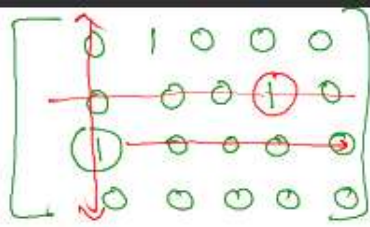
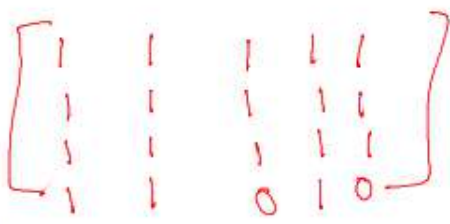


Question

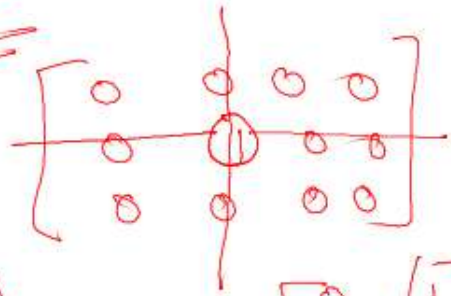


if $arr[i][j] == 1$
 then make that
 row and
 col equal to 1

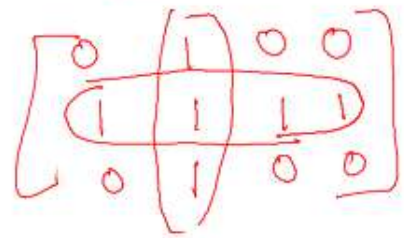
Sol
 $Tc = O(n^2)$



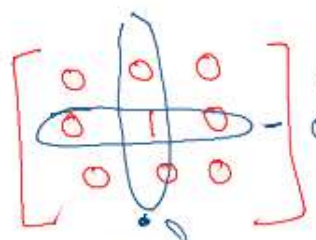
modify by 1



$O(n^2)$



Brute force
 $O(n^3)$



$O(n^3) (O(n) + O(n^2))$
 $= O(n^3)$

for $i = 0$ to $len-1$
 for $j = 0$ to $len-1$
 if $(arr[i][j] == 1)$
 on for (row \rightarrow)
 modify
 +
 on for (col \rightarrow)
 modify
 { { {

The matrix

1	0	0	1
0	0	1	0
0	0	0	0

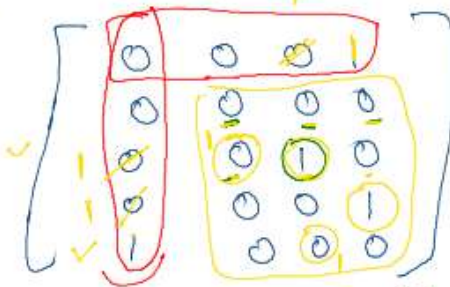
should be changed to following

1	1	1	1
1	1	1	1
1	0	1	1

first row flag = ~~false~~ true
 first col flag = ~~false~~ true

for (^Jfirst row)
 if (arr[0][j] == 1)
 break
 for (first col) of
 if (arr[i][0] == 1)
 break

for (i = 0 to len)
 for (j = 0 to len)
 if (arr[0][j] == 1 ||
 arr[i][0] == 1)
 arr[i][j] = 0;



for (i = 1 to arr[0].len)
 for (j = 1 to arr[i].len)
 if (arr[i][j] == 1)
 arr[i][j] = 1;
 arr[i][j] = 1

$O(n^2)$
 $O(n^2) + O(n^2)$
 $O(n^2)$
 $O(n^2)$

[first row]
 [first col]



```
public static void modify(int[][] arr){
    int row = arr.length;
    int col= arr[0].length;
```

```
    boolean firstrowFlag=false;
    boolean firstcolFlag= false;
```

```
    for(int j=0;j<col;j++){
        if(arr[0][j]==1){
            firstrowFlag=true;
            break;
```

```
    }
```

```
    for(int i=0;i<row;i++){
        if(arr[i][0]==1){
            firstcolFlag=true;
            break;
```

```
    }
```

```
    for(int i=1;i<arr.length;i++){
        for(int j =1;j<arr[0].length;j++){
            if(arr[i][j]==1){
                arr[0][j]=1;
                arr[i][0]=1;
```

```
            }
```

To check
if first row
was 1

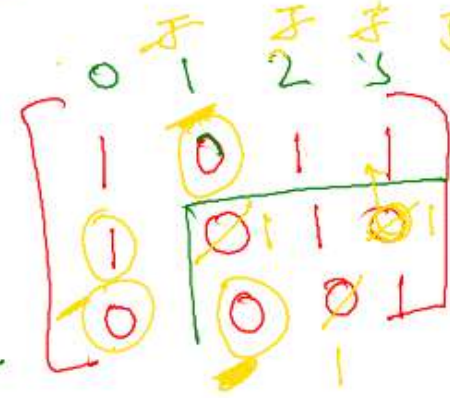
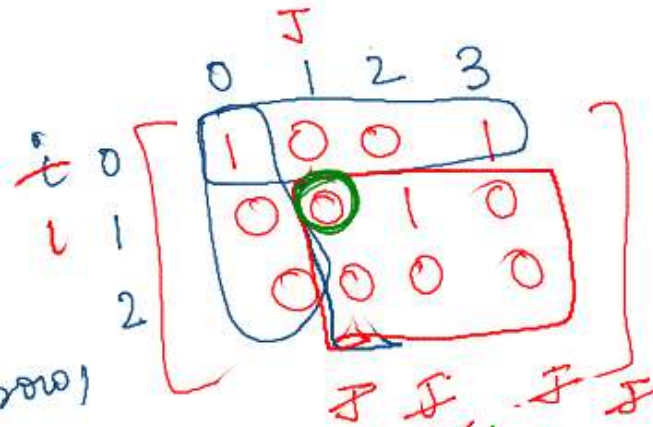
To check first
col was
any 1

To check
rest of
2D array

true
true

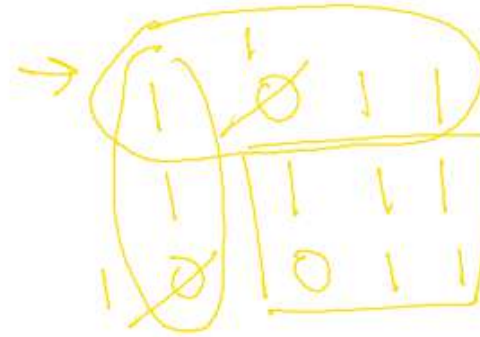
//first row

first col



to modify
rest of
2D array

```
for(int i=1; i<arr.length; i++){
    for(int j=1; j<arr[0].length; j++){
        if(arr[0][j]==1 || arr[i][0]==1){
            arr[i][j]=1;
        }
    }
}
```



first
row
modifier

```
if(firstrowFlag){
    for(int j=0; j<col; j++){
        arr[0][j]=1;
    }
}
```

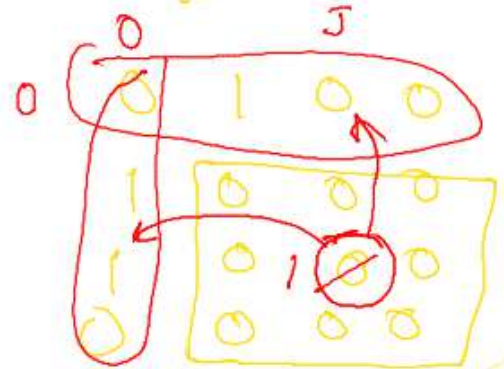
first
col
modifier

```
if(firstcolFlag){
    for(int i=0; i<row; i++){
        arr[i][0]=1;
    }
}
```



arr[0][j]

arr[i][0]



if (arr[i][0]==1 ||
arr[0][j]==1)

{ arr[i][j]=1;

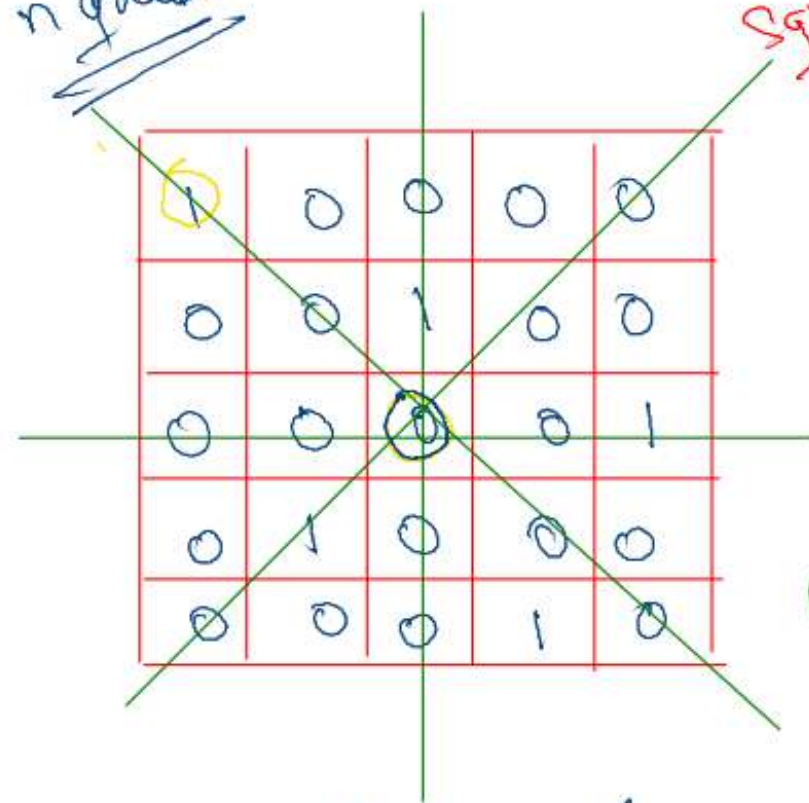
1.

Que

n queens

Square matrix of

1 → there is queen
0 → no queen



any other diagonal has
1 or not

[danger]

Danger
no queens

four (to & loop)

arr[i][j] == 1
return true

if (true) {
 return "danger"

}
return "no queens";

