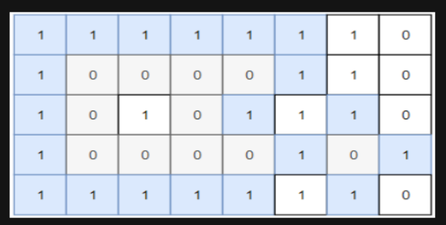
1254. Number of Closed Islands

Description

Given a 2D `grid` consists of `0s` (land) and `1s` (water). An *island* is a maximal 4-directionally connected group of `0s` and a *closed island* is an island **totally** (all left, top, right, bottom) surrounded by `1s.`

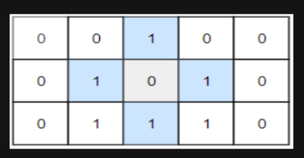
Return the number of *closed islands*.

Example 1:



```
Input: grid = [[1,1,1,1,1,1,1,0],[1,0,0,0,0,1,1,0],[1,0,1,0,1,1,1,0],[1,0,0,0,0,1,0,1],[1,1,1,1,1,1,1,0]]
Output: 2
Explanation:
Islands in gray are closed because they are completely surrounded by water (group of 1s).
```

Example 2:



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

Example 3:

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

Constraints:

- `1 <= grid.length, grid[0].length <= 100`
- `0 <= grid[i][j] <=1`