

Previous: N Queens

2. $s \rightarrow \text{"geeks"}_{01234} \rightarrow \begin{matrix} g \\ e \\ e \\ k \\ s \end{matrix}$

\Rightarrow for (
 $s.charAt(i);$
 $syso \ln();$)

$s.length() != r.length()$

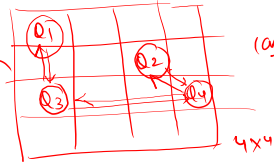
3. $s \rightarrow \text{"geeks"} \uparrow$
 $r \rightarrow \text{"geeps"};$

N Queens: check:

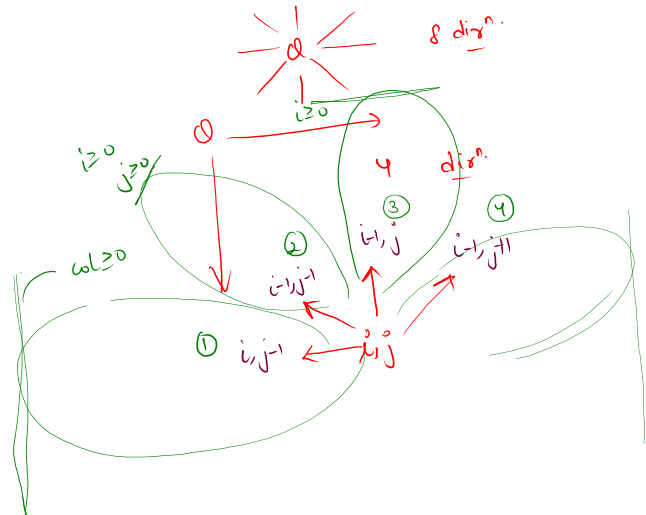
$N=4$

N Queens
 $N \times N$ Board.

"N Queens"
 All Queens are safe.



atmax 1 Queen is
 (any). not safe
 "danger."



$col < n$
 $\& i \geq 0$

Count All Palindromic Rows

Problem	Submissions	Leaderboard	Discussions
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Take a 2-D array of size $m \times n$ as input and count the number of Palindromic Rows present in the 2-D array.

Sample Input 0

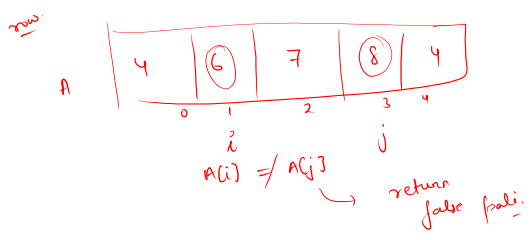
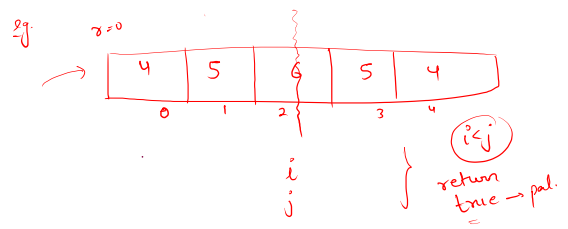
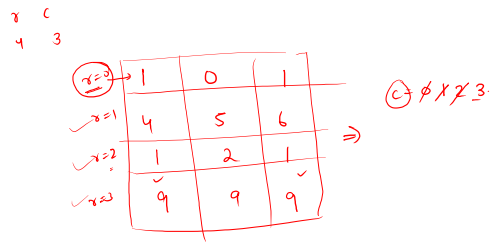
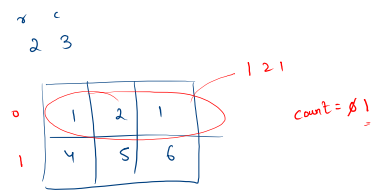
```

2 3
1 2 1
4 5 6

