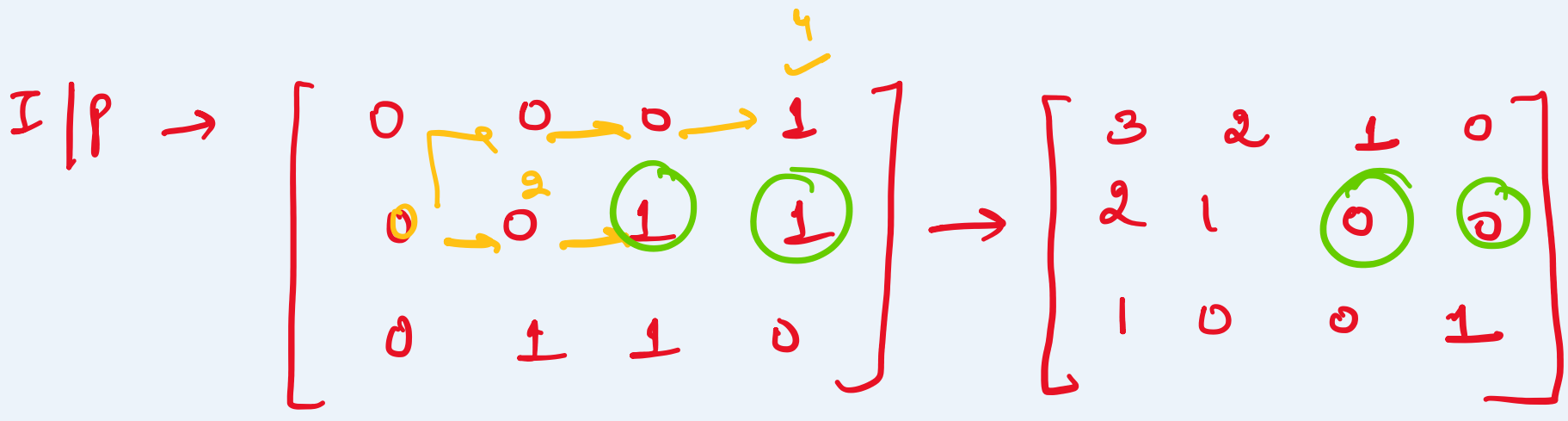


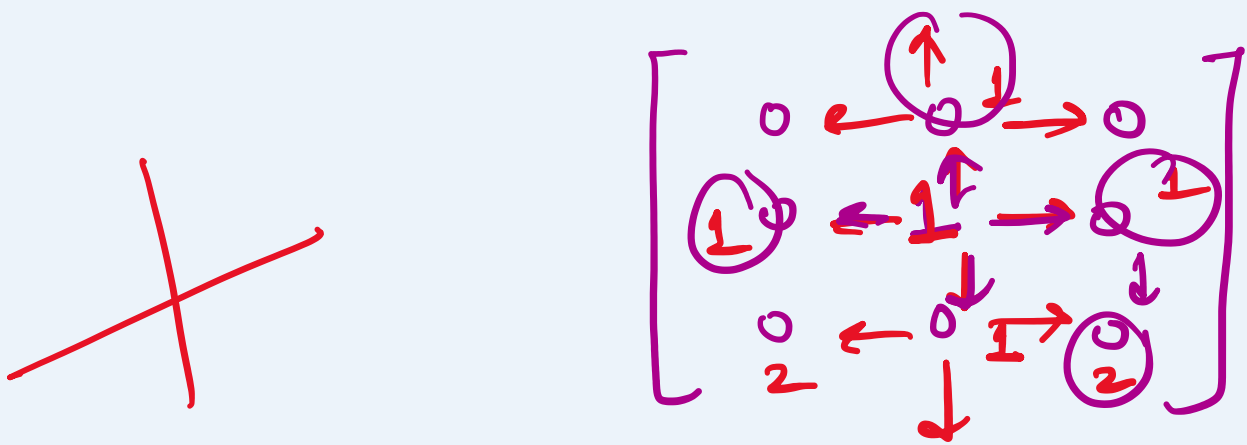
Q Given a $n \times m$ matrix, (boolean), for every cell $[i, j]$ find the distance of cell $[i, j]$ from nearest 1.

