## Assignment -7

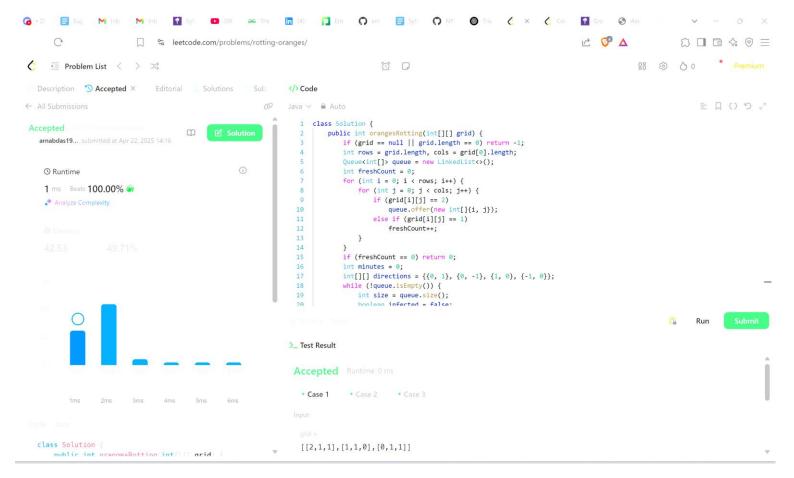
```
* Definition for a binary tree node.
   public class TreeNode {
         int val;
         TreeNode left;
         TreeNode right;
         TreeNode() {}
         TreeNode(int val) { this.val = val; }
         TreeNode(int val, TreeNode left, TreeNode right) {
              this.val = val;
              this.left = left;
              this.right = right;
         }
 * }
 */
class Solution {
     public List<Integer> rightSideView(TreeNode root) {
          List<Integer> result = new ArrayList<>();
          findRightView(root,0,result);
          return result;
     }
     public void findRightView(TreeNode root, int level,List<Integer> result){
          if(root == null) return;
          if(level == result.size()) result.add(root.val);
          findRightView(root.right,level+1,result);
          findRightView(root.left,level+1,result);
     }
}
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                     ☐ Seetcode.com/problems/binary-tree-right-side-view/submissions/1614901615/
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                                                     * Definition for a binary tree node.
 Accepted
                                                      * public class TreeNode {
                                                         int val;
   arnabdas19... submitted at Apr 22, 2025 14:11
                                                          TreeNode left;
                                                          TreeNode right:
    ③ Runtime
                                                          TreeNode(int val) { this.val = val; }
                                                          TreeNode(int val, TreeNode left, TreeNode right) {
    0 ms Beats 100.00% 🞳
                                                            this.val = val:
    ♣ Analyze Complexity
                                                             this.left = left;
                                                            this.right = right;
                                                       public List<Integer> rightSideView(TreeNode root) {
                                                          List<Integer> result = new ArrayList<>();
                                                          findRightView(root,0,result);
                                                          return result;
                                                 _ Test Result
                                                  Accepted Runtime: 0 ms

    Case 1

                                                  [1,2,3,null,5,null,4]
```

}

```
class Solution {
    public int orangesRotting(int[][] grid) {
        if (grid == null || grid.length == 0) return -1;
        int rows = grid.length, cols = grid[0].length;
        Queue<int[]> queue = new LinkedList<>();
        int freshCount = 0;
        for (int i = 0; i < rows; i++) {</pre>
            for (int j = 0; j < cols; j++) {
                if (grid[i][j] == 2)
                    queue.offer(new int[]{i, j});
                else if (grid[i][j] == 1)
                    freshCount++;
            }
        }
        if (freshCount == 0) return 0;
        int minutes = 0;
        int[][] directions = {{0, 1}, {0, -1}, {1, 0}, {-1, 0}};
        while (!queue.isEmpty()) {
            int size = queue.size();
            boolean infected = false;
            for (int i = 0; i < size; i++) {
                int[] point = queue.poll();
                int x = point[0], y = point[1];
                for (int[] dir : directions) {
                    int nx = x + dir[0];
                    int ny = y + dir[1];
                    if (nx >= 0 \&\& ny >= 0 \&\& nx < rows \&\& ny < cols \&\& grid[nx][ny] == 1) {
                        grid[nx][ny] = 2;
                        queue.offer(new int[]{nx, ny});
                        freshCount--;
                        infected = true;
                    }
                }
            if (infected) minutes++;
        return freshCount == 0 ? minutes : -1;
    }
```



## Question -3

```
class Solution {
    public int[] findOrder(int numCourses, int[][] prerequisites) {
        List<Integer>[] graph = new ArrayList[numCourses];
        int[] indegree = new int[numCourses];
        for (int i = 0; i < numCourses; i++) {</pre>
            graph[i] = new ArrayList<>();
        }
        for (int[] pair : prerequisites) {
            int course = pair[0];
            int prereq = pair[1];
            graph[prereq].add(course);
            indegree[course]++;
        Queue<Integer> queue = new LinkedList<>();
        for (int i = 0; i < numCourses; i++) {
            if (indegree[i] == 0)
                queue.offer(i);
        int[] order = new int[numCourses];
        int index = 0;
        while (!queue.isEmpty()) {
            int course = queue.poll();
            order[index++] = course;
            for (int neighbor : graph[course]) {
                indegree[neighbor]--;
                if (indegree[neighbor] == 0)
                    queue.offer(neighbor);
            }
        }
        return index == numCourses ? order : new int[0];
    }
}
```

