COMPUTER SCIENCE AND DA

Data Structures through Python

Lists and Arrays

Lecture No. 02

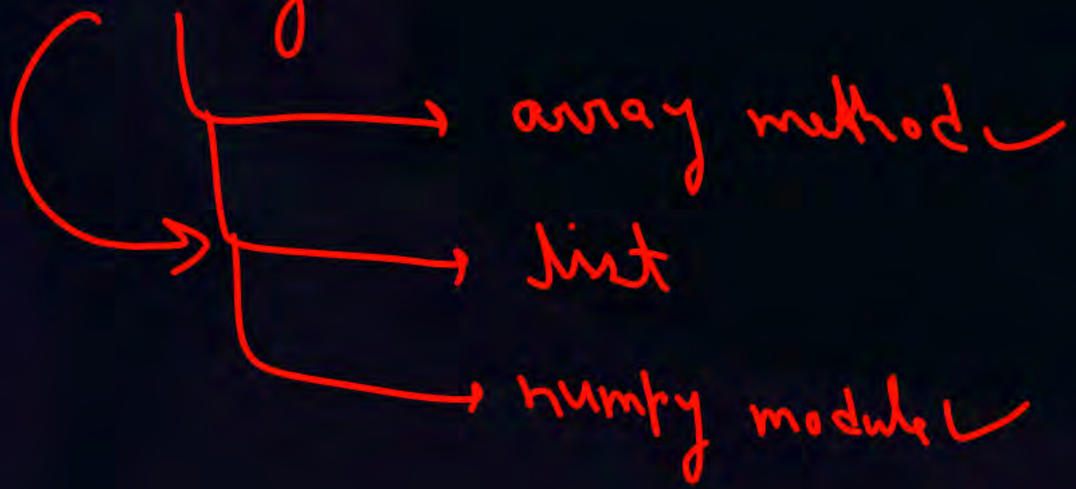
By- Kashif Sir

RECAP OF PREVIOUS CLASS

1) Data Structure

2) Types of Data Structure

3) Array

