

# Largest Local Values in a Matrix

You are given an  $n \times n$  integer matrix grid.

Generate an integer matrix maxLocal of size  $(n - 2) \times (n - 2)$  such that:

- maxLocal[i][j] is equal to the **largest** value of the  $3 \times 3$  matrix in grid centered around row  $i + 1$  and column  $j + 1$ .

In other words, we want to find the largest value in every contiguous  $3 \times 3$  matrix in grid.

Return *the generated matrix*.

**Example 1:**

9	9	8	1
5	6	2	6
8	2	6	4
6	2	2	2

9	9
8	6

**Input:** grid = [[9,9,8,1],[5,6,2,6],[8,2,6,4],[6,2,2,2]]

**Output:** [[9,9],[8,6]]

**Explanation:** The diagram above shows the original matrix and the generated matrix.

Notice that each value in the generated matrix corresponds to the largest value of a contiguous  $3 \times 3$  matrix in grid.

**Example 2:**

1	1	1	1	1
1	1	1	1	1
1	1	2	1	1
1	1	1	1	1
1	1	1	1	1

2	2	2
2	2	2
2	2	2

**Input:** grid = [[1,1,1,1,1],[1,1,1,1,1],[1,1,2,1,1],[1,1,1,1,1],[1,1,1,1,1]]

**Output:** [[2,2,2],[2,2,2],[2,2,2]]

**Explanation:** Notice that the 2 is contained within every contiguous 3 x 3 matrix in grid.

**Constraints:**

- $n == \text{grid.length} == \text{grid}[i].\text{length}$
- $3 \leq n \leq 100$
- $1 \leq \text{grid}[i][j] \leq 100$