"Operations on a Matrix"

By Prince Agarwal

[" Hello World "]
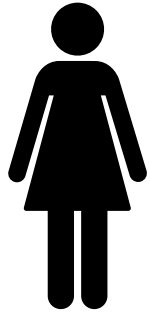
Sakshi

She has a matrix →

No. of Rows : N
No. of Column : M

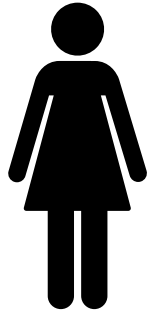**Rows**
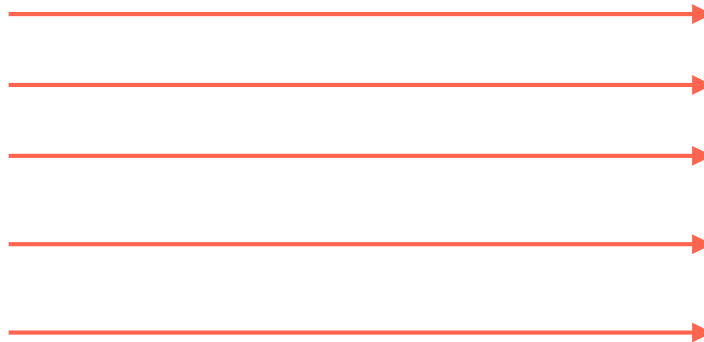
Operations on a Matrix
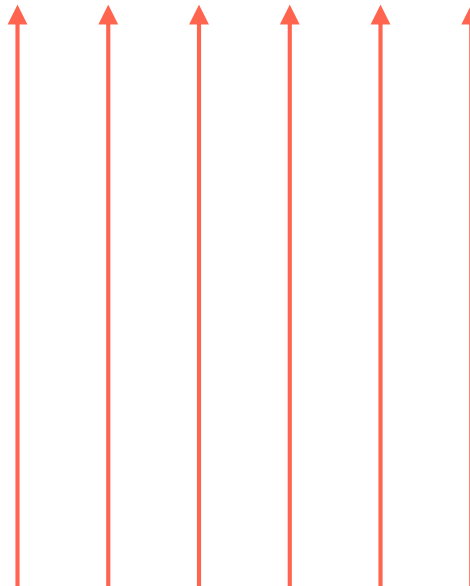
Sakshi

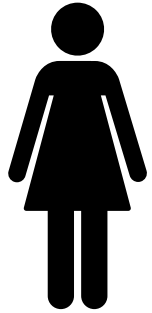She has a matrix →

No. of Rows :   N
No. of Column :   M

Column
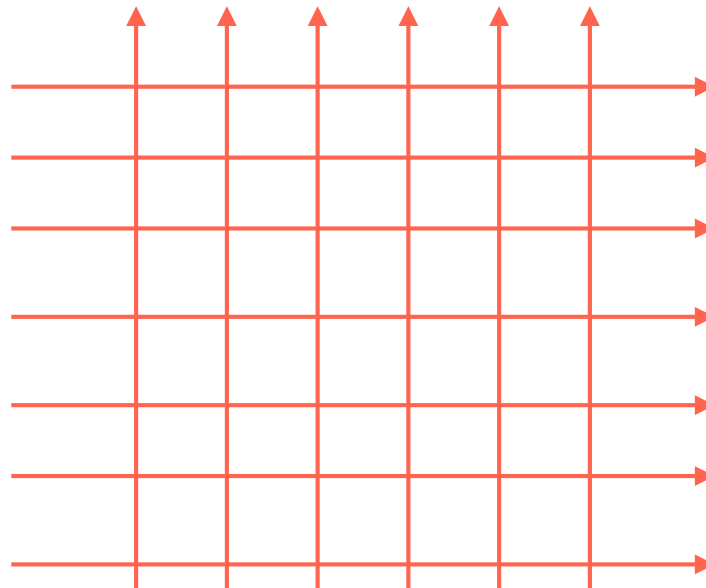
Operations on a Matrix

Sakshi

She has a matrix →

No. of Rows :   N
No. of Column :   M

Matrix = Row * Column

Int a[n][m]

Column

Row

Operations on a Matrix

Nikki   Mansi

Cell (X , Y)

Column

Row
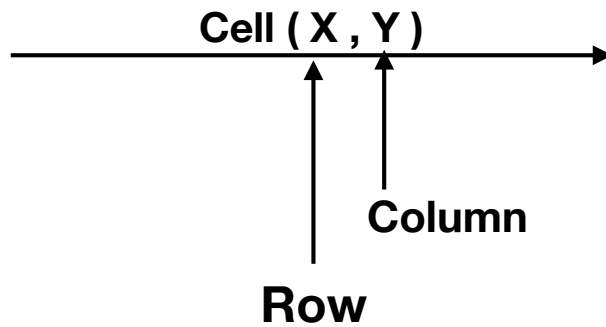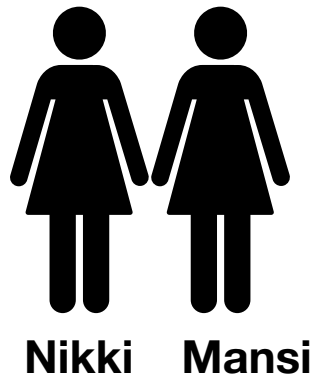
- Add 1 to all cells in the row
- Add 1 to all cells in the column

Lets take an Example :-   **2 * 2 Matrix**

0	0
0	0

1	1
1	2
2	1

Operations on a Matrix

Nikki   Mansi

Cell (X , Y)

