

883. Projection Area of 3D Shapes

Solved ●

Easy Topics

You are given an $n \times n$ grid where we place some $1 \times 1 \times 1$ cubes that are axis-aligned with the x , y , and z axes.

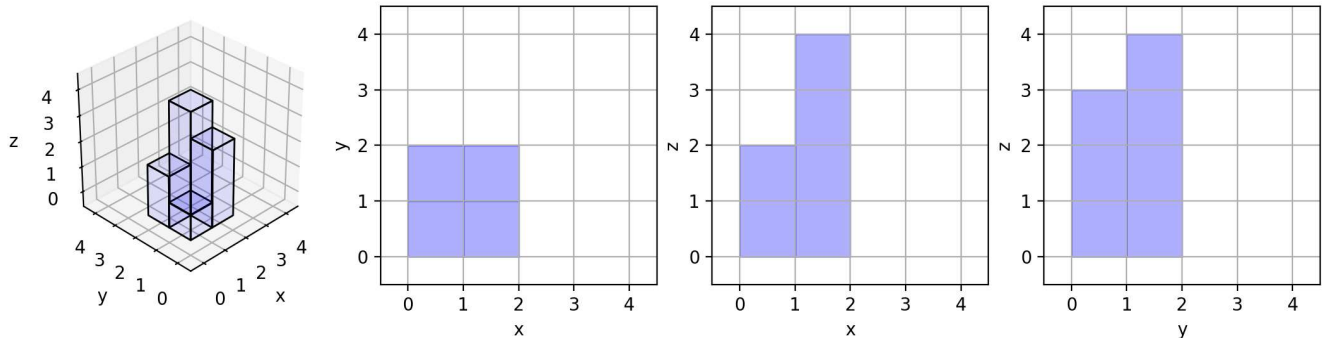
Each value $v = \text{grid}[i][j]$ represents a tower of v cubes placed on top of the cell (i, j) .

We view the projection of these cubes onto the xy , yz , and zx planes.

A **projection** is like a shadow, that maps our **3-dimensional** figure to a **2-dimensional** plane. We are viewing the "shadow" when looking at the cubes from the top, the front, and the side.

Return the total area of all three projections.

Example 1:



Input: `grid = [[1,2],[3,4]]`

Output: 17

Explanation: Here are the three projections ("shadows") of the shape made with each axis-aligned plane.

Example 2:

Input: `grid = [[2]]`

Output: 5

Example 3:

Input: `grid = [[1,0],[0,2]]`

Output: 8

Constraints:

- $n == \text{grid.length} == \text{grid}[i].\text{length}$
- $1 \leq n \leq 50$
- $0 \leq \text{grid}[i][j] \leq 50$

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

Yes No

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Topics

Discussion (24)