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WHAT IS STACK

Stack

Stack is similar to pile of plates stacked on top of each other.

Each plate below the top plate cannot be directly accessed until the plate above is removed. Plates can only be added and removed from the top.

What is Stack?

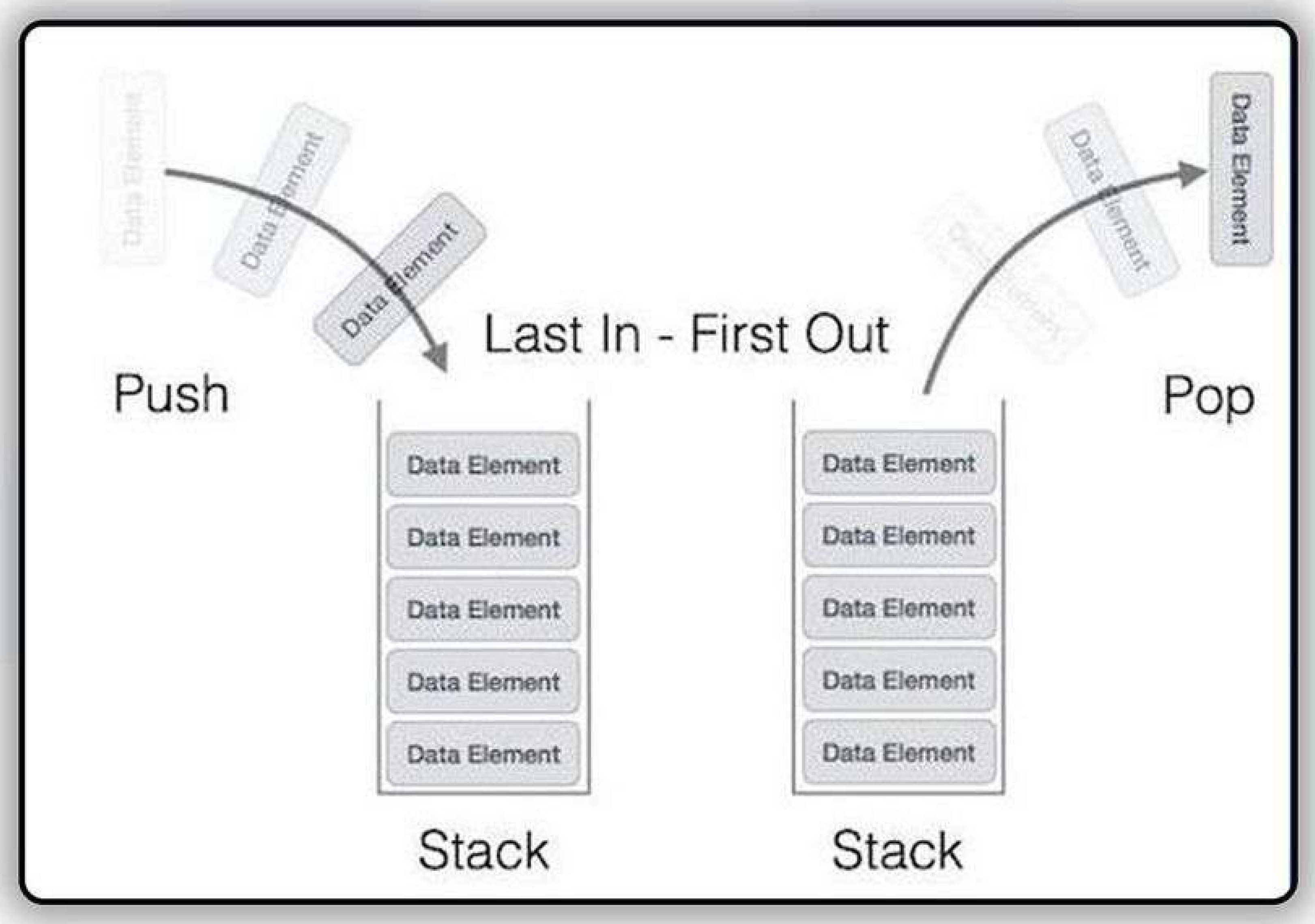
A stack represents a sequence of objects or elements in a linear data structure format.

The stack consists of a bounded bottom and all the operations are carried out on the top position.

The stack data structure has the two most important operations that are push and pop.

Last In First Out

In stack, elements are stored and accessed in **Last In First out** manner. That is, elements are added to the top of the stack and removed from the top of the stack.



Stack Operations

- push() : Adding an element on the stack.
- pop() : Removing an element from the stack.
- isFull(): It determines whether the stack is full or not.
- peek() : It returns the element at the given position.
- count(): It returns the total number of elements available in the stack.

Advantages of Stack

- Stack helps in data management which follows the LIFO technique.
- Stacks are used for systematic memory management.
- It is used in many virtual machines such as JVM.
- Stacks are more secure and reliable as they do not get corrupted easily.
- Stack allows control over memory allocation and deallocation.

Disadvantages of Stack

- Stack memory has a limited size.
- If too many objects are created, this can lead to a stack overflow.
- The total stack size must be defined in advance.
- If the stack goes out of memory, it can lead to an abnormal termination.
- Random access is not possible on the stack.