

Interchange the Row

Problem

Submissions

Leaderboard

Dis

Interchange elements of the **first** and **last** row of a matrix.

Input Format

Sample Input 0

```
3
3
8 1 0 → r1
9 9 6
6 6 4 → r2
```

Sample Output 0

```
6 6 4
9 9 6
8 1 0
```

```
6 6 4
9 9 6
8 1 0
```

| | | | |
|---|---|---|---|
| | 0 | 1 | 2 |
| 0 | 8 | 1 | 0 |
| 1 | 9 | 9 | 6 |
| 2 | 8 | 6 | 4 |

fr = 0

lr = 2

j = 0 < 3 (1) →

j = 1 < 3

j = 2, 1 →

temp = arr[0][0] = 8

arr[0][0] = arr[2][0]

arr[2][0] = temp = 8

```
int fr = 0
int lr = m-1
```

```
for (int i = 0; i < n; i++)
{
    int temp = arr[fr][i];
    arr[fr][i] = arr[lr][i];
    arr[lr][i] = temp;
}
```

Transpose of Matrix

Problem

Submissions

Leaderboard

Discussions

Write a program to find the transpose of a square matrix of size $N \times N$. Transpose of a matrix is obtained by changing rows to columns and columns to rows.

Sample Input 0

```
4
1 1 1 1
2 2 2 2
3 3 3 3
4 4 4 4
```

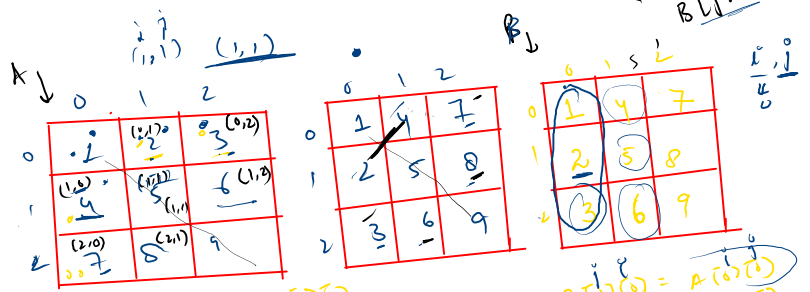
Sample Output 0

```
1 2 3 4
1 2 3 4
1 2 3 4
1 2 3 4
```

$A[i][j] \rightarrow A[j][i]$

for (int i=0; i<n; i++)
 for (int j=0; j<n; j++)
 B[j][i] = A[i][j];

$n=4$

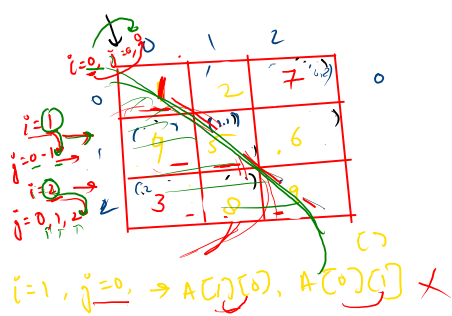


$i=2, j=0 \rightarrow B[0][2] = A[2][0]$
 $j=1 < 3 \rightarrow B[1][2] = A[2][1]$
 $j=2 < 3 \rightarrow B[2][2] = A[2][2]$

$i=1, j=0 < 3 \rightarrow B[0][1] = A[1][0]$
 $j=1 < 3 \rightarrow B[1][1] = A[1][1]$
 $j=2 < 3 \rightarrow B[2][1] = A[1][2]$

$i=0, j=0 < 3 \rightarrow B[0][0] = A[0][0]$
 $j=1 < 3 \rightarrow B[1][0] = A[0][1]$
 $j=2 < 3 \rightarrow B[2][0] = A[0][2]$

$i=0, j=0$
 $\rightarrow A[0][0], A[0][1]$
 $i=0, j=1$
 $\rightarrow A[0][1], A[0][2]$
 $i=0, j=2$
 $\rightarrow A[0][2], A[0][3]$
 $i=0, j=3$



for (int i=0; i<n; i++)
 for (int j=0; j<=i; j++)
 swap(A[i][j], A[j][i]);

$i=0, j=0 \rightarrow A[0][0], A[0][0]$
 $i=1, j=0 \rightarrow A[1][0], A[0][1]$
 $j=1 \rightarrow A[1][1], A[1][1]$
 $i=2, j=0 \rightarrow A[2][0], A[0][2]$
 $j=1 \rightarrow A[2][1], A[1][2]$
 $j=2 \rightarrow A[2][2], A[2][2]$

Reverse Rows of Matrix

```
for(int i=0; i<n; i++)
```

| | | | |
|---------|-------------|-------------|-------------|
| Problem | Submissions | Leaderboard | Discussions |
|---------|-------------|-------------|-------------|

Given a $n \times n$ matrix, reverse each row of the matrix, without taking any extra space and making the changes within the matrix. Print the final matrix such that all elements of the row are tab separated and are in one line.

Input Format

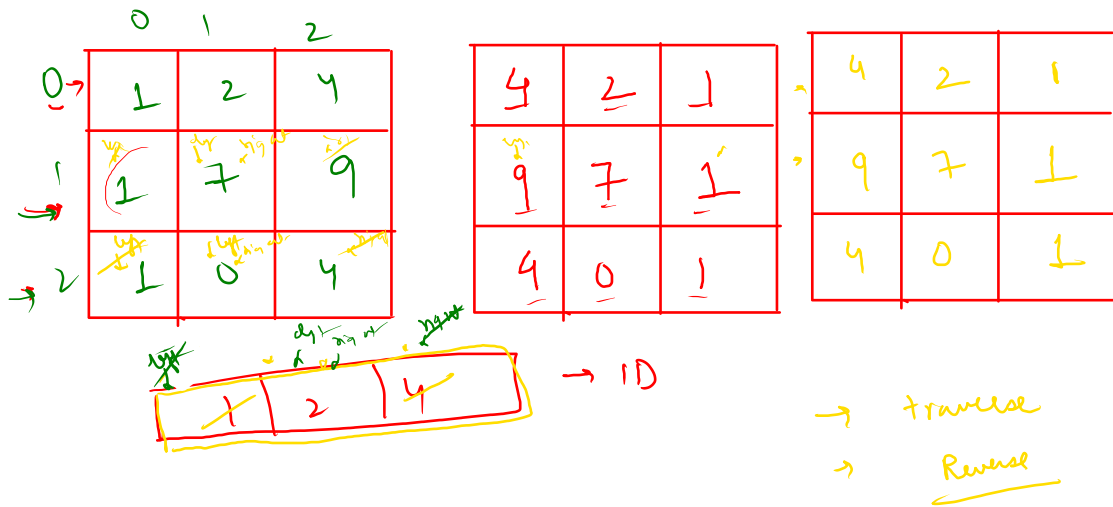
Sample Input 0

```
3
1 2 4
1 7 9
1 0 4
```

Sample Output 0

```
4 2 1
9 7 1
4 0 1
```

```
while(left < right)
```



→ traverse
→ Reverse