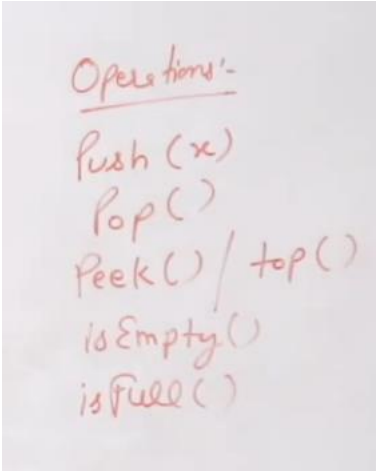


LAST IN FIRST OUT

It's a linear data structure

In stack limited access is possible

It is a ordered list

Rule 1- Insertion and deletion is possible only from one end.

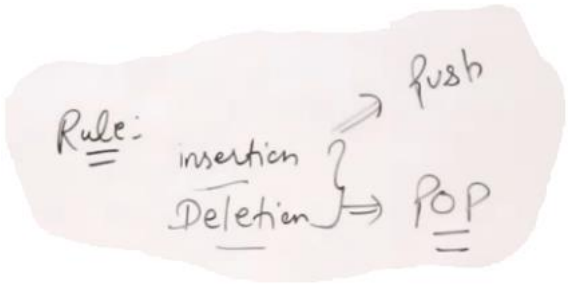
For example Cd container you put your cd's

If you want to delete last CD you have to take out all of cd's

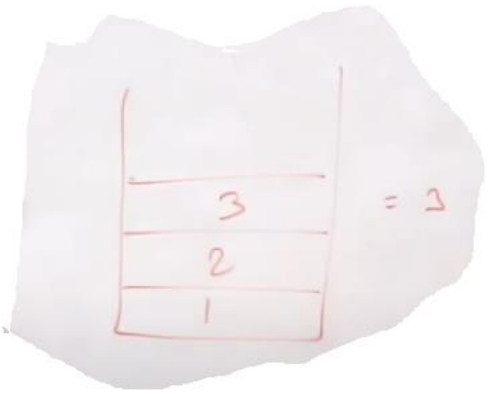
This is a restriction of stacks

Insertion operation known as a PUSH

DELETION OPERATION IS KNOWN AS A POP



PEEK OPERATION



U get the value but not remove

IS EMPTY FOR CHECK IF STACK IS EMPTY

IS FULL FOR CHECK IF STACK IS FULL

There are two ways to implement stack

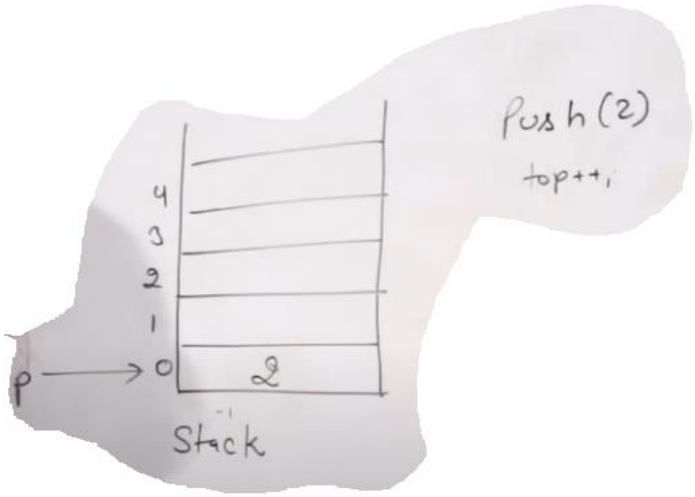
Static memory allocation=Using arrays you can implement stack

Dynamic memory allocation: using linked lists you can implement stack.

