949. Rotting Orange

int orangesRotting(vector<vector<int>>& grid) {

int dirR[4] = {0,0,1,-1};

int dirC[4] = {-1,1,0,0};

int H = grid.size();

int W = grid[0].size();

set<pair<int,int>> rotten\_orange;

int fresh\_organge = 0;

queue<pair<int,int>> Q;

for(int i = 0; i < H; ++i)

for(int j = 0; j < W; ++j)

if(grid[i][j] == 1)

fresh\_organge++;

else if(grid[i][j] == 2)

Q.push({i,j});

int minute = -1;

Q.push({-1,-1});

while(!Q.empty()){

int row = Q.front().first;

int col = Q.front().second;

Q.pop();

if(row == -1){

minute++;

if(!Q.empty())

Q.push({-1,-1});

}

for(int k = 0; k < 4; ++k){

int r = row + dirR[k];

int c = col + dirC[k];

if(r < 0 || r >= H || c < 0 || c >= W) continue;

if(grid[r][c] == 1){

grid[r][c] = 2;

fresh\_organge--;

Q.push( {r,c} );

}

}

}

return fresh\_organge == 0 ? minute : -1;

}