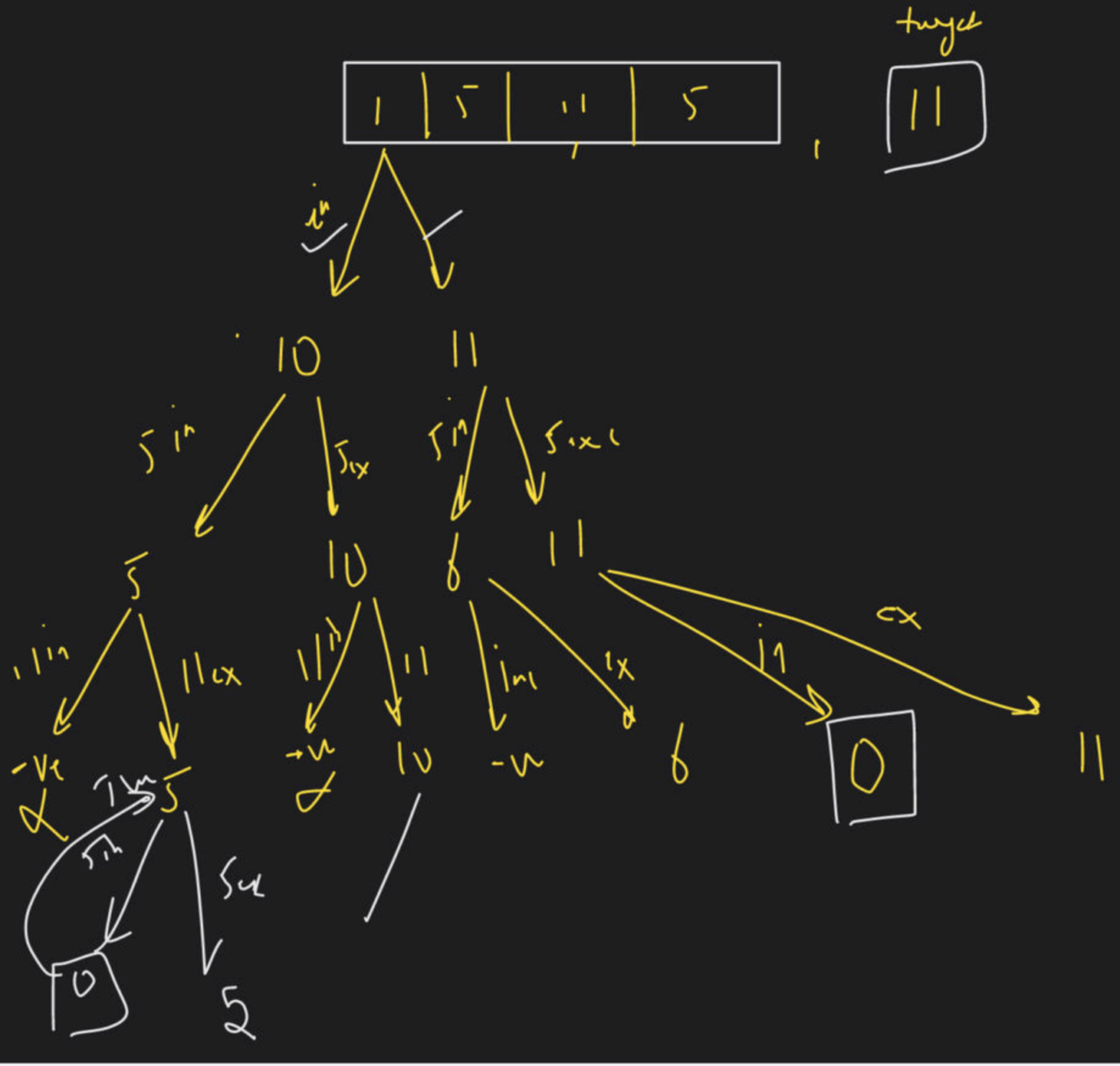
