

Ques: Set Matrix Zeros

Approach-2

0	1	2	3	4	5
F	T	T	F	T	F

col

0	F
1	T
2	F
3	T

row

	0	1	2	3	4	5
0	3	0	0	1	0	3
1	0	0	0	0	0	0
2	4	0	0	4	0	3
3	0	0	0	0	0	0

$$T.C. = O(m \times n)$$

$$A.S. = O(m + n)$$

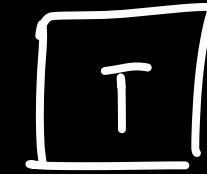
Ques: Set Matrix Zeros

	0	1	2	3	4	5
0	3	0	0	1	0	3
1	0	0	0	0	0	0
2	4	0	0	4	0	3
3	0	0	0	0	0	0

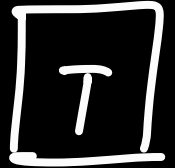
Ques: Set Matrix Zeros

	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	4	0	0	0	7
2	0	0	0	0	0	0
3	0	0	0	0	0	0

$m \times n$



zeroRow



zeroCol

Ques: Spirally Traversing a Matrix

	0	1	2	3	4	5	6
0	1	2	3	4	5	6	7
1	8	9	10	11	12	13	14
2	15	16	17	18	19	20	21
3	22	23	24	25	26	27	28
4	29	30	31	32	33	34	35
5	36	37	38	39	40	41	42



Ques: Spirally Traversing a Matrix

	0	1	2	3	4	5	6
0	1	2	3	4	5	6	7
1	8	9	10	11	12	13	14
2	15	16	17	18	19	20	21
3	22	23	24	25	26	27	28
4	29	30	31	32	33	34	35
5	36	37	38	39	40	41	42

0th row R

Last Col D

Last Row - Reverse L

0th col - Reverse U

Ques: Spirally Traversing

	0	1	2	3	4	5	6
0	1	2	3	4	5	6	7
1	8	9	10	11	12	13	14
2	15	16	17	18	19	20	21
3	22	23	24	25	26	27	28
4	29	30	31	32	33	34	35
5	36	37	38	39	40	41	42

minc maxc

maxr

minr

T.C. = $O(m \times n)$ A.S. = $O(1)$

while() {

for(j = minc to maxc) {
| sout(arr[minr][j]);

minr++

for(i = minr to maxr) {

| sout(arr[i][maxc]);

maxc--

for(j = maxc; j >= minc; j--) {

| sout(arr[maxr][j]);

maxr--

for(i = maxr to minr) {

| sout(arr[i][minc]);

minc++

}

Ques: Multiply Matrices

	0	1
0	1	2
1	4	3

A

×

	0	1
0	-2	1
1	3	0

B

=

	0	1
0	4	1
1	1	4

C

$$C[i][j] = A \text{ ki } i^{\text{th}} \text{ row} \times B \text{ ka } j^{\text{th}} \text{ col}$$

$$= \sum_{k=0}^{n-1} A[i][k] * B[k][j]$$