HW_Print Alternate Column wise

```
Scanner s = new Scanner(System.in);
int m = s.nextInt();
int n = s.nextInt();

int arr[][] = new int[m][n];

for(int i = 0; i <m;i++){
    for(int j = 0; j <n;j++){
        arr[i][j] = s.nextInt();
    }
}

for(int j = 0; j < n; j+=2){
    for(int i = 0; i < m; i++){
        System.out.print(arr[i][j] + " ");
    }
    System.out.println();
}
```

arr =

	0	1	2
0	1	2	3
1	4	5	6
2	7	8	9

3x3

o/p

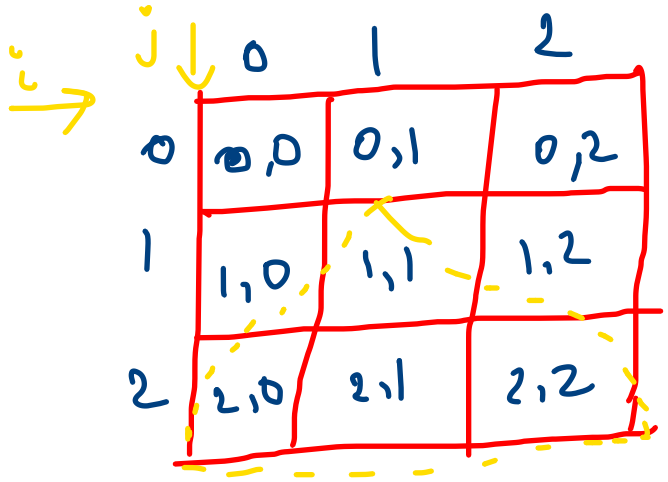
1	4	7
3	6	9

j=0<3 T
i=0<3 T
[0][0]
i=1<3 T
[1][0]
i=2<3 T
[2][0]

j=2<3 T
i=0<3 T
[0][2]
i=1<3 T
[1][2]
i=2<3 T
[2][2]

Tc - O(nxm)

Sc - O(1)



i j

1, 1 i==j

2, 0 i>j

2, 1 i>j

2, 2 i==2

TC - O(nxm)

SC - O(1)

```
// print
for(int i = 0; i < m; i++){
    for(int j = 0; j < n; j++){
        if(i >= j){
            System.out.print(arr[i][j] + " ");
        }
        else{
            System.out.print("0 ");
        }
    }
    System.out.println();
}
```

HW_Traverse Rows with given condition

```
    // print

    for(int i = 0; i < m; i++){
        if(i % 2 == 0){ // even row number
            for(int j = 0; j < n; j++){  // print left to right
                System.out.print(arr[i][j] + " ");
            }
        }
        else{ // odd row number
            for(int j = n-1; j >= 0; j--){
                System.out.print(arr[i][j] + " ");
            }
        }
        System.out.println();
    }
```

3x3

	0	1	2
0	1	2	3
1	4	5	6
2	7	8	9

i = 0 < 3 T

0 % 2 == 0 T

- j = 0 < 3 T, j = 1 < 3 T, j = 2 < 3 T
  [0][0] = 1 [0][1] [0][2]

---

i = 1 < 3 T

1 % 2 == 0 F

j = 2 >= 0 T, 1 >= 0 T, 0 >= 0 T
[1][2] [1][1] [1][0]

---

i = 2 < 3 T

2 % 2 == 0 T

j = 0 < 3

1	2	3
6	5	4
7	8	9

O/P

TC - O(n x m)

SC - O(1)

HW_Print the column wise with given condition

```
    // print

    for(int j = 0; j < n; j++){
        if(j % 2 == 0){ // even row number
            for(int i = 0; i < m; i++){  // print left to right
                System.out.print(arr[i][j] + " ");
            }
        }
        else{ // odd row number
            for(int i = m-1; i >= 0; i--){
                System.out.print(arr[i][j] + " ");
            }
        }
        System.out.println();
    }
```

SC → O(1)

TC → (n x m)