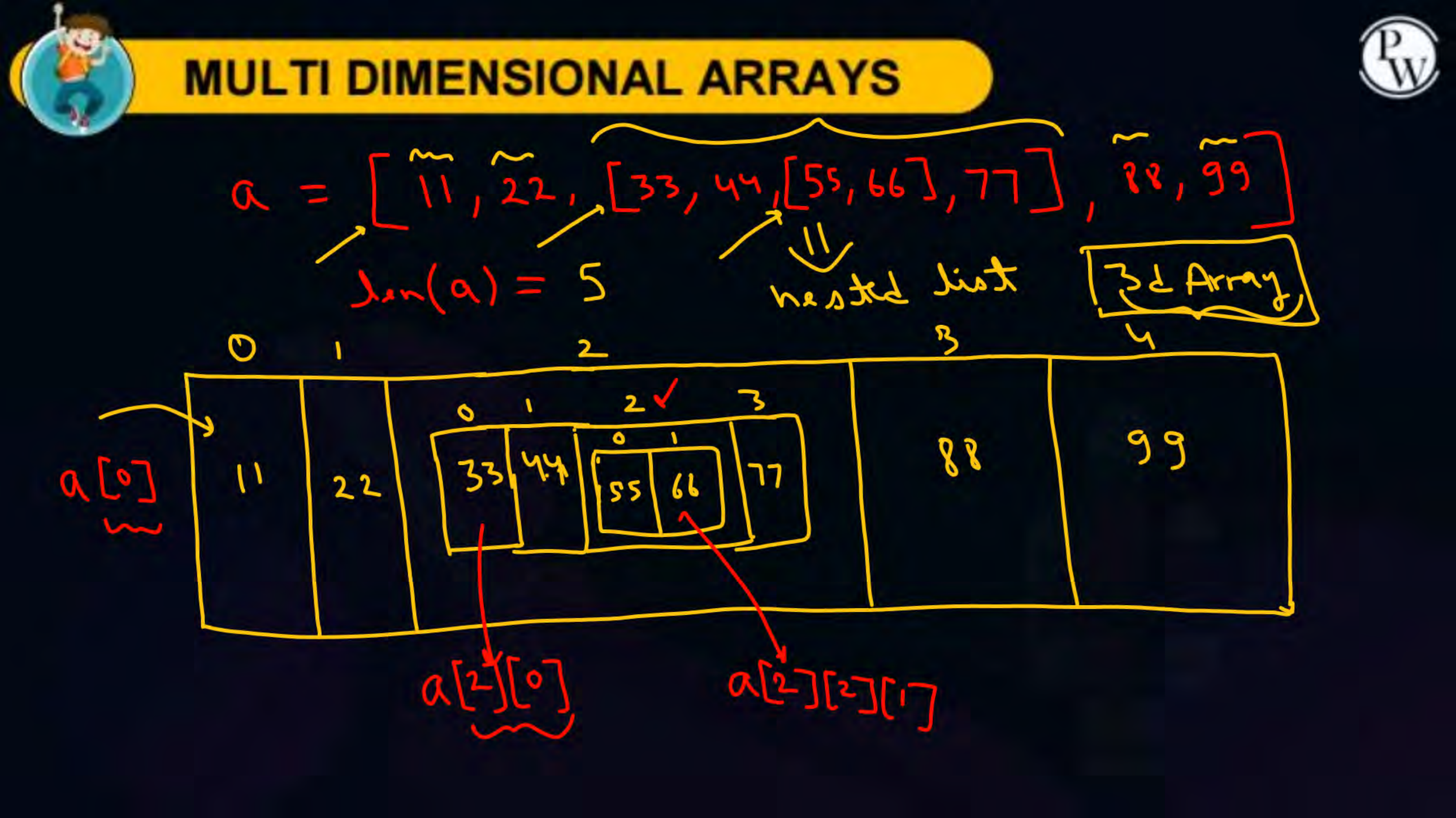


TOPICS TO BE COVERED

1) Multi-Dimensional Array

2) Problem

MULTI DIMENSIONAL ARRAYS



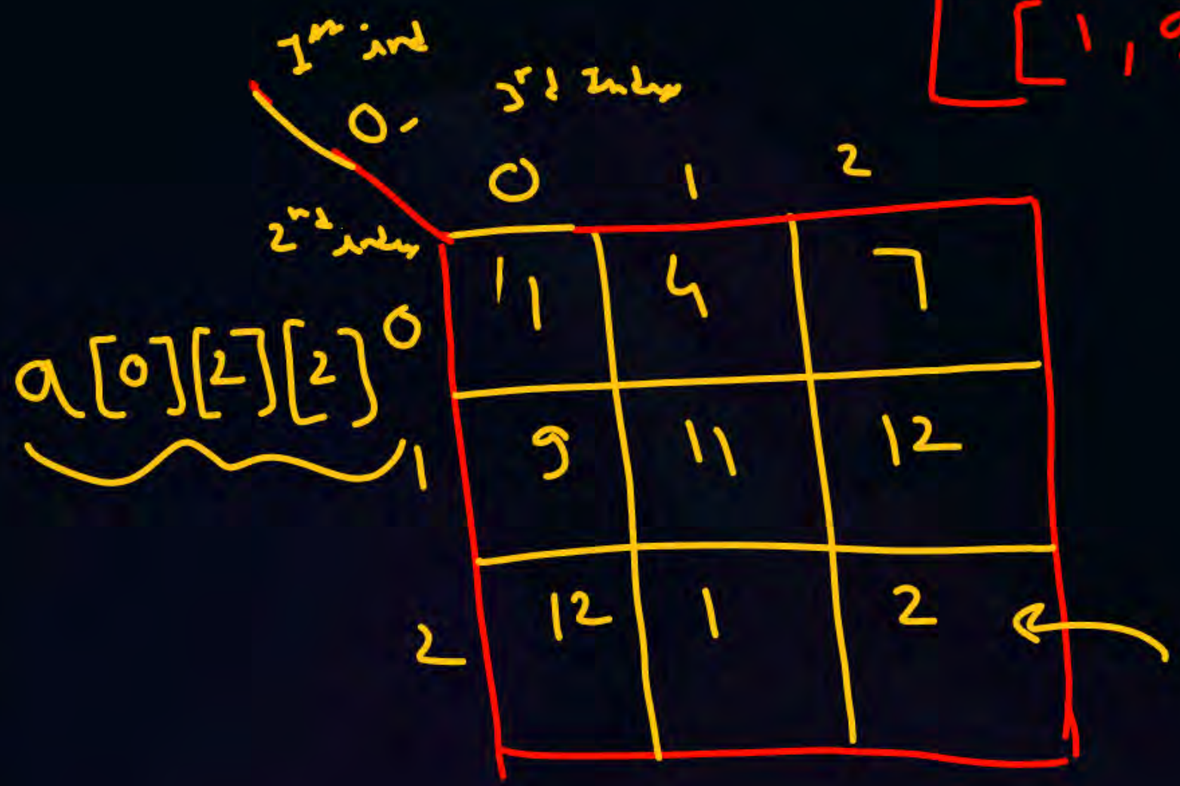
MULTI DIMENSIONAL ARRAYS

a = [[10, 17, 21, 19], [11, 100, 1, 4], [12, 17, 21, 14]]

