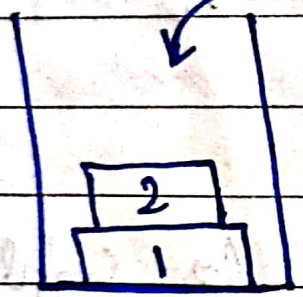
Introduction to Stack Data Structure

→ Stack is a linear data structure. Operations on Stack are performed in LIFO (Last in First Out) order.



Insertion/deletion can happen on this end.

LIFO (Last in First Out)

⇒ Item 1 which entered the basket last will be the first one to come out.

→ Applications of Stack :

Date

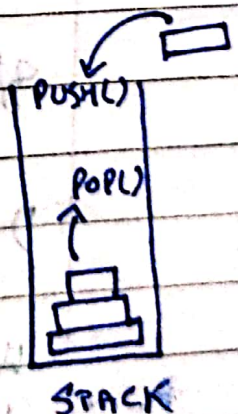
1) Used in function calls.
2) Infix to postfix conversion (and other similar conversions).
3) Parenthesis matching & more...

Stack ADT:

In order to create a stack we need a pointer to the topmost element along with other elements which are stored inside the stack.

→ Some of the operations of stack ADT are:

1) PUSH( ) → push an element into the stack.
2) POP( ) → remove the topmost element from the stack.
3) PEEK(INDEX) → value at a given position is returned.
4) IsEmpty( ) / IsFull( ) → Determine whether the stack is empty or full.



→ IMPLEMENTATION

→ A stack is a collection of elements with certain operations following LIFO (Last in First Out) discipline.
→ A stack can be implemented using an array or a linked list.