Arrays 1D

- D Poela Sum 2) Kadaneis Algo. D max subarong Sum.

$$abb$$
 (5) = $\frac{1}{2} \frac{2}{10} \frac{3}{-4} \frac{4}{6}$

Prefix_Sum (5) = 1 3 13 9 1 15

(p) P[[i] 7 Sum La [o].... a Li] }

1=1, 8=4 Som > P[[4]-P[[0]

ars [3] [4]

On Given a matorix of size nam. Given a quotes Find the sum of the submatorix. You are given Top left & Bottom original	
Find the sum of the submature. You	
are given Top left & Bottom right	
Goodinales.	
Submatrix & Part of a matrix	
Defined by two 2 points,	
0 1 2 3	
0 2 -1 3 2 TL: (2,1)	
0 2 -1 3 2 TL: (2,1) 1 3 2 6 2 BR: (4,2)	
2 10 9 8 2	
3 4 - 2 3 Som = 26	
4 3 2 6 9	
Boule fixe: Traverse through the submodure	
and find sum of for each Overy.	
TC Por each Query: O(MxN)	
$N \leq 10^{\circ}$	
M = 103 TC: C(QMN)	
$0 \le 10^3$ Sc: $0(1)$	

$$P[[n](m]] = P_{8effx} S_{um} mat_{81x}$$

$$P[[i][i] \neq S_{ubmat_{81x}} s_{um} where$$

$$TL \neq (0,u) & BR = (i,i)$$

$$0 \quad 2 \quad -1 \quad 3 \quad 2$$

$$1 \quad 3 \quad 2 \quad 6 \quad 2 \quad P[2][i] \neq 25$$

$$2 \quad 10 \quad 9 \quad 8 \quad 2$$

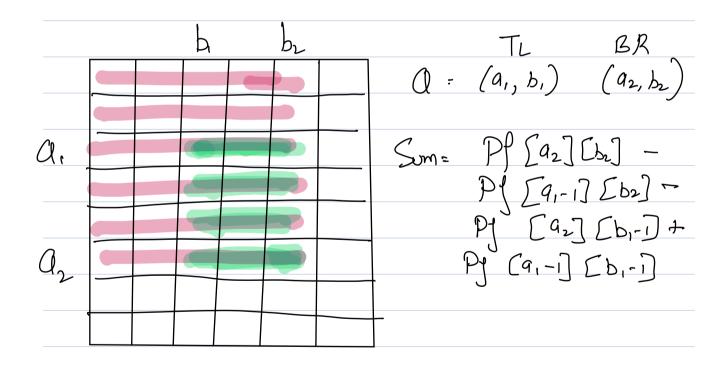
$$3 \quad 4 \quad -1 \quad 2 \quad 3$$

$$4 \quad 3 \quad 2 \quad 6 \quad 9$$

	O	1	2	3	
Ô	2	4	3	2	Pf [3][2]
1	3	2	6	2	
2	10	9	8	2	
3	4	1	2	3	
4	3	2	6	9	
					7

1		7	1	2	3	
Ø	0	2	-1	3	2	
Pr Con Cin	1	3	2	6	2	\prod
1 0. 2 °	2	10	9	8	2	
	3	4	1	2	3	
	4	3	2	6	9	

	0	1	2	3	4	5	
٥							TL \$ (2,2)
1						_	BR 7 (5,4)
2							
3							Sum & PP[5][4] -
4							P((1)(4)-
5							Pj [s] (j) +
6							Py Ci) Ci)
ר							7



$$a_1 = 0$$
 $TL \neq (0, 2)$
 $B \neq (3, 4)$

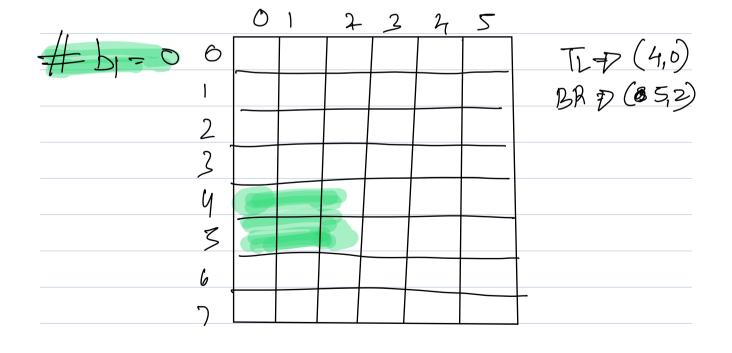
O 1 2 2 4 5 if $(q_1 = -0)$
don't need to deduct