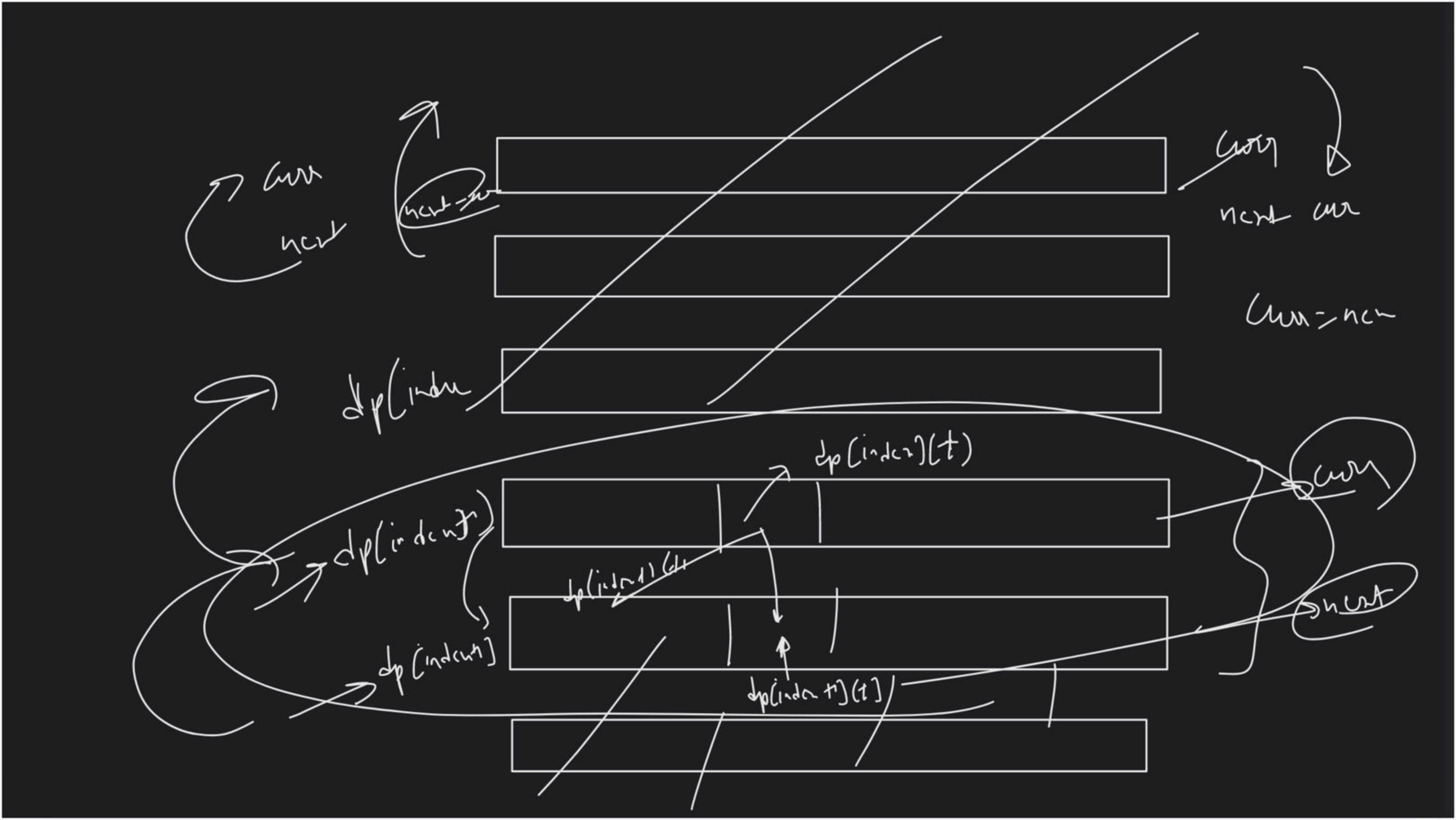
Dynamic Programming Class - 4

