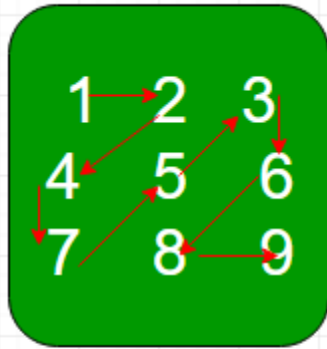


Print matrix in diagonal pattern

Given a square matrix `mat[][]` of `n*n` size, the task is to determine the **diagonal pattern** which is a linear arrangement of the elements of the matrix as depicted in the following example:



The output is:
1 2 4 7 5 3 6 8 9

Example 1:

Input:

```
n = 3
mat[][] = {{1, 2, 3},
            {4, 5, 6},
            {7, 8, 9}}
```

Output: {1, 2, 4, 7, 5, 3, 6, 8, 9}

Explanation:

Starting from (0, 0): 1,
Move to the right to (0, 1): 2,
Move diagonally down to (1, 0): 4,
Move diagonally down to (2, 0): 7,
Move diagonally up to (1, 1): 5,

```
Move diagonally up to (0, 2): 3,  
Move to the right to (1, 2): 6,  
Move diagonally up to (2, 1): 8,  
Move diagonally up to (2, 2): 9  
There for the output is {1, 2, 4, 7, 5, 3, 6, 8, 9}.
```

Example 2:

Input:

```
n = 2  
mat[][] = {{1, 2},  
            {3, 4}}
```

Output: {1, 2, 3, 4}

Explanation:

```
Starting from (0, 0): 1,  
Move to the right to (0, 1): 2,  
Move diagonally down to (1, 0): 3,  
Move to the right to (1, 1): 4  
There for the output is {1, 2, 3, 4}.
```

Your Task:

You only need to implement the given function **matrixDiagonally()** which takes a matrix **mat[][]** of size **n*n** as an input and returns a list of integers containing the matrix diagonally. Do not read input, instead use the arguments given in the function.

Expected Time Complexity: $O(n*n)$.

Expected Auxiliary Space: $O(1)$.

Constraints:

$1 \leq n \leq 100$

$-100 \leq \text{elements of matrix} \leq 100$