Introduction

We may access a random element by index in [Array](https://leetcode.com/explore/learn/card/array-and-string/). However, we might want to restrict the processing order in some cases.

In this card, we introduce two different processing orders, First-in-First-out and Last-in-First-out and its two corresponding linear data structures, Queue and Stack.

We go through the definition, implementation and built-in functions for each data structure. Then, we focus more on the practical applications of these two data structures.

By completing this card, you should be able to:

1. Understand the principle of the processing orders of FIFO and LIFO;
2. Implement these two data structures;
3. Be familiar with the built-in queue and stack structure;
4. Solve basic queue-related problems, especially BFS;
5. Solve basic stack-related problems;
6. Understand how system stack helps you when you solve problems using DFS and other recursion algorithms;