Stacks and Queues

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A **Stack** is an abstract data type that satisfies **Last-In First-Out** or **LIFO**. This means that the *last item* placed in the stack is the first one removed. A simple example that helps one remember this is a stack of papers: the most recent paper placed on the stack is the next one that will be removed.

Conversely, a **Queue** satisfies **First-In First-Out**. This means that the first *first item* placed in a queue is the first one removed. A simple example is a line of people at a venue: the person at the front of the line is the next person to get in to the venue.

A stack has two operations: **push**, which adds an element to the top of the stack, and **pop**, which removes the element at the top of the stack.

A queue similarly has two operations: **enqueue**, which adds an element to the end of the queue, and **dequeue** which removes the element at the front of the queue.

The primary difference between the two is the order in which elements are removed. A stack satisfies LIFO, whereas a queue satisfies FIFO.