Column

Row
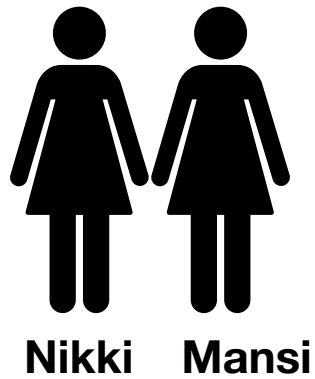
■ Add 1 to all cells in the row

■ Add 1 to all cells in the column

For Query 1 :
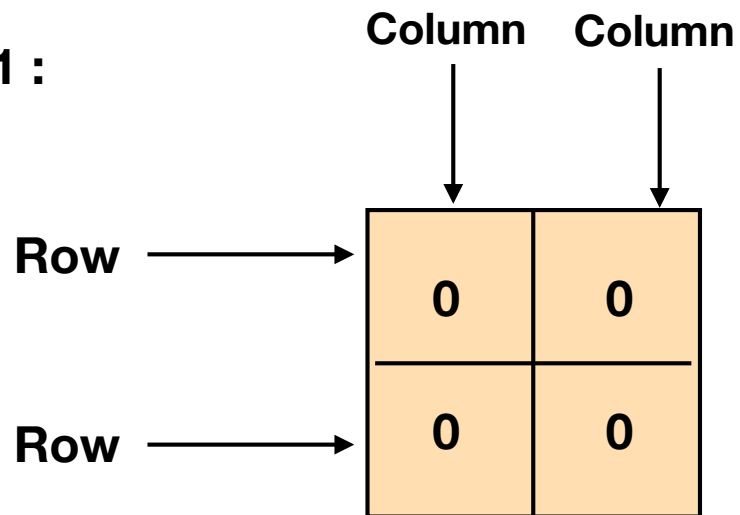
Column   Column

Row

Row

| 0 | 0 |
| 0 | 0 |

1	1
1	2
2	1

Operations on a Matrix

Nikki   **Mansi**

Cell (X , Y)

Column

Row
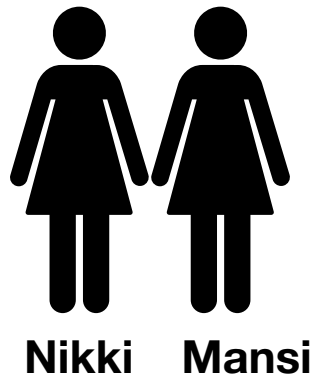
■ **Add 1 to all cells in the row**

■ **Add 1 to all cells in the column**

Finally we got :-

4	3
3	2

No. of odd elements = 2

1	1
1	2
2	1

Now the Approach is

1	1
1	2
2	1

Column

Row

Finally we got :-

4	3
3	2

No. of odd elements = 2

Now the Approach is

First We deal with Rows

		1	1
		1	2
		2	1

Column

Row

Even 1   2 odd

Even   1

Odd   2

Count the number of cuts Here

Finally we got :-

4	3
3	2

No. of odd elements = 2

Operations on a Matrix

Now assume be like this :-

Array size = column size = M

| 8 | 1 | 2 | 0 | 3 |

1	1
1	2
2	1

Column

Row

We firstly count,

no. of odd elements
no. of even elements

| 2 |
| 1 |
| 0 |
| 5 |
| 4 |
| 1 |

Now traverse a loop for M times
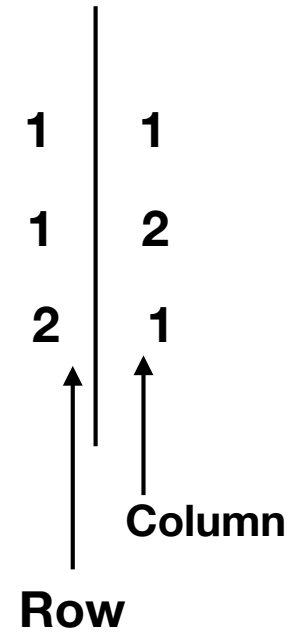
Array size = Row size = N

Odd + even = odd

Odd + odd = even

Even + even = even

Now the Approach is

First We deal with Rows

[1] Even 1   2 **odd [1]**

		1	1
[1] Even	1	1	2
		2	1
[1] Odd	2		

Row ↑   **Column** ↑
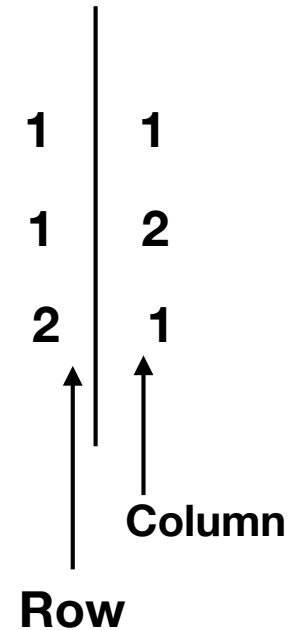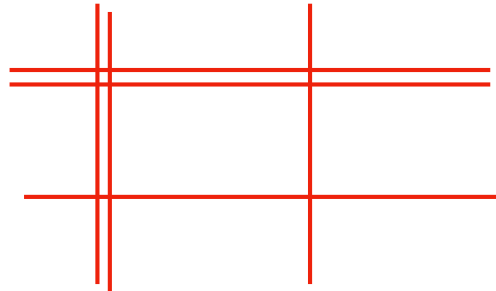
We rum the loops M times
For index =1   Count = 1
For index =2   Count = 2

Finally we got :-

4	3
3	2

No. of odd elements = 2

Take another example

	Even	Odd		Odd
	1	2	3	4
[1] Even 1				
[3] Odd 2				
3				
4				
5				

Ans = 3 + 1+ 3 + 1 = 8

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Hello World

" If you feel any problem then comments in my video
I will reply as soon as possible "

- Prince Agarwal