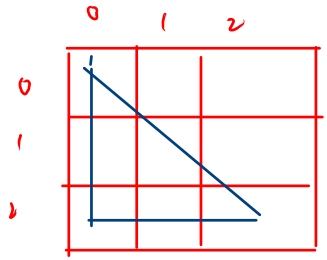
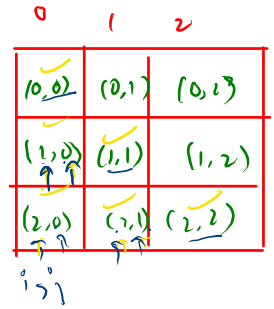
Print Lower triangular matrix

Problem | Submissions | Leaderboard | Discussions

Print the lower triangle of a matrix.





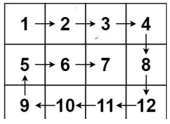
1 2 3 4 5 6 7 8 9 10 11 12

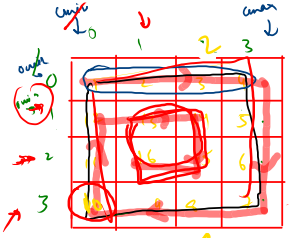
Spiral Matrix 44

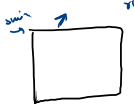
Problem | Submissions | Leaderboard | Discussions

Print all the elements of a m*n matrix in the spiral form as shown below. Note: Start traversing from the – (0th row and 0th column)

Example 2:





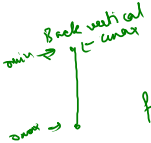


Upper horizontal

for(int j=cmin; j<=cmax; j++)
{ arr(rmin)(j);
rmin++ }

j = 0<=3 → arr(0)(0)
j = 1<=3 → arr(0)(1)
j = 2<=3 → arr(0)(2)
j = 3<=3 → arr(0)(3)

Right vertical



for(int i= rmin; i<=rmax; i++)
{ arr(i)(cmax);
cmax--; }

i = 1<=3 (1) → arr(1)(3)
i = 2<=3 (1) → arr(2)(3)
i = 3<=3 (1) → arr(3)(3)

Front vertical

for(int i=rmax; i>=rmin; i--)
{ arr[i](cmin);
cmin++ }

cmin=0
i = 2>=1 (T)
arr(2)(0)
i = 1 >=1 (T)
arr(1)(0)

(rmin, cmin)

(rmax, cmax)

cmin=0
cmax=3

rmin=0
rmax=2

Bottom horizontal

for(int j=cmax; j>=cmin; j--)
{ arr(rmax)[j]; }

rmax--;

rmax=3, j = 2>=0(T) → arr(3)(2)
j = 1>=0(T) → arr(3)(1)
j = 0>=0(T) → arr(3)(0)

```
while(counter<m*n){
    //          upper horizontal
    for(int j=cmin;j<=cmax;j++){
        System.out.print(arr[rmin][j]+"   ");
        counter++;
    }

    rmin++;
//        back vertical
    for(int i=rmin;i<=rmax;i++){
        System.out.print(arr[i][cmax]+"   ");
        counter++;
    }

    cmax--;
//        bottom horizontal
    for(int j=cmax;j>=cmin;j--){
        System.out.print(arr[rmax][j]+"   ");
        counter++;
    }

    rmax--;
//        front vertical
    for(int i=rmax;i>=rmin;i--){
        System.out.print(arr[i][cmin]+"   ");
        counter++;
    }
    cmin++;

}
```

```
3
4
3 6 9 9
1 8 6 6
3 3 7 1
```

Sample Output 0

```
3   6   9   9   6   1   7   3   3   1   8   6
```