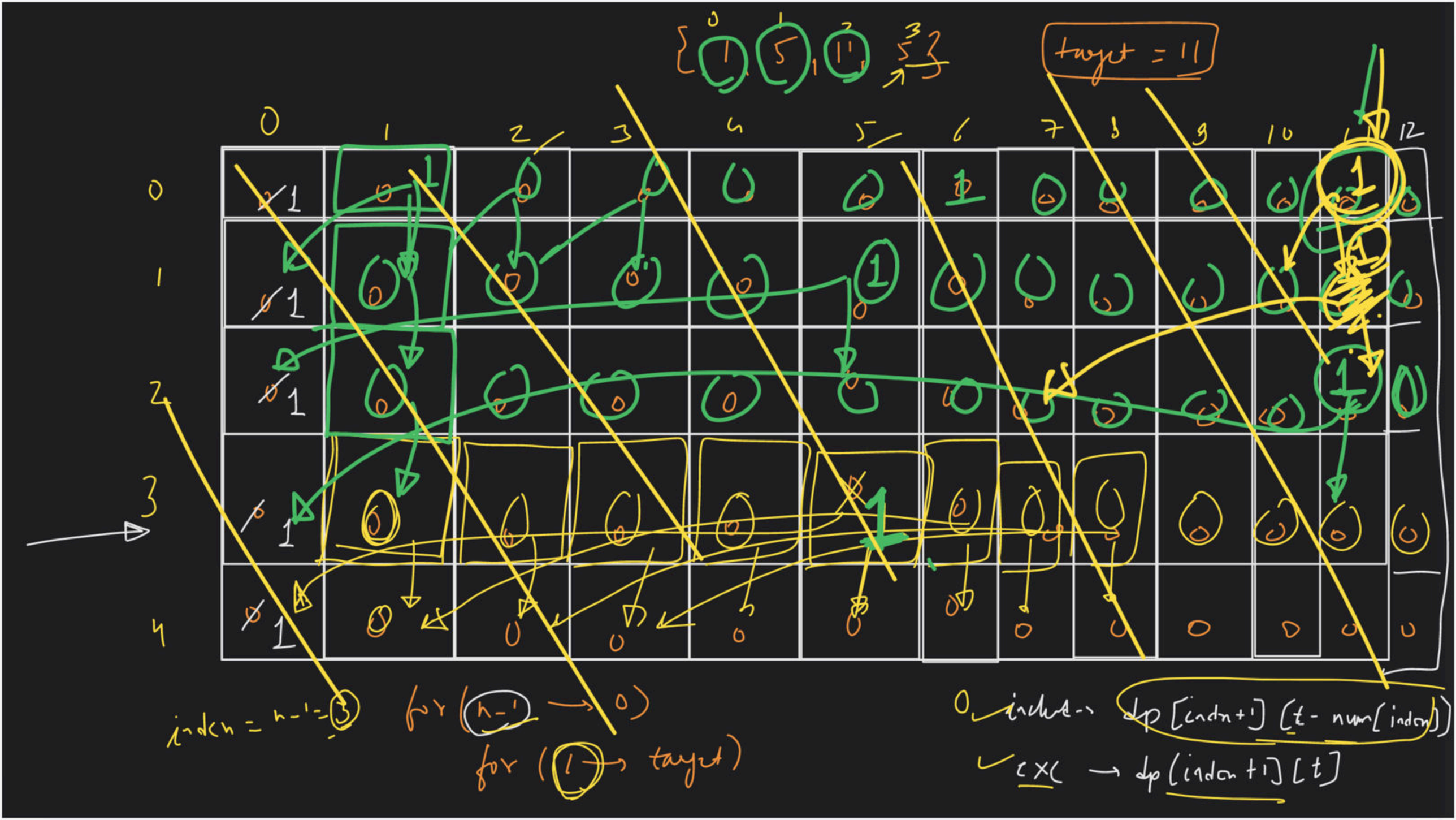
Special class

Love Babbar • June 10, 2023


Partition Equal Subset Sum
[ ] → { 1, 5, 11, 5 }
Sum = N
Subset Sum
1 + 5 + 11 + 5 → Total Sum → 22
N/2
N/2
Sum/2 = 11
N
N/2

