Queue and BFS

Prerequisite: [Tree Level-order Traversal](https://leetcode.com/explore/learn/card/data-structure-tree/134/traverse-a-tree/990/)

Breadth-first search (BFS) is an algorithm to traverse or search in data structures like a tree or a graph.

As we mentioned, we can use BFS to do level-order traversal in a tree.

We can also use BFS to traverse a graph. For example, we can use BFS to find a path, especially the shortest path, from a start node to a target node.

We can use BFS, in even more abstract scenarios, to traverse all the possible statuses. In this case, we can regard the statuses as the nodes in the graph while the legal transition paths as the edges in the graph.

In this chapter, we will briefly review how BFS works and focus more on how a queue helps us implement the BFS algorithm. We will also provide some exercise for you to design and implement BFS by yourself.