Peer Review

The problem statement asks us to consider ‘O’s in a surrounding region to be changed to “X”; it should be in a region which is surrounded by ‘X’s on all four sides. We can solve this problem by using any traversal algorithm with the constraints as mentioned.

**Arin Arora’s Approach:**

* Used DFS to traverse through the board(Alternatively, BFS can also be used ).
* Traverses through all the ‘O’s present on the boundaries of the board and mark all the reachable ‘O’s from them in 4 directions.
* In this approach, the reachable ‘O’s are marked by replacing them with ‘@’s.
* Used a function called ‘change’ which was responsible for performing the DFS traversal, maintaining the visited nodes and changing the reachable ‘O’s from the boundary to ‘@’s.
* After the replacing/changing is done, next replace the remaining ‘O’s with ‘X’s and the changed ‘@’s back to ‘O’s, this way we can capture all the trapped ‘O’s and leave the boundary ones.

**Ankit Kumar’s Approach:**

* Used DFS approach to traverse through the board.
* Maintained a visited matrix initialized with 0, to make note of all the nodes which have been traversed.
* Approach idea is to traverse the boundary “O”s initially and mark them as visited, from there on traversing through the other nodes and keep on marking all the ‘O’s directly connected to the boundary one as visited.
* Finally we will traverse through the complete board and look for cells which contain ‘O’s and are not traversed, replace these with ‘X’s to show them as captured.