https://course.acciojob.com/idle?question=4898baf8-ed87-4c99-a19d-64bc7e98638e

- MEDIUM
- Max Score: 40 Points

Spirally traversing a matrix

Given a matrix of size `r*c`, where `r` is number of rows and `c` is number of columns. Traverse the matrix in spiral form.

Input Format

Input consists of two lines

The first line contains two integers `r` and `c` which denotes number of rows and columns respectively.

The next `r` lines contains `c` spaced integers, which are the elements of the matrix.

Output Format

Print the spiral matrix.

Example 1

Input

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

Output

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

Explanation:

We iterate spirally and print each element.

Example 2

Input

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

Output

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

Explanation:

We iterate spirally and print each element.

Constraints

1 <= r, c <= 100

0 <= matrix[i][j] <= 100

Topic Tags

- **2D-Arrays**

My code

```
// n java
import java.util.*;
import java.lang.*;
import java.io.*;

public class Main
{
        public static void main (String[] args) throws
java.lang.Exception
        {
                //your code here
         Scanner s=new Scanner(System.in);
      int r=s.nextInt();
   int c=s.nextInt();

    int mat[][]=new int[r][c];
      for(int i=0;i<r;i++)
        for(int j=0;j<c;j++)
          mat[i][j]=s.nextInt();
// base case
        if (mat == null || mat.length == 0) {
```

```
    return;
}

int top = 0, bottom = r- 1;
int left = 0, right =c- 1;

while (true)
{
    if (left > right) {
        break;
    }

    // print top row
    for (int i = left; i <= right; i++) {
        System.out.print(mat[top][i] + " ");
    }
    top++;

    if (top > bottom) {
        break;
    }

    // print right column
    for (int i = top; i <= bottom; i++) {
        System.out.print(mat[i][right] + " ");
    }
    right--;

    if (left > right) {
        break;
```

```
            }

            // print bottom row
            for (int i = right; i >= left; i--) {
                System.out.print(mat[bottom][i] + " ");
            }
            bottom--;

            if (top > bottom) {
                break;
            }

            // print left column
            for (int i = bottom; i >= top; i--) {
                System.out.print(mat[i][left] + " ");
            }
            left++;
        }

        }
}
```