Manhattan distance
 $|x_i - x_j| + |y_i - y_j|$

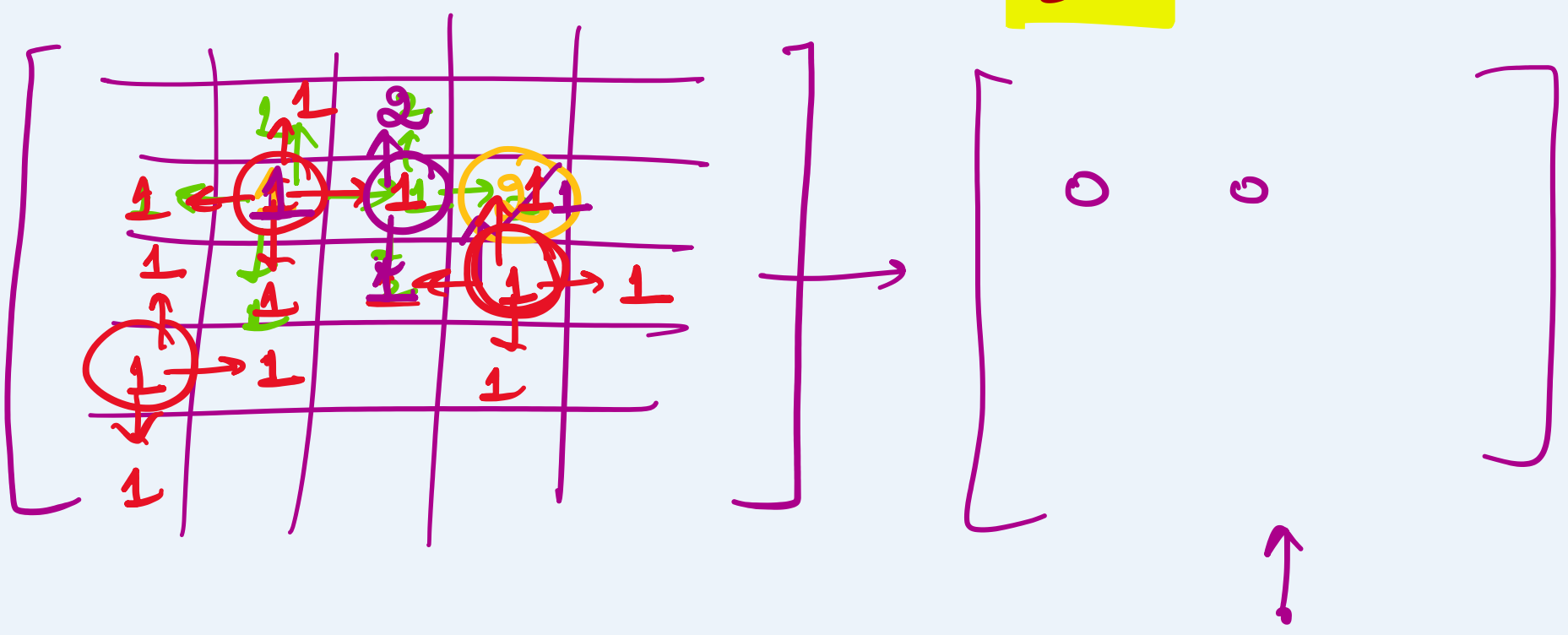


only 1 in matrix

BFS

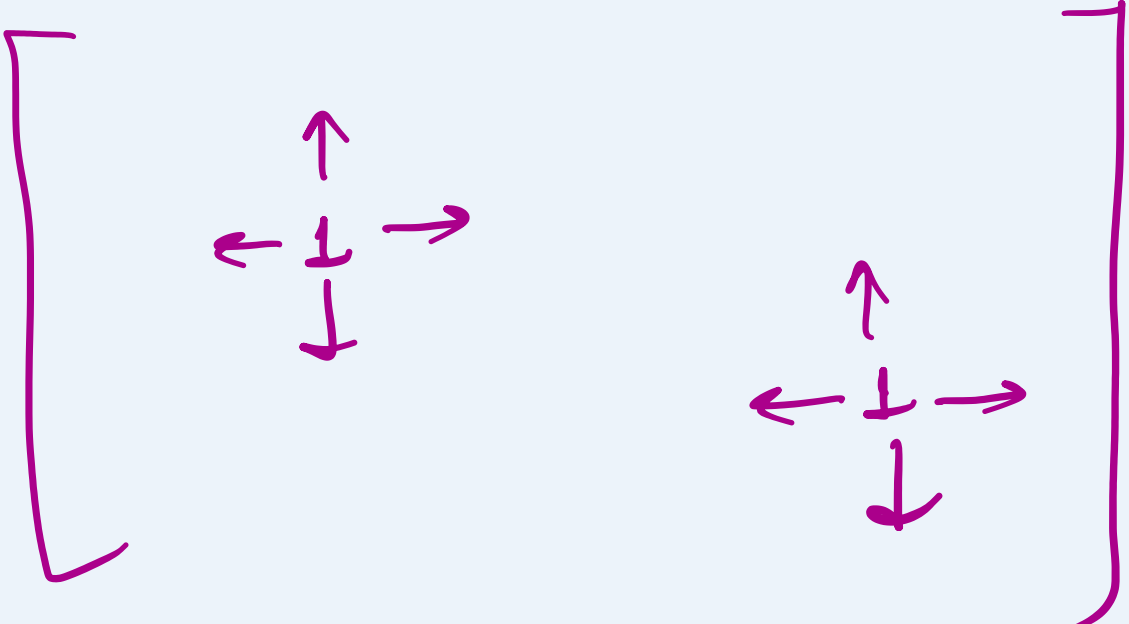


Multi-source
BFS



~~$(i, j), 0$ $(i_2, j_2), 0$ $(i_3, j_3), 0$ $(i+1, j+1), 0+1$ $(i+1, j), 0+1$ $(i, j+1), 1$~~

