# *Stacks*

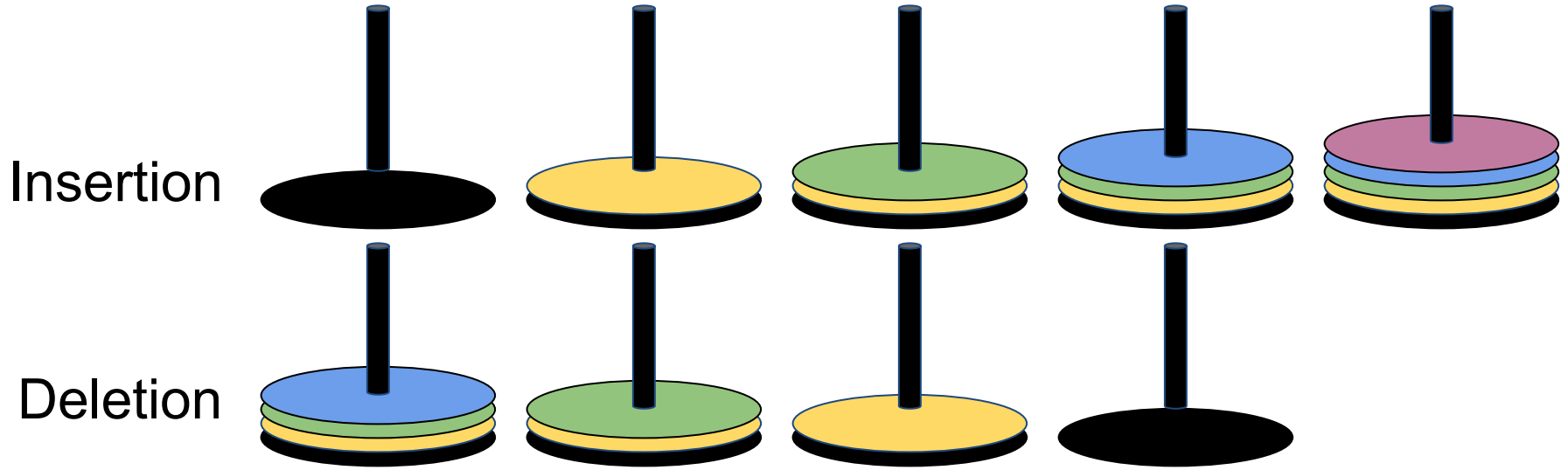
# Agenda

- Stacks
- Stack operation and principles
- Stack Push algorithm
- Stack Pop algorithm
- Stacks example

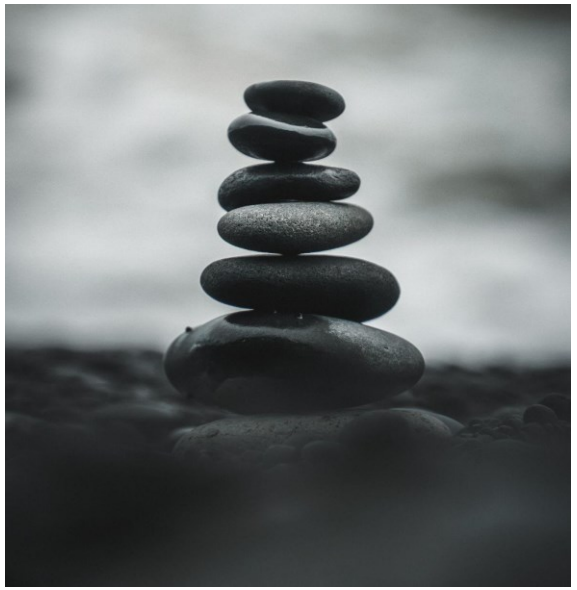
# Stacks

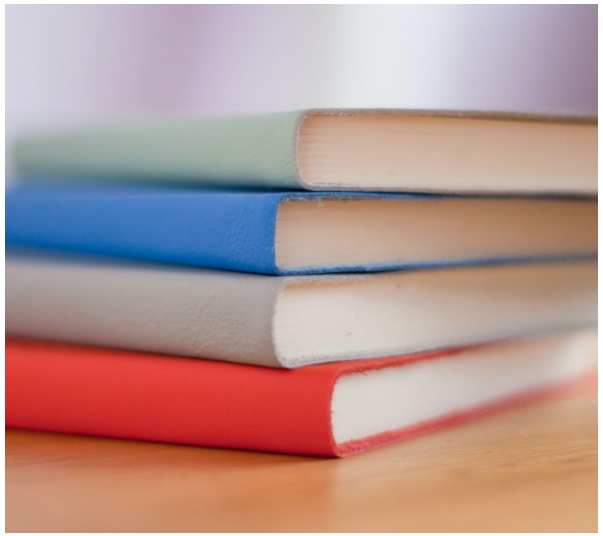
- Stack is where Insertion and deletion of elements happens from one side of the list. Stacks take **L**ast **I**n **F**irst **O**ut Approach **(LIFO).**

**Example:** CD/DVD spindle box.



# Stacks real world example





# Stack operations and principles

**Principles**

1. Insertion
2. Deletion

**Operations**

1. IsEmpty
2. IsFull
3. Push
4. Pop

# Stack Push algorithm

1. Start
2. Declare variables  Size_of_stack, current_pointer = -1.
3.  if (current_pointer  >= (Size_of_stack - 1)) {
    Print Stack Overflow
    else
        stk[++current_pointer ] = value;   //stk[ ] = stack array
                                           // value is pushed element
1. Stop

