1568 Minimum Number of Days to Disconnect Island - 11/08/24 (hard)

but quite easy

1568. Minimum Number of Days to Disconnect Island

Hard | Topics | Companies | Hint

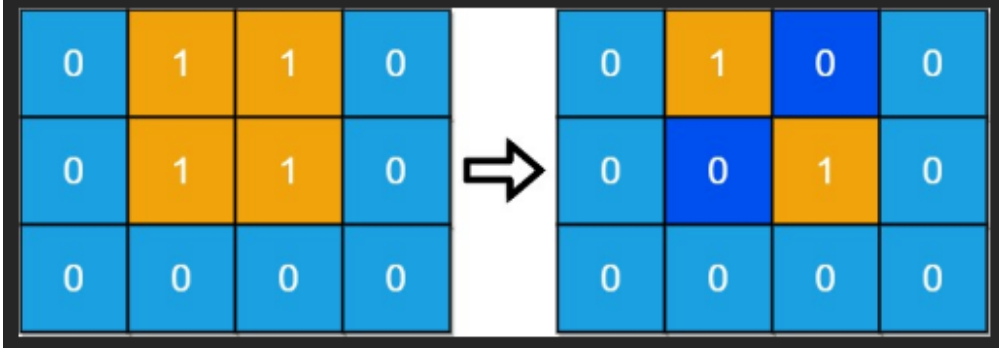
You are given an `m x n` binary grid `grid` where `1` represents land and `0` represents water. An **island** is a maximal **4-directionally** (horizontal or vertical) connected group of `1`'s.

The grid is said to be **connected** if we have **exactly one island**, otherwise is said **disconnected**.

In one day, we are allowed to change **any** single land cell `(1)` into a water cell `(0)`.

Return *the minimum number of days to disconnect the grid.*

Example 1:



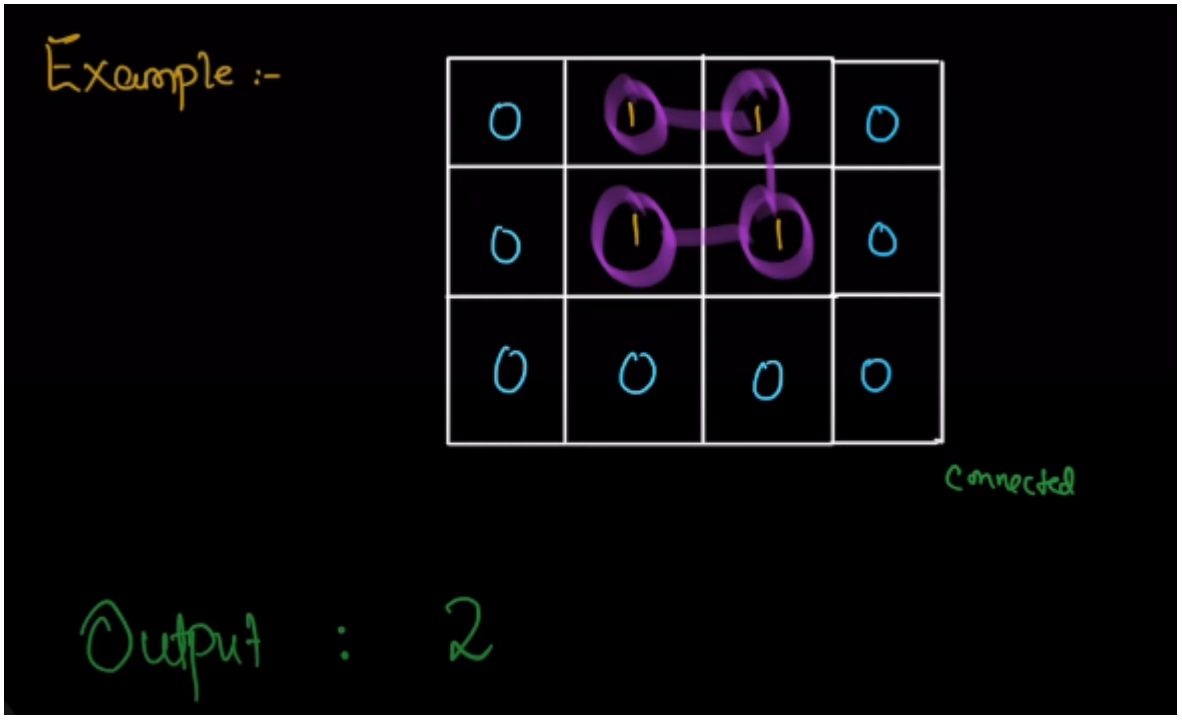
Input: grid = [[0,1,1,0],[0,1,1,0],[0,0,0,0]]