Preed to p

Sub-madaix

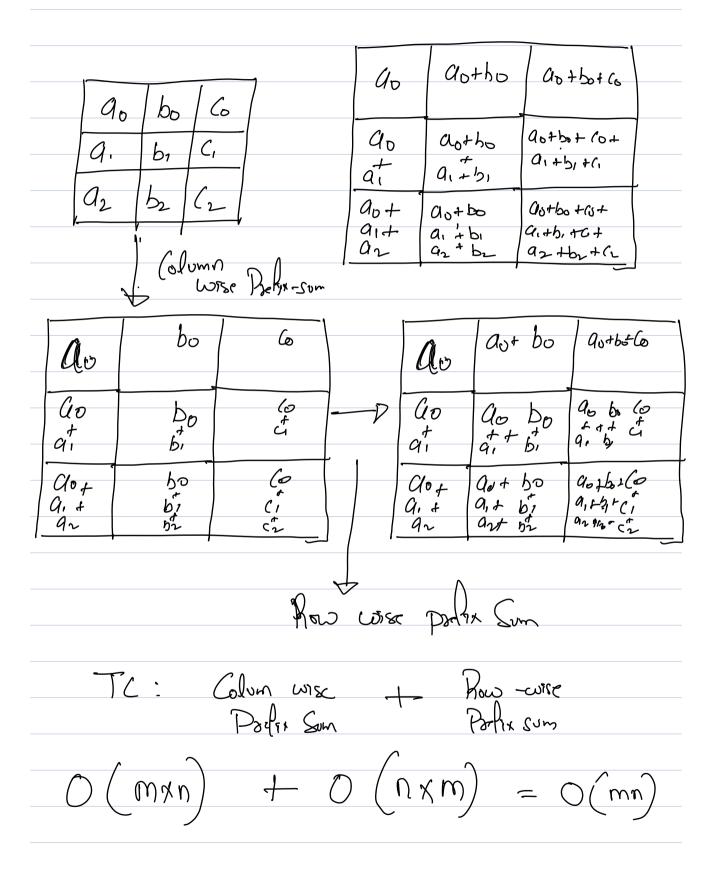
Y

add top



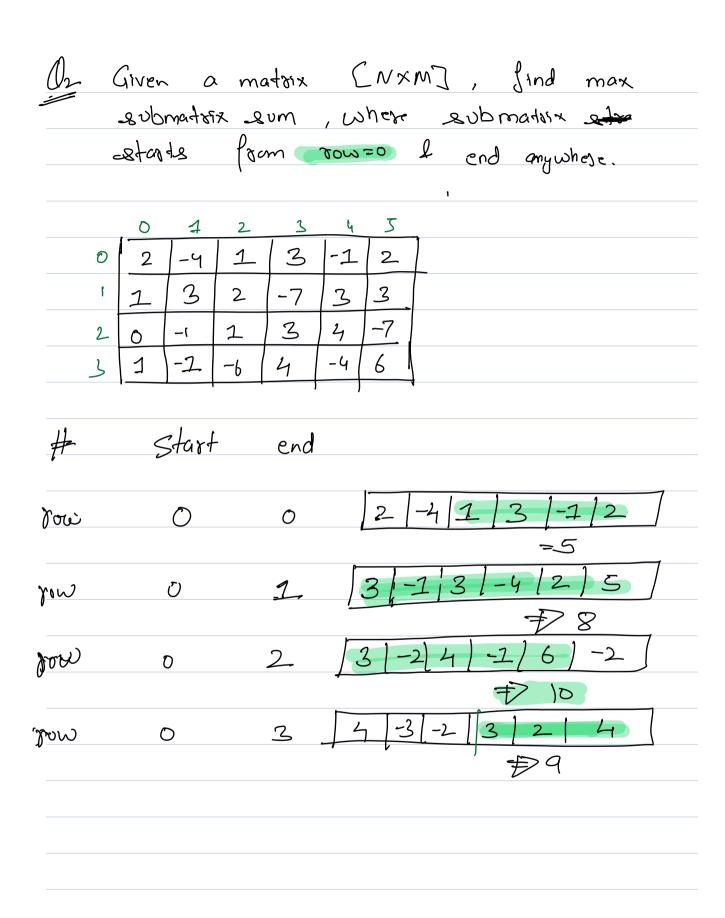
Tc: 0(i)

