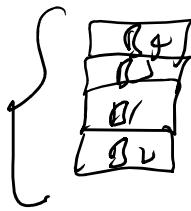


## → Data Structure

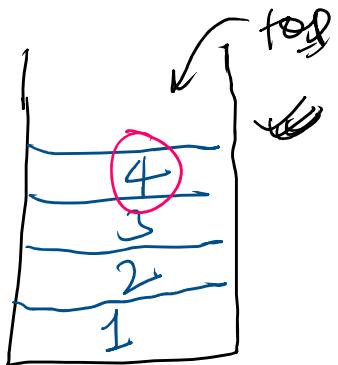


### # Types of DS

→ Linear D.S: Arrays, ArrayList, Linked List, Stacks, Queues

→ Non-Linear D.S: Trees and graphs

#



④ The only way to access a stack is using top.

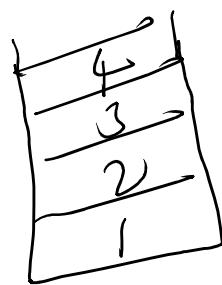
→ LIFO: Last In First Out

### ④ Stack

Internally Stack in Java is Implemented using Vector

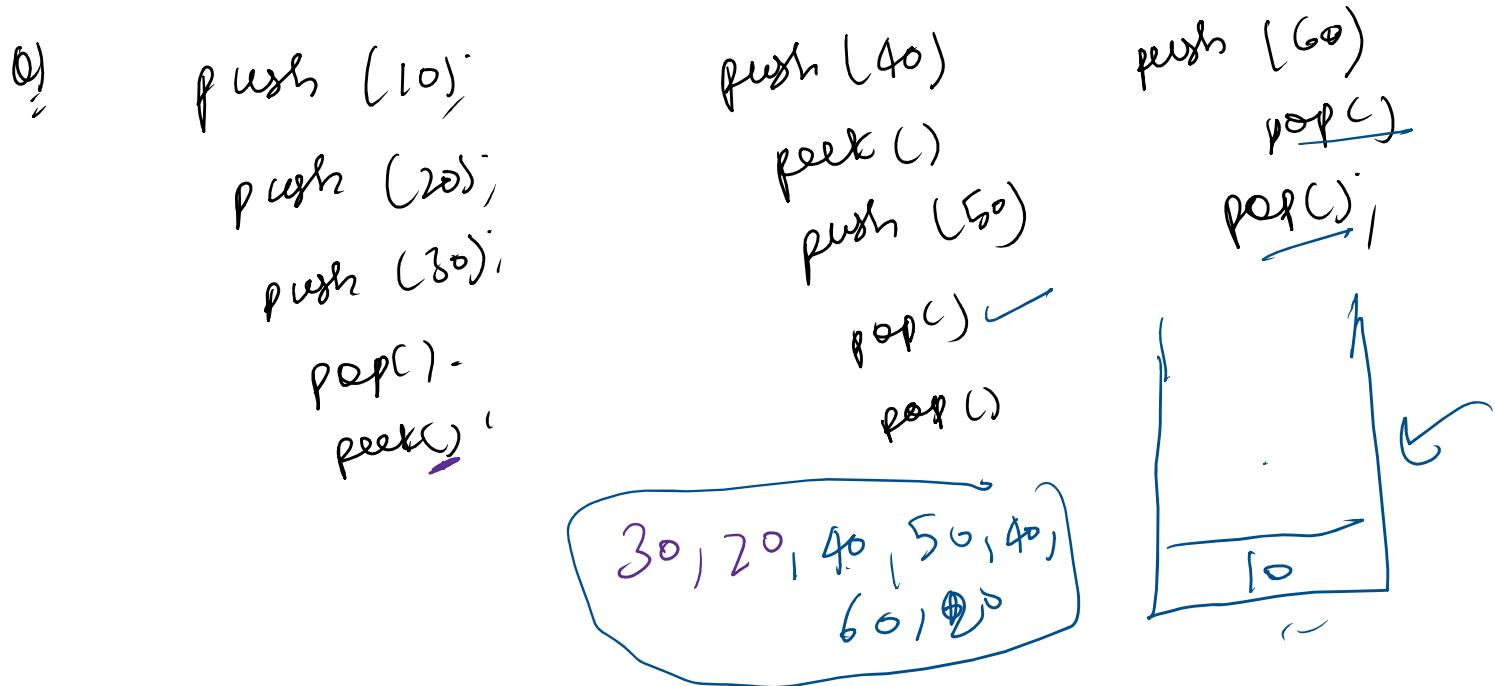
### # Operations on a Stack

→ push( $w$ ): adding an element to the top of the stack



→ pop(): removes and returns the top element.

→ peek(): returns the top but never removes it.

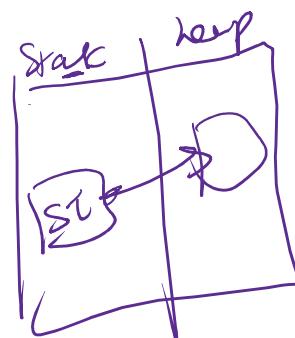


# Code Usage

ref      object

Stack<Integer> st = new Stack();

String  
Double✓  
Person✓



Q) while doing peek() or pop() operation on a stack, always first check whether the

$\Rightarrow$  Stack always first check whether the stack is empty or not.

(st. is Empty())

# Where to think of Stack

- Problems involving parentheses.
- Problems involving Span of an array.