3128. Right Triangles

Description

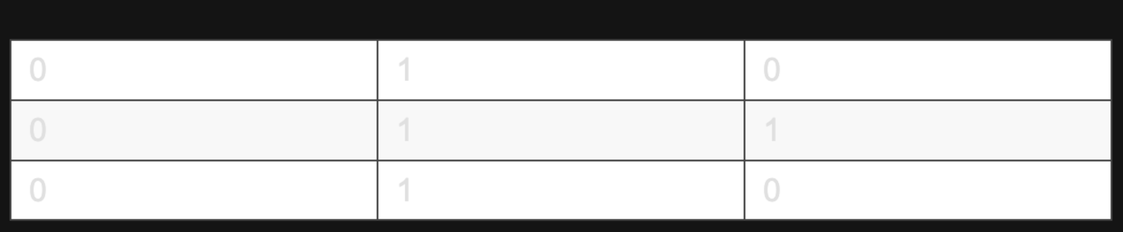
You are given a 2D boolean matrix `grid`.

Return an integer that is the number of **right triangles** that can be made with the 3 elements of `grid` such that **all** of them have a value of 1.

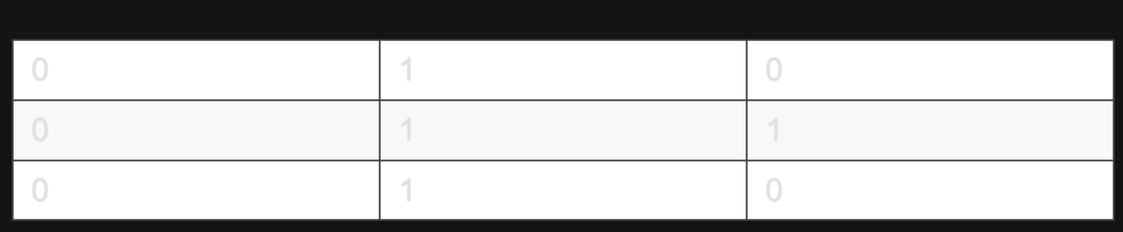
Note:

- A collection of 3 elements of `grid` is a **right triangle** if one of its elements is in the **same row** with another element and in the **same column** with the third element. The 3 elements do not have to be next to each other.

Example 1:



0	1	0
0	1	1
0	1	0



0	1	0
0	1	1
0	1	0

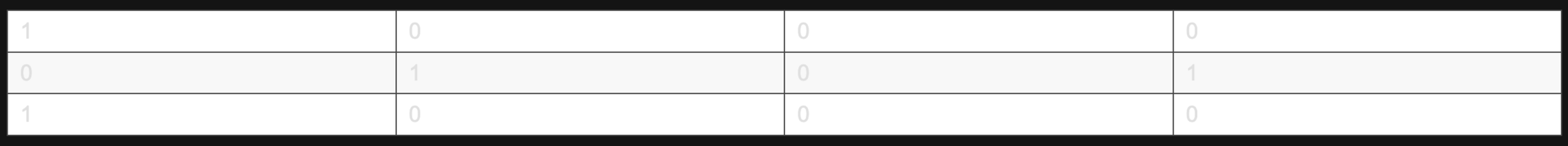
Input: grid = [[0,1,0],[0,1,1],[0,1,0]]

Output: 2

Explanation:

There are two right triangles.

Example 2:



1	0	0	0
0	1	0	1
1	0	0	0

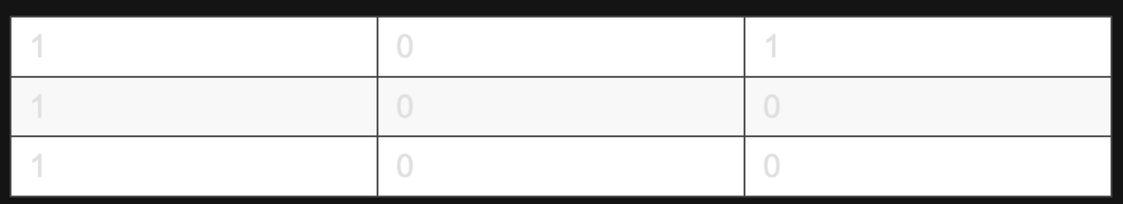
Input: grid = [[1,0,0,0],[0,1,0,1],[1,0,0,0]]

Output: 0

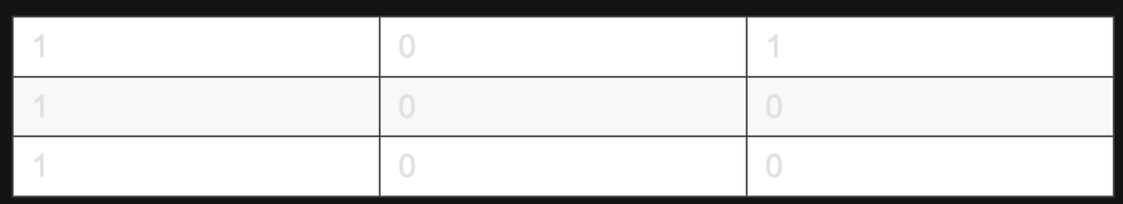
Explanation:

There are no right triangles.

Example 3:



1	0	1
1	0	0
1	0	0



1	0	1
1	0	0
1	0	0

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

Output: 2

Explanation:

There are two right triangles.

Constraints:

- `1 <= grid.length <= 1000`
- `1 <= grid[i].length <= 1000`
- `0 <= grid[i][j] <= 1`