1905. Count Sub Islands

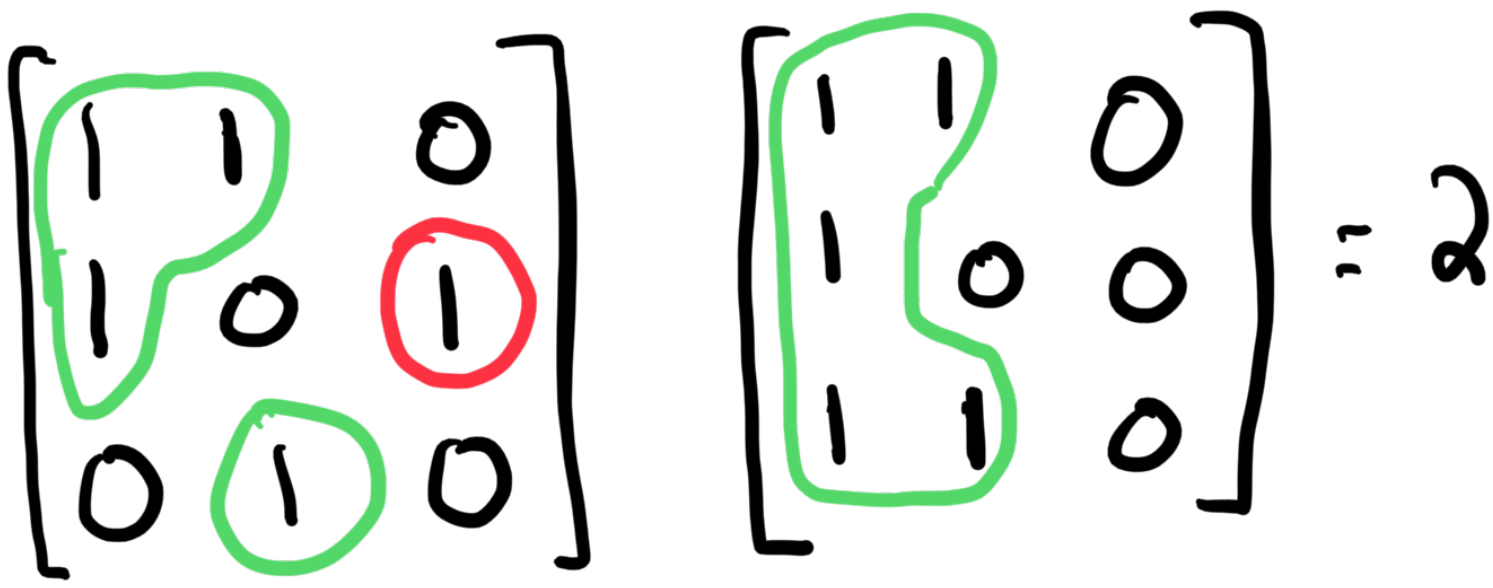
Given - grid1, grid2

M×N binary

Island - group of 4 directionally connected 1s.

Subisland. an island in grid2 is a subisland if if is contained entirely by an island in grid 1.

Return: # islands in grid2 that are subislands of grid2.



Solution: dfs: count islands
just like in number of islands

but now keep a bool value
for whether the island is
a subisland or not.

How? Base case: true
else: return grid1 == 1
AND dfs(neighbors)

Note: do NOT stop recursion
if this is no longer a valid
subisland. Why? We will
count the same island >1
time.

Time: O(M×N)

Space: $O(M \times N)$