Sc: D (MXN)

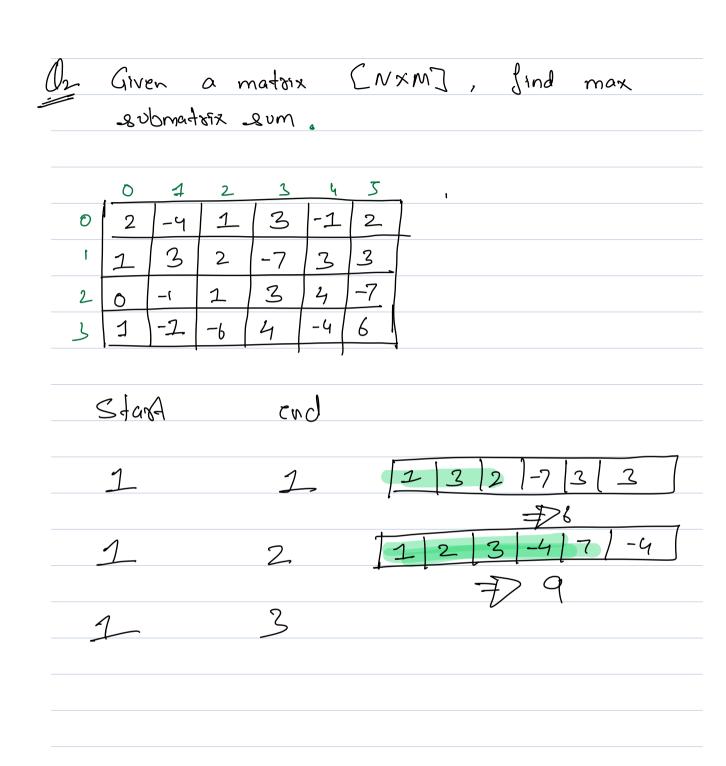


	\cap		•0			\sim
	0	Orgino	Ove	$\overline{\mathcal{T}}$	8 (mn+	-9)
	J	•		•		

02	Given a matrix [NXM], find max
	enpuration sum, where submation also
	estants from row=0 l ends ad row=n-1
	0 1 2 3 4 5
	0 3 2 3 4 6 4
	0 3 2 3 4 -6 4 1 5 5 -5 2 2 -7 2 -4 -3 1 -1 1 4
	2 4 3 1 -1 2 4
	<u></u> ———————————————————————————————————
	-2 4 -15 -3 1 1 Apply Kedane's
	-1 >[8]
	Tc: O(mxn) Sc: O(m)
	Sc: O(m)



Perendo
$S \neq 0$
Pseudo Som [m] => 20g; max-som= Indages, min;
for (intend =0; end <n; ++)="" end="" td="" }<=""></n;>
$\mathcal{O}(m)$ for (int j=0; j/m; j++) \mathcal{L}
Som (i] = Som [i] + arr [ena] [i];
O(m) & int curr_sum & ladone (Sum, m); Max_sum > max (max_sum, curr.sum);
Max-sum => max (max_sum, cost.sum).
Jetvon max-eum;
-
Tc: (nxm) Sc: O(m)
S(:O(m))



for (int S =0; S < n; S ++) {

Sum [m] => Rog:

for (intend=S; end Zn; end ++) }

O(m) for (int j=0; j<m ; j++) L

Som [i] = Som [i] + arr[end][i];

O(m) = int curr_sum = Radone (Som, m);

mar_sum = max (max_sum, curr_sum);

2

detuon max eun;

 $TC : O(n \times n \times m) = O(n^2 m)$

Sc: 0(m)