Output: 2
Explanation: We need at least 2 days to get a disconnected grid.
Change land grid[1][1] and grid[0][2] to water and get 2 disconnected island.

Example 2:

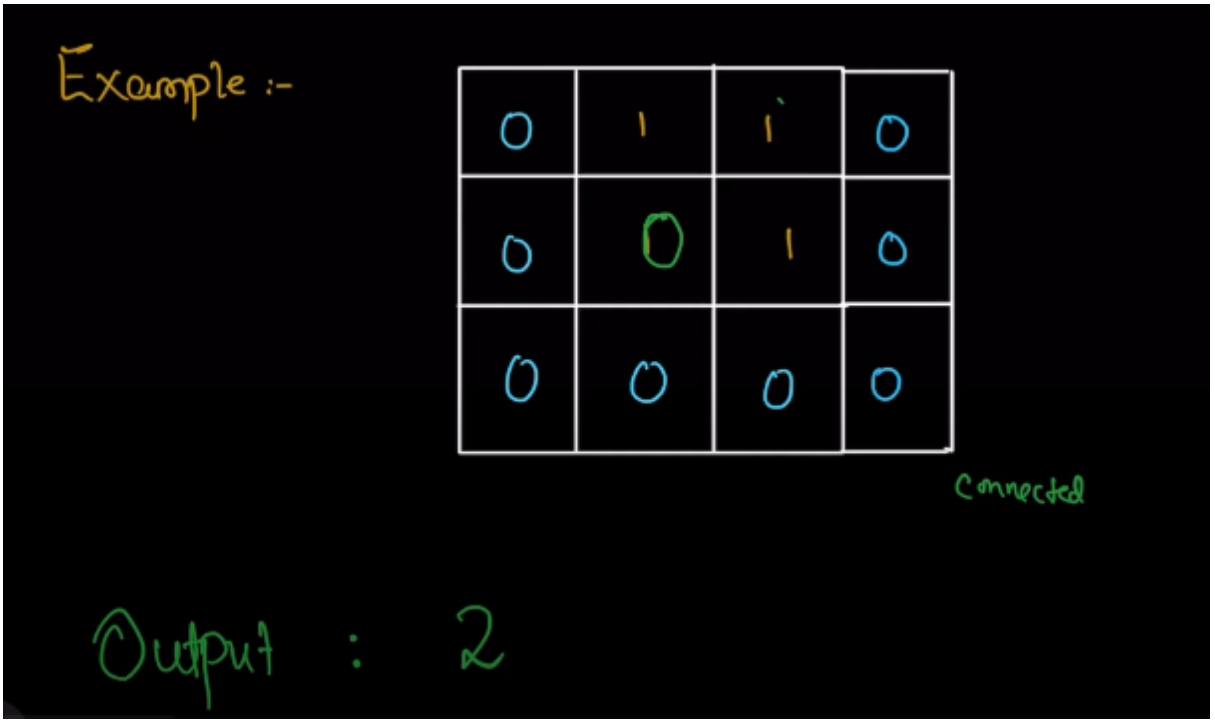

```
Input: grid = [[1,1]]
Output: 2
Explanation: Grid of full water is also disconnected ([[1,1]] ->
[[0,0]]), 0 islands.
```

this is called connected because all 1's are connected horizontally and vertically