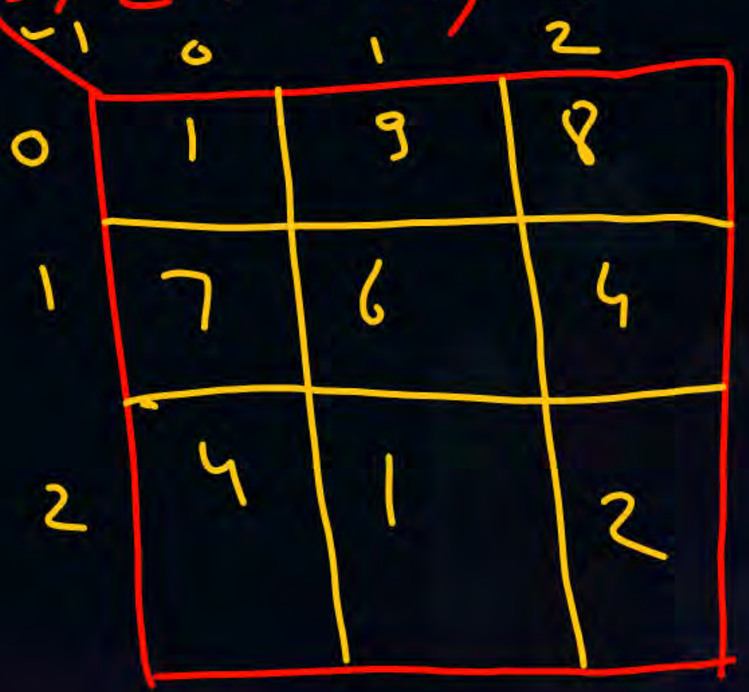
MULTI DIMENSIONAL ARRAYS

3d Array

a = [[[1,4,7],[9,11,12],[12,1,2]],
[[1,9,8],[7,6,4],[4,1,2]]]



a[0][2][2]



MULTI DIMENSIONAL ARRAYS

a = [[1,2] , [7,8,6,4] , [5] , [13,11,12]]

0 1 2 3

a[0][0]

a[1][2]

	0	1	2	3
0	1	2		
1	7	8	6	4
2	5			
3	13	11	12	

	0	1	2	3
0	1	2	0	0
1	7	8	6	4
2	5	0	0	0
3	13	11	12	0

With the help of nested list multi dimensional array is implemented

len(a) + len(a[0]) + len(a[1]) + len(a[2]) + len(a[3])

4 + 2 + 4 + 1 + 3 = 14

MULTI DIMENSIONAL ARRAYS

Ex

x = [1, 0, [2, 3, 1, [0, 2], 4], 5, 3]

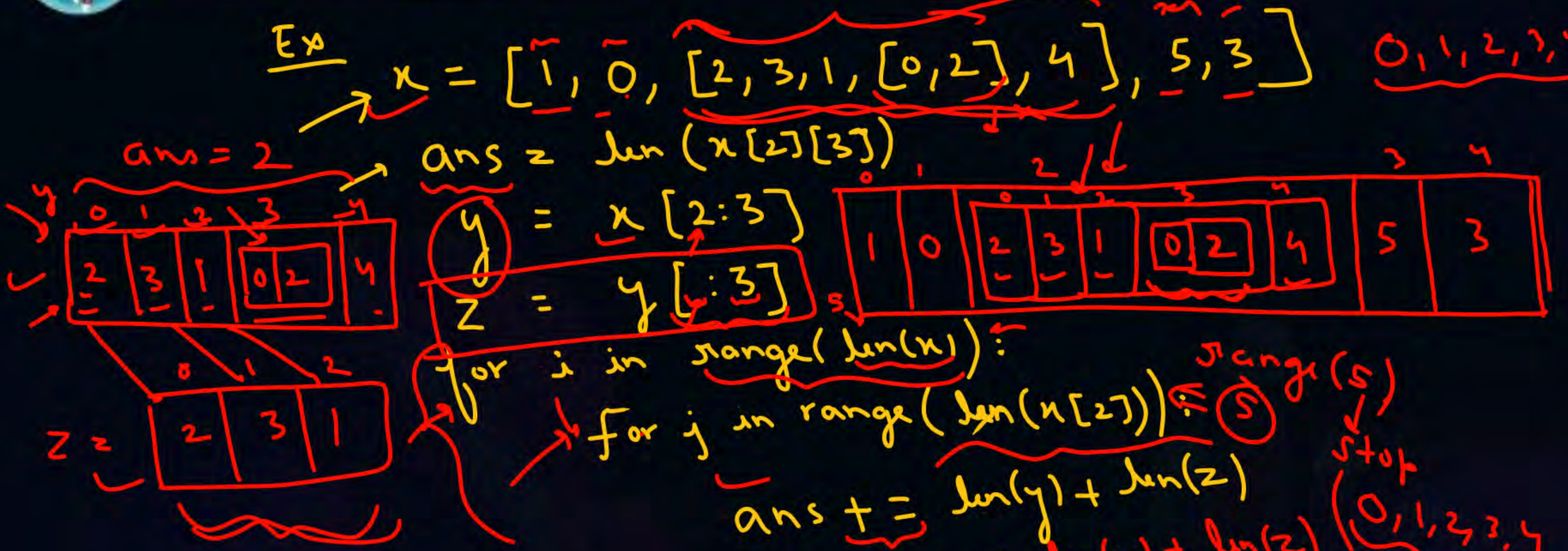
0, 1, 2, 3, 4

ans = 2

ans = len(x[2][3])

y = x[2:3]

z = y[2:3]



for i in range(len(x)):

for j in range(len(x[2])):

