

Stack

The stack data structure is a sequential collection of elements that follows the principle of Last In First Out (LIFO)

The last element inserted into the stack is first element to be removed

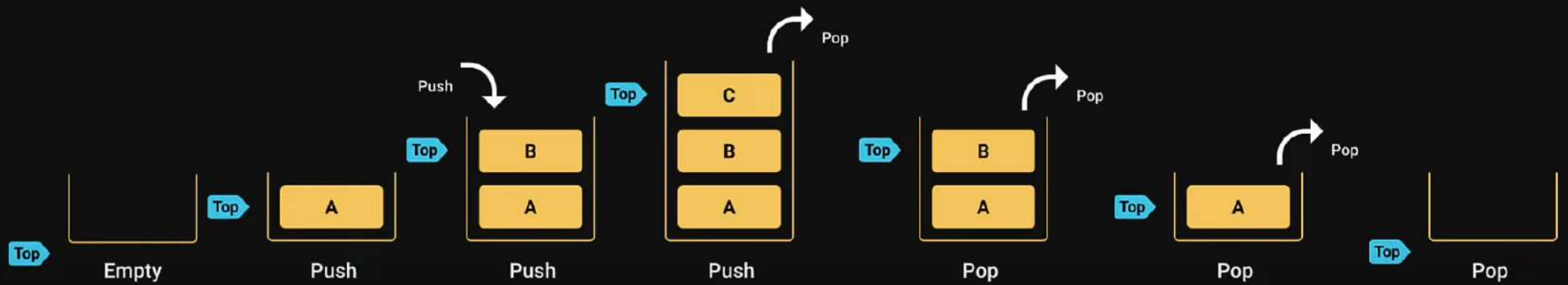
A stack of plates. The last plate placed on top of the stack is also the first plate removed from the stack.

Stack is an abstract data type. It is defined by its behavior rather than being a mathematical model

The Stack data structure supports two main operations

- Push, which adds an element to the collection
- Pop, which removes the most recently added element from the collection

Stack Visualization - Push & Pop



Stack Usage

Browser history tracking

Undo operation when typing

Expression conversions

Call stack in JavaScript runtime

Stack Implementation

`push(element)` - add an element to the top of the stack

`pop()` - remove the top most element from the stack

`peek()` - get the value of the top element without removing it

`isEmpty()` - check if the stack is empty

`size()` - get the number of elements in the stack

`print()` - visualize the elements in the stack