# Stack Pop algorithm

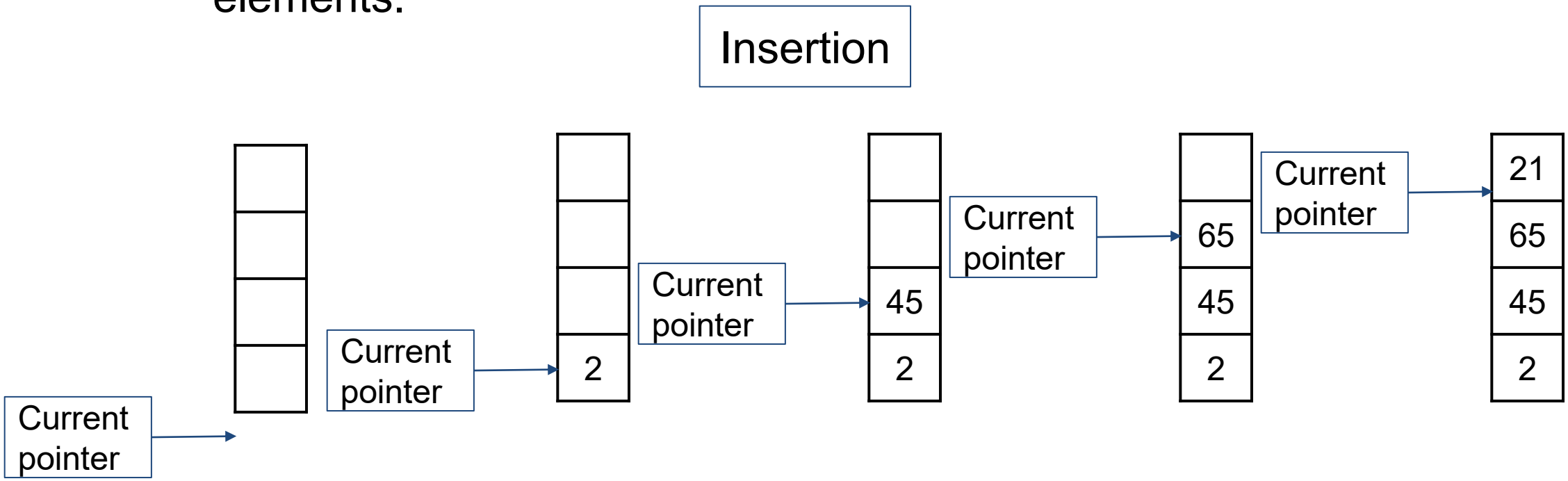
1. Start
2. Declare variables  Size_of_stack, current_pointer = -1.

1. if (current_pointer  < 0)
   Print Stack underflow
   else
   int data= stk[current_pointer --];  // data is the popped element
   return data;  // stk[ ] = stack array

1. Stop

# Stacks example

Insert 2,45,65,21 to stack and perform delete operation on all elements.



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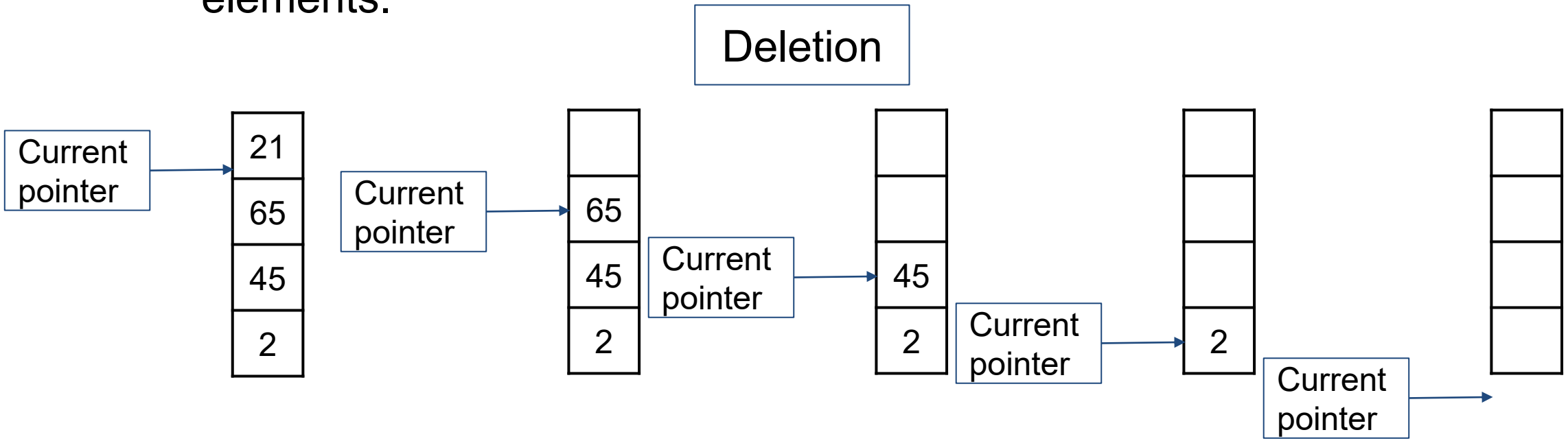

# Summary

- We understood what stacks are along with its operations and principles.
- We have also seen algorithm for push and pop operations with an example