54. Spiral Matrix

<https://leetcode.com/problems/spiral-matrix/>

1. **Listen**

**Problem Statement:**

Given an **m x n matrix**, return all elements of the **matrix** in **spiral order**.

**Input:**

m x n matrix

**Goal:**

order matrix elements into spiral order

**Return:**

a list of matrix elements in spiral order

1. **Examples**

Example 1:

A picture containing text, crossword puzzle

Description automatically generated

**Input:** matrix = [[1,2,3],[4,5,6],[7,8,9]]

**Output:** [1,2,3,6,9,8,7,4,5]

Shape

Description automatically generated

**Input:** matrix = [[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]

**Constraints:**

* m and n can be different values
  + m == matrix.length, 1 <= m
  + n == matrix[i].length, n <= 10
* -100 <= matrix[i][j] <= 100

**Test Cases:**

* Larger m than n
* Larger n than m
* Same size m and n
* 1x1
* 3x3
* 10x10

1. **Brute Force**
2. **Optimize**
3. **Walkthrough**
4. **Implement**
5. **Test**