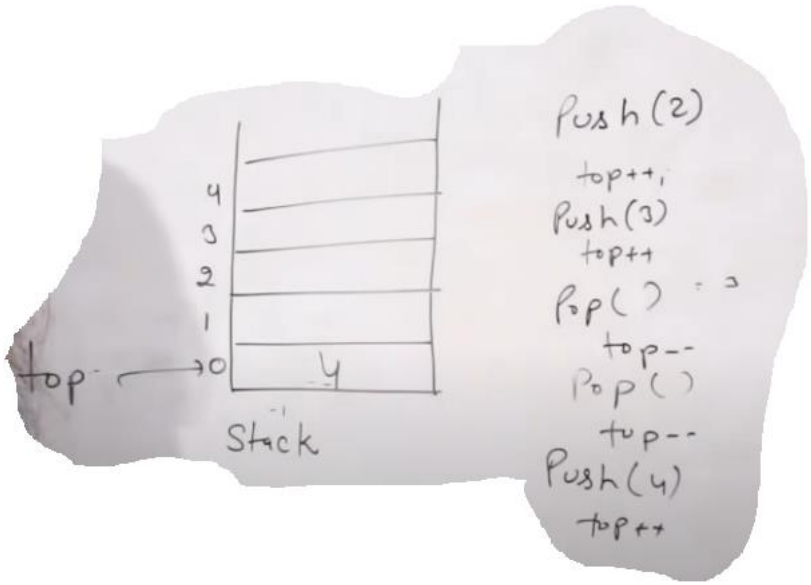
Now example: we have 5 sized stack

When you use pop() to empty stack it is under flow condition.

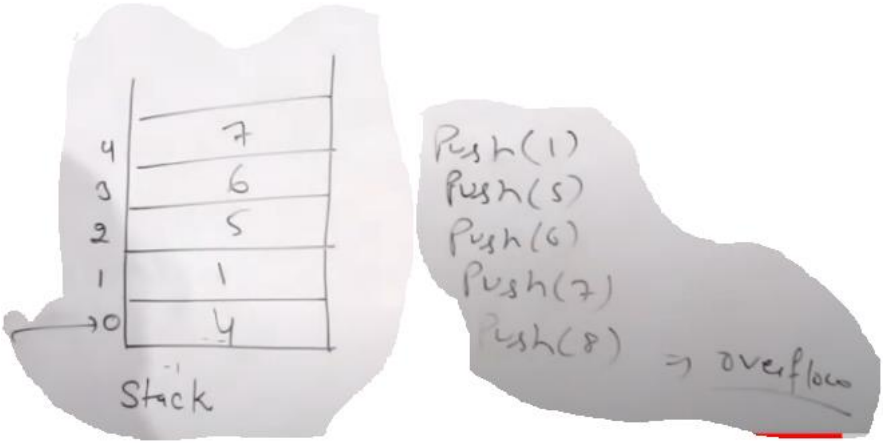
When you use push (2)



top was -1 because we didn't have any element than we push 2 we increment top.

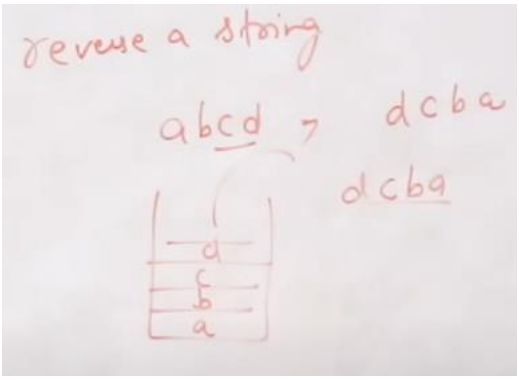


When stack is full and you want to add an element. This OVERFLOW CONDITION



APPLICATION(where we use stack)

1-Reverse a word



FIND REVERSE OF ABCD,you can use reverse

2-UNDO MECHANISM IN TEXT EDITOR

ABCD for example we wanna see A we use ctrl Z and we see A.that is the point we use stacks

3-Recursion&Function call

4-Check for balance of parenthesis {}

5-Infix,Postfix,prefix

6-Pos

Topological sorting,DFS,tower of hanoui problem we gonna use stack also.