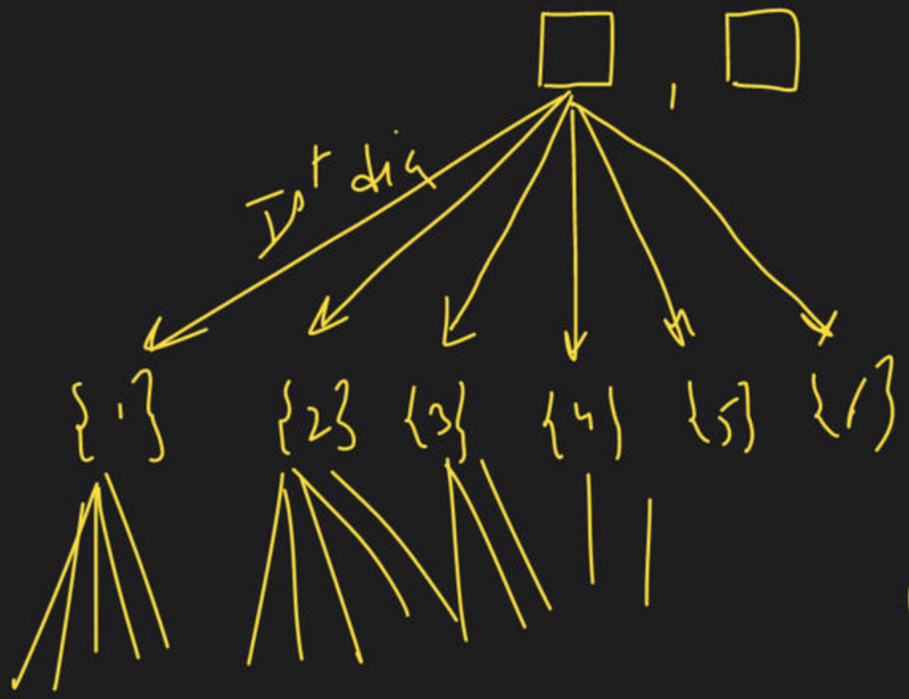

target
11
10
11
0
11
0
2


curr
next
next = curr
curr
next curr
curr = next
dp[index
dp[index][t]
dp[index+1]
dp[index+1][t
dp[index]
dp[index+1][t]
curr
next


{1, 5, 11, 3}
target = 11
index = n-1 = 3
for (n-1 → 0)
for (1 → target)
incl → dp[index+1][t - num[index]]
excl → dp[index+1][t]

