Matrix BFS

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- Matrix BFS is similar to binary tree BFS with a few minor changes
  - When pushing neighbors into the queue, there will usually be up to 4 or 8 neighbors (assuming 4-directional or 8-directional) instead of just two.
  - With graphs, we must ensure that we do not re-visit visited nodes.
    - One way we can solve this is by tracking visited nodes in a "visited set".
  - We must ensure that we do not go out of bounds.
- Generally used when we want to find the "shortest path" or if we are working with a problem that involves layers
- Demo:
  - Shortest Path in Binary Matrix

start			X	
	X			
	X		X	X
	X			
	X			finish

start	1	2	X	5
1	X	2	3	4
2	X	3	X	X
3	X	4	4	5
4	X	5	5	finish 5

Questions?

Let’s practice!

- Review
  - Rotting Oranges
  - 01 Matrix
- Bonus
  - Shortest Bridge