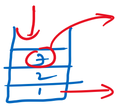
Linear Data Structures Continued!!

Introduction to Stacks & Queues

LIFO | FIFO

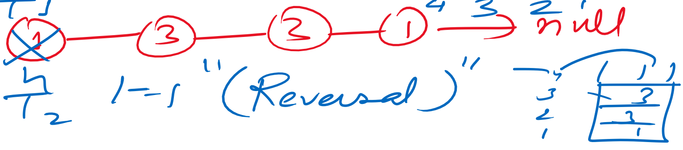
* CSE / ISE / AI-ML / AI-DS
  3rd Sem : → Stacks & Queues using arrays & structures.
* C++ → Stacks & Queues using Class

Stack → top(), push(), pop()

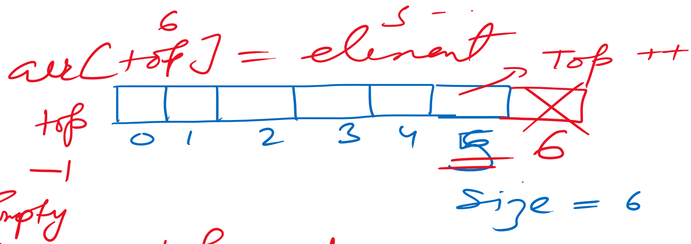


empty()
size()

Array queue → 1 2 3 4 empty



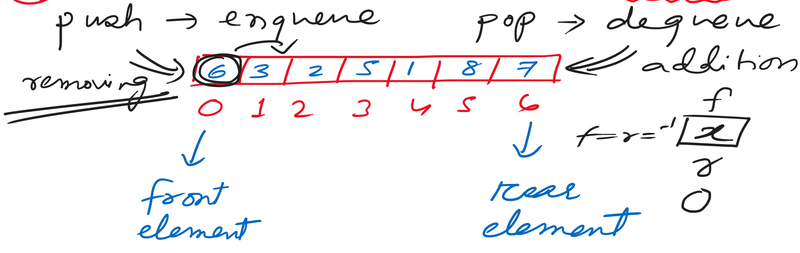
1-1 "(Reversal)"



Empty Stack = top = -1

Stack Overflow = Stack = Max size

Queue Data Structure : FIFO



Empty Queue : → front = rear = -1

* Standard Template Library :

It is a collection of built-in data structures in C++ for faster operations and efficiency. It corresponds to the "Collections Framework" in Java.

(I) stack (II) queue
(III) list ↔ list → DLL
forward_list → SLL
(IV) map ↔ ordered
unordered → Hashmap
(V) "map with list of strings" * Hashing
(VI) sets ↔ ordered
unordered
(VII) Vectors → 250 functions (20)