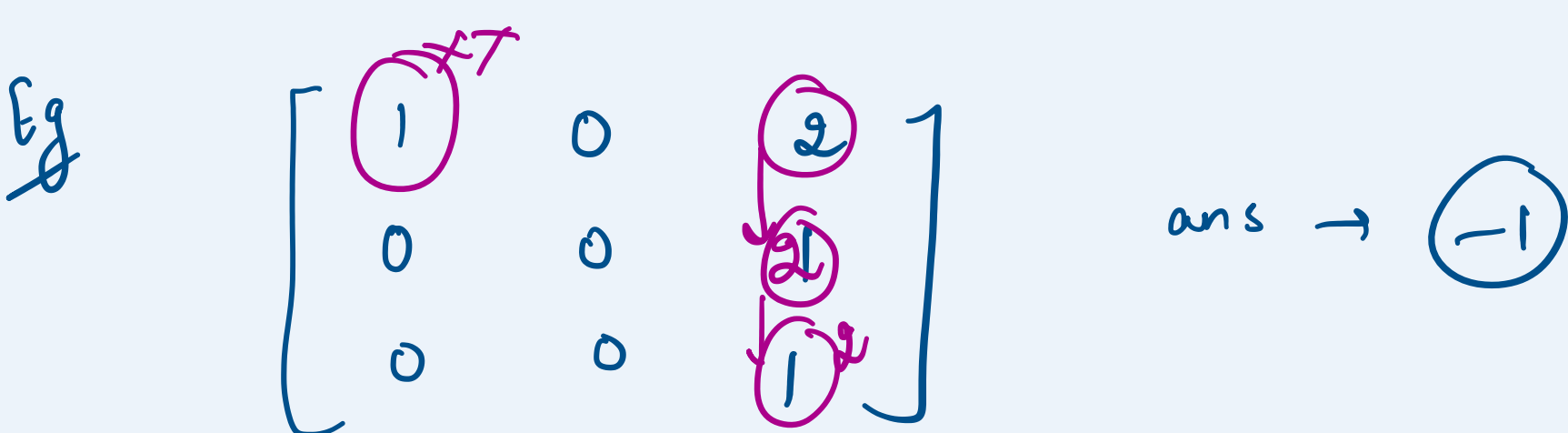
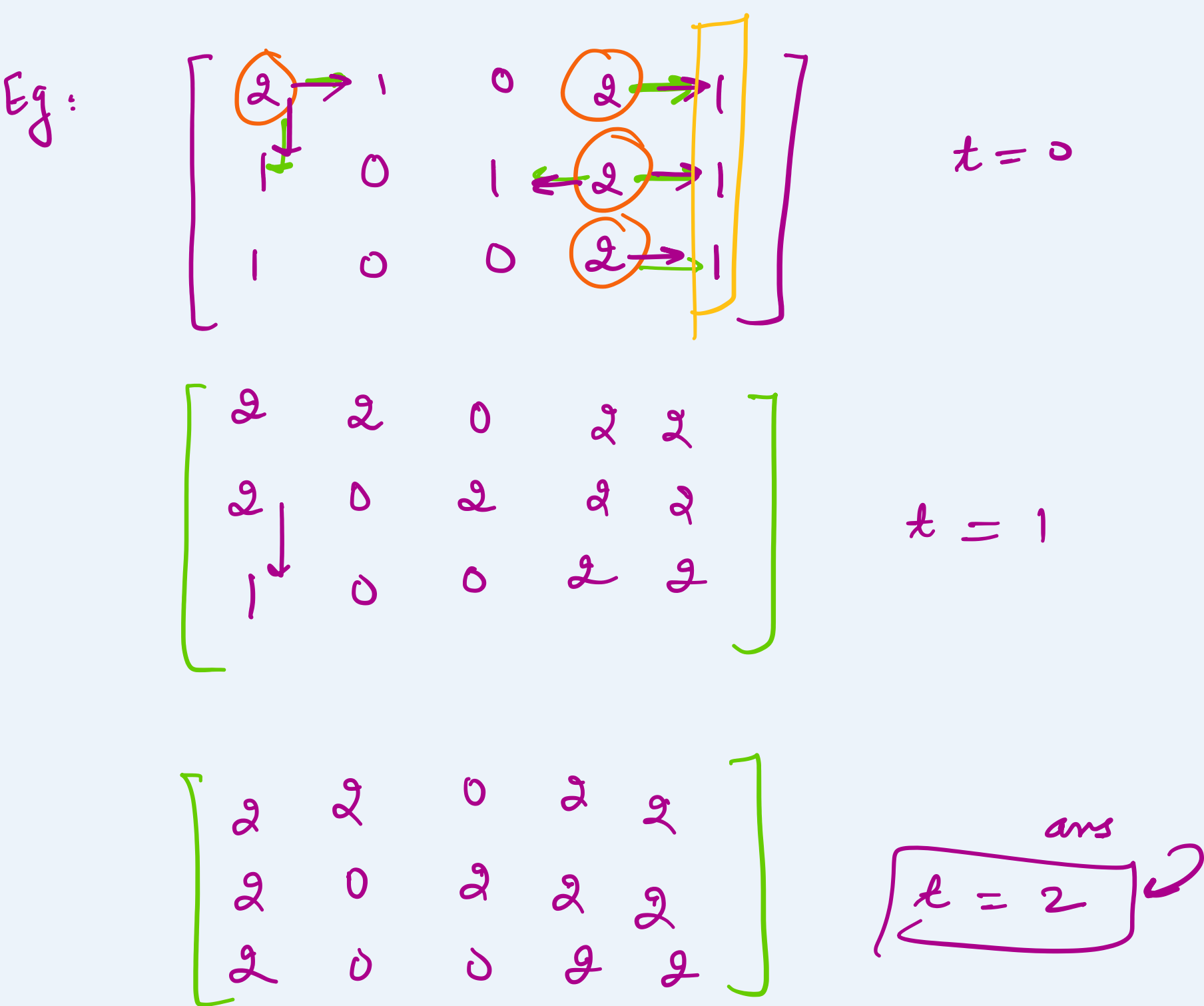
\rightarrow Add all 1's to the queue



Q Matrix ($m \times n$)

0: empty
1: fresh orange
2: Rotten orange

- \rightarrow A rotten orange rots all its adjacent cells.
- \rightarrow Find the min time it takes to rot all the oranges.
- \rightarrow If no $\rightarrow -1$



Q \rightarrow redundant connections
The redundant connections $[1, 2], [2, 3], [3, 4], [1, 4], [1, 5]$