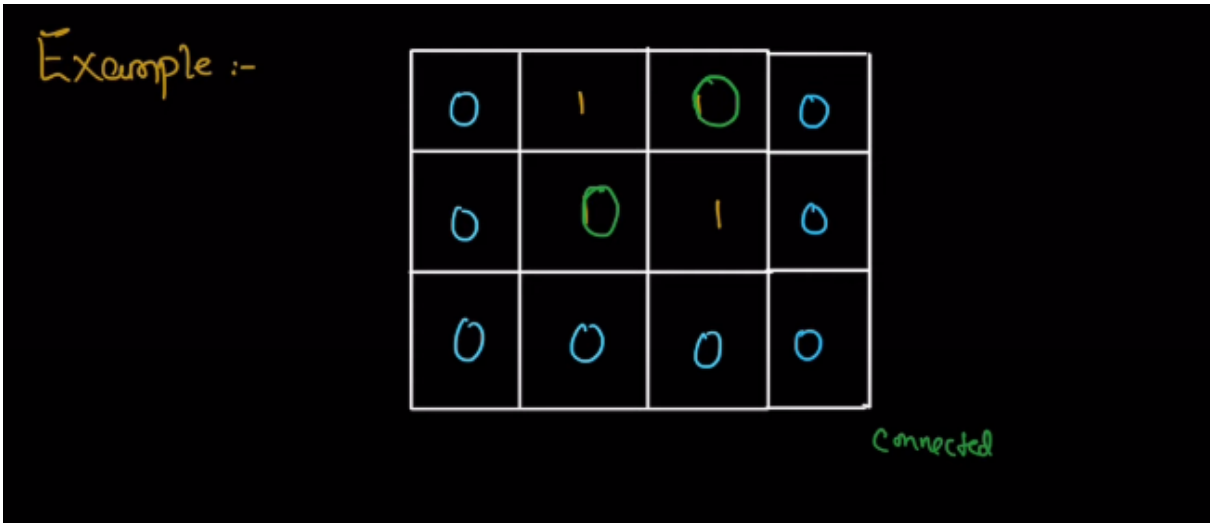


to disconnect it took 2 days to disconnect

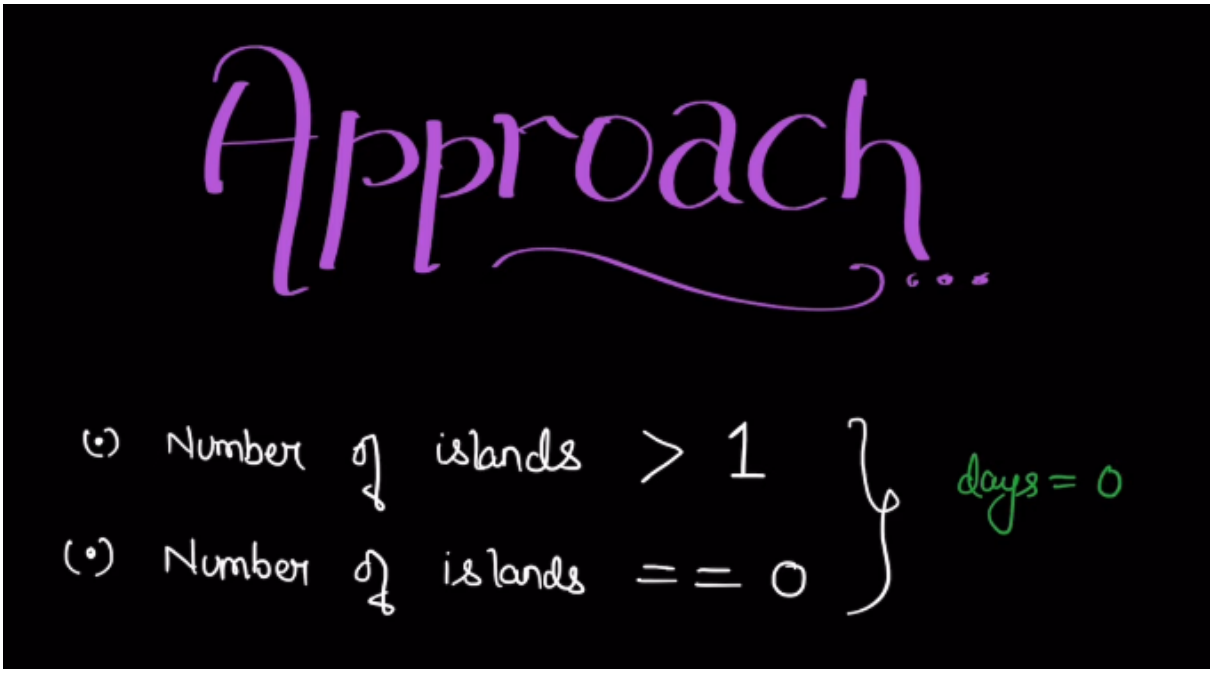
1st day we make this zero



2nd day we make this zero



Approach



example

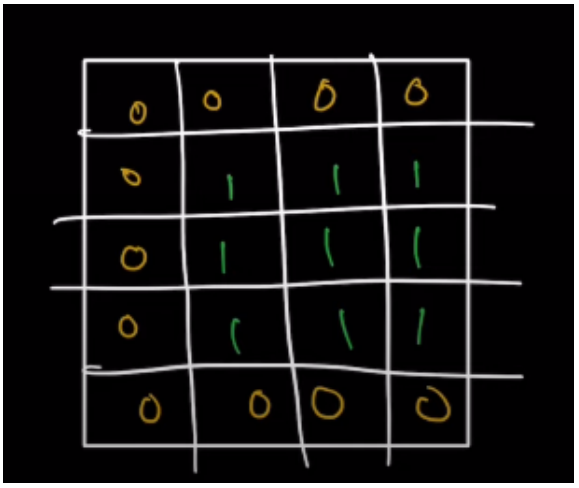
so we even change 1 to 0 in one position

now we have two island

so we disconnected it

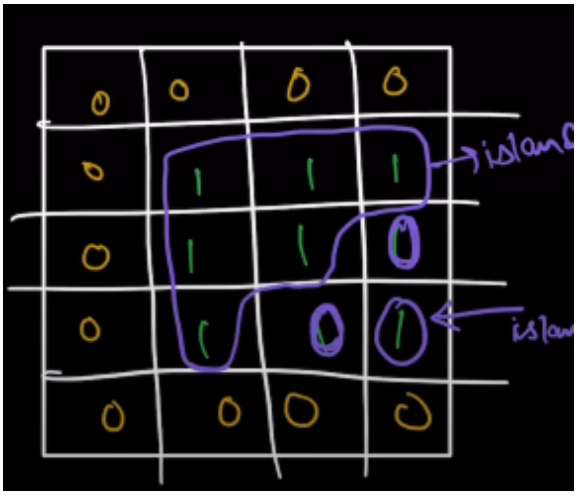
we just have to disconnect the island by 2 island or 0 island

new example