No of Dice Roll with Target Sum

- n dices
- K faces
- target



6 ways

Facts

{1, 2, 3, 4, 5, 6}

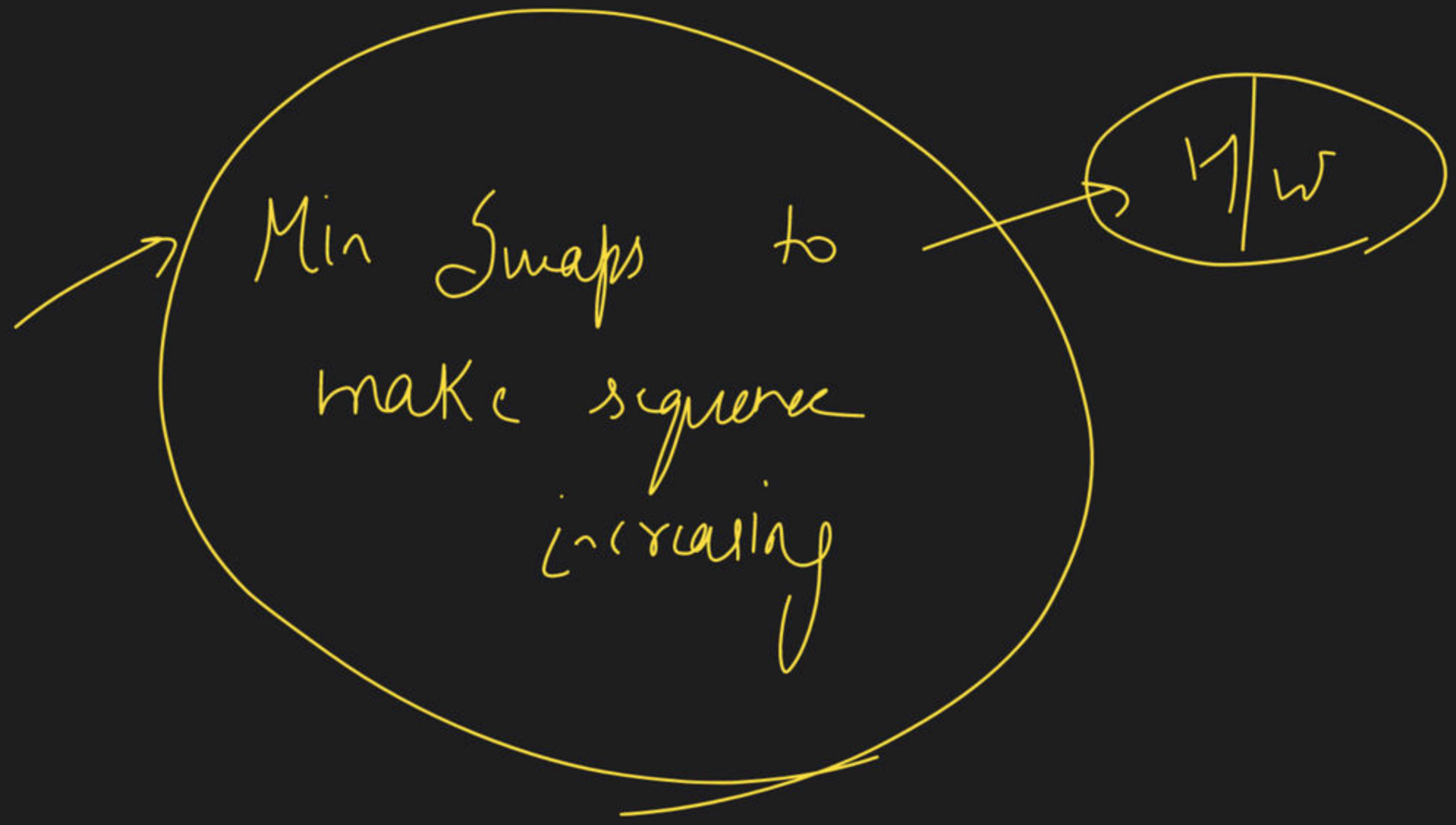
n = 2

K = 6

Target = 7

31 pairs

{1,1}	{2,1}	{3,1}	{4,1}	{5,1}	{6,1}
{1,2}	{2,2}	{3,2}	{4,2}	{5,2}	{6,2}
{1,3}	{2,3}	{3,3}	{4,3}	{5,3}	{6,3}
{1,4}	{2,4}	{3,4}	{4,4}	{5,4}	{6,4}
{1,5}	{2,5}	{3,5}	{4,5}	{5,5}	{6,5}
{1,6}	{2,6}	{3,6}	{4,6}	{5,6}	{6,6}



dp ( )

dp ( ) [ ]

dp ( ) [ ] [ ]