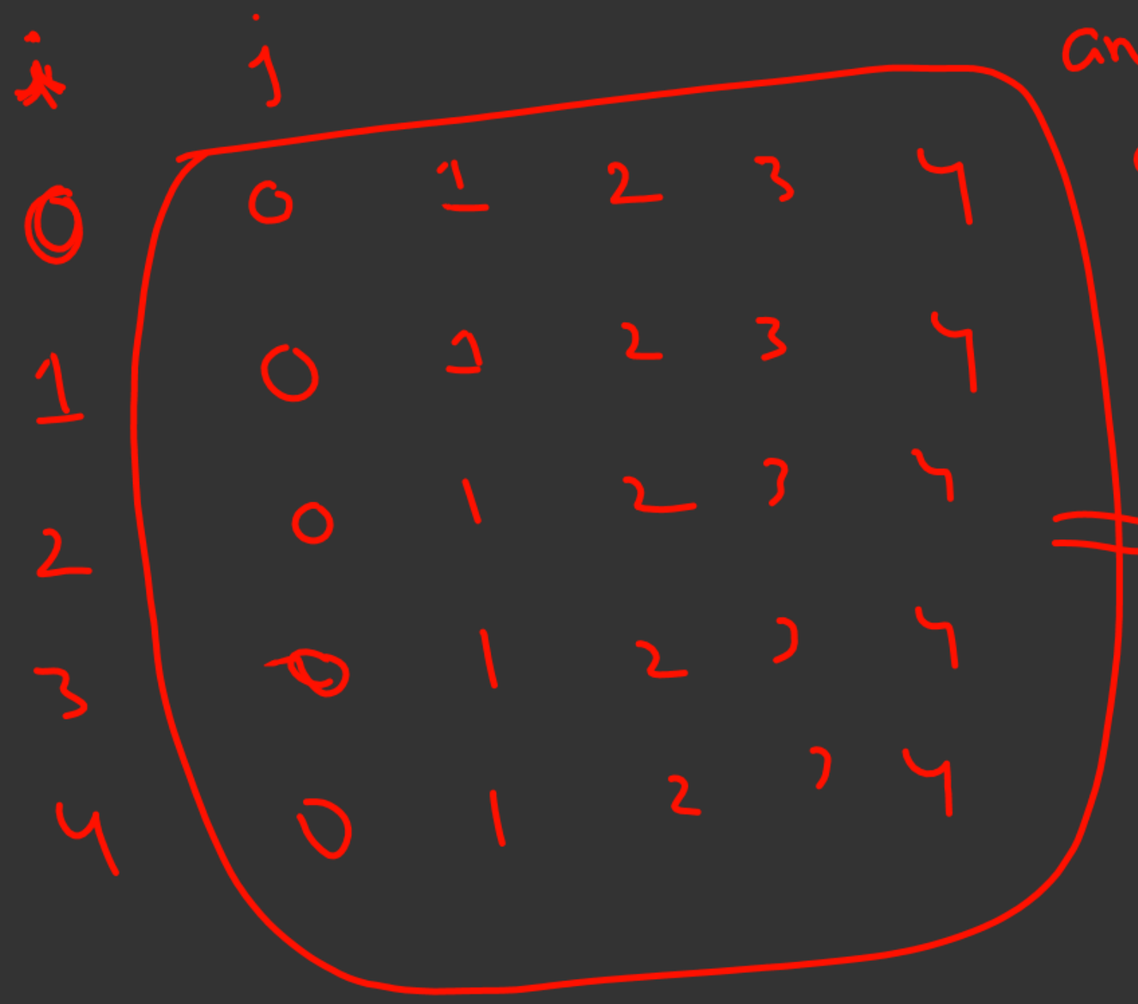
ans += len(y) + len(z)

ans = ans + len(y) + len(z)

5 3 8

range(5) → 0, 1, 2, 3, 4 stop

print(ans)



$ans = ans + \underbrace{len(y) + len(z)}_{8}$

$ans = 0 + (2) +$

$ans = 10$ (18)

$ans = ans + 25 * 8$

$= 2 + 25 * 8$

$= 202$

25

THANK - YOU