we can disconnect any island inn just 2 days easy method

by just diagonally replacing 1 by zero to disconnect island

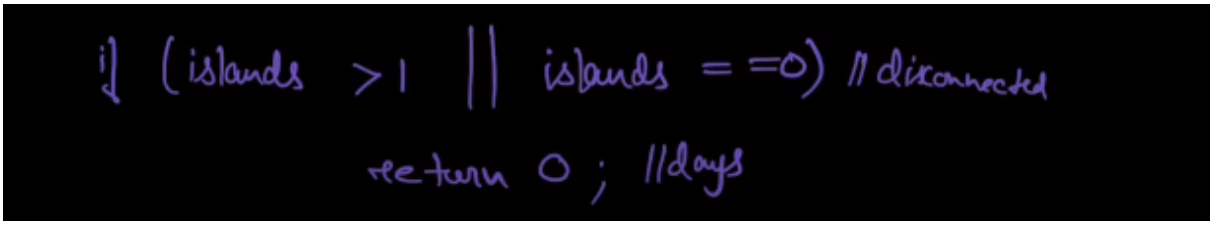


so we took

```
dasys = 0,1,2;
```

max limit is 2 days to solve this question

Pseudo code



tips:

we know that , to disconnect island we need 2 days at max so we can just directly return 2 days ,if we cant solve it in 1 day

Time Complexity = O((mxn)^2)

We can solve this using Tarjons algo