```

Sample Output 0

1



```

import java.util.*;

public class Solution {
    public static boolean isPalindrome(int [][] A, int row){
        //return true if this row is palindrome else false

        int i = 0;
        int j = A[0].length-1;

        while(i < j){
            if(A[row][i] != A[row][j]){
                return false;
            }
            i++;
            j--;
        }
        return true;
    }

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int r = scn.nextInt();
        int c = scn.nextInt();
        int [][] A = new int[r][c];
        for(int i = 0; i < r; i++){
            for(int j = 0; j < c; j++){
                A[i][j] = scn.nextInt();
            }
        }

        int count = 0;
        for(int row = 0; row < r; row++){
            // in one iteration u hav to focus only on individual row
            if(isPalindrome(A, row)){
                count++;
            }
        }

        System.out.println(count);
    }
}

```

Rotation Check In Matrix

Problem

Submissions

Leaderboard

Discussions

Check whether all rows of a matrix are circular rotations of each other.

Given a matrix of $n \times n$ size, the task is to find whether all rows are circular rotations of each other or not.

Sample Input 0

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

Sample Output 0

YES

$s \rightarrow "123"$

$s \rightarrow "123123"$

$x \rightarrow "312"$

$\frac{0}{8} \rightarrow 123123$

$\frac{1}{8} \rightarrow 312312$

(2) $s \rightarrow "123123"$
 $x \rightarrow "312"$
 $\frac{0}{8} \rightarrow 123123$
 $\frac{1}{8} \rightarrow 312312$

$s \rightarrow "123"$
 $x \rightarrow "312"$
 $\frac{0}{8} \rightarrow 123123$
 $\frac{1}{8} \rightarrow 312312$

$n \times 0.1 \text{ length}$
 $s \rightarrow "231231"$

```
import java.io.*;
import java.util.*;

public class Solution {
    public static String checkMatrix(int [][] A){
        int n = A.length;
        String s = "";
        //form s
        for(int j = 0; j < n; j++){
            s = s + A[0][j];
        }

        s = s + s;
        for(int row = 1; row < n; row++){
            String curr = "";
            for(int col = 0; col < n; col++){
                curr = curr + A[row][col];
            }

            if(s.indexOf(curr) == -1){
                return "NO";
            }
        }

        return "YES";
    }

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();

        int [][] A = new int[n][n];
        for(int i = 0; i < n; i++){
            for(int j = 0; j < n; j++){
                A[i][j] = scn.nextInt();
            }
        }

        String ans = checkMatrix(A);
        System.out.println(ans);
    }
}
```

```
import java.util.*;
public class Main
{
    public static void main(String[] args) {
        String s = "123123";
        String curr = "789";

        int ans = s.indexOf(curr);
        System.out.println(ans);
    }
}
```

$s \rightarrow "123"$

$n=3$

$s \rightarrow "123"$
 $x \rightarrow "312"$

$s \rightarrow "123"$
 $A[0][1]$
 $A[0][2]$

$s \rightarrow "123"$

Search in a sorted matrix

Given a $m \times n$ matrix and you are also given an integer x . Each row and column of the matrix is sorted in increasing order. You are required to find x in the matrix and print its location int (row, col) format as discussed in output format below. In case an element is not found, print "Not Found".

```
4
5
1 4 7 11 15
2 5 8 12 19
3 6 9 16 22
10 13 14 17 24
```

$x = 14$

	0	1	2	3	4
0	1	4	7	11	15
1	2	5	8	12	19
2	3	6	9	16	22
3	10	13	14	17	24

Top Right

x me
 14 15
 14 11
 14 12
 14 16
 14 9

(3, 2)

$n \times m$

$$O(r+c) = O(2r) = O(r) = O(n)$$

Input: `mat[4][4] = { {10, 20, 30, 40}, x=29`
`{15, 25, 35, 45},`
`{27, 29, 37, 48},`
`{32, 33, 39, 50}}`

Output: Found at (2, 1)

```
5 4
1 3 5 7
10 11 16 20
23 30 34 60
62 63 65 68
71 72 74 80
65
```

	0	1	2	3
0	1	3	5	7
1	10	11	16	20
2	23	30	34	60
3	62	63	65	68
4	71	72	74	80

$x = 48$

5x4