3242. Design Neighbor Sum Service

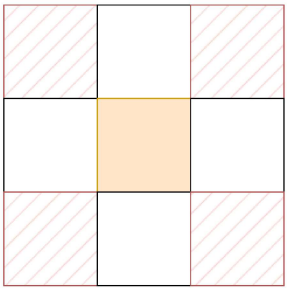
Solved ●

Easy Topics Hint

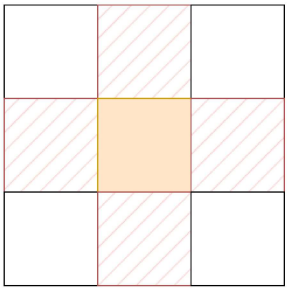
You are given a `n x n` 2D array `grid` containing **distinct** elements in the range `[0, n^2 - 1]`.

Implement the `NeighborSum` class:

- `NeighborSum(int [][]grid)` initializes the object.
- `int adjacentSum(int value)` returns the **sum** of elements which are adjacent neighbors of `value`, that is either to the top, left, right, or bottom of `value` in `grid`.
- `int diagonalSum(int value)` returns the **sum** of elements which are diagonal neighbors of `value`, that is either to the top-left, top-right, bottom-left, or bottom-right of `value` in `grid`.



Diagonal to Middle Cell



Adjacent to Middle Cell

Example 1:

Input:

["NeighborSum", "adjacentSum", "adjacentSum", "diagonalSum", "diagonalSum"]

[[[[0, 1, 2], [3, 4, 5], [6, 7, 8]]], [1], [4], [4], [8]]

Output: [null, 6, 16, 16, 4]

Explanation:

0	1	2
3	4	5
6	7	8

- The adjacent neighbors of 1 are 0, 2, and 4.
- The adjacent neighbors of 4 are 1, 3, 5, and 7.
- The diagonal neighbors of 4 are 0, 2, 6, and 8.
- The diagonal neighbor of 8 is 4.

Example 2:

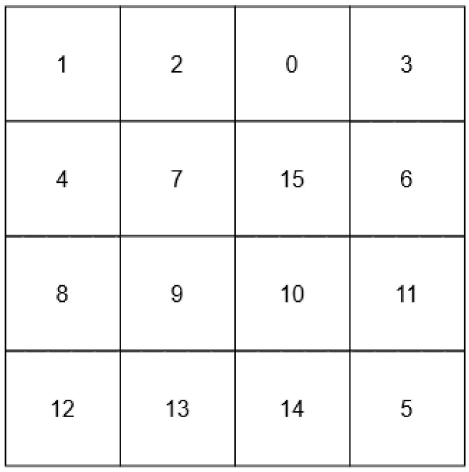
Input:

["NeighborSum", "adjacentSum", "diagonalSum"]

[[[[1, 2, 0, 3], [4, 7, 15, 6], [8, 9, 10, 11], [12, 13, 14, 5]]], [15], [9]]

Output: [null, 23, 45]

Explanation:



- The adjacent neighbors of 15 are 0, 10, 7, and 6.
- The diagonal neighbors of 9 are 4, 12, 14, and 15.

Constraints:

- `3 <= n == grid.length == grid[0].length <= 10`
- `0 <= grid[i][j] <= n^2 - 1`
- All `grid[i][j]` are distinct.
- `value` in `adjacentSum` and `diagonalSum` will be in the range `[0, n^2 - 1]`.
- At most `2 * n^2` calls will be made to `adjacentSum` and `diagonalSum`.

Seen this question in a real interview before? 1/5

Yes No

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Topics

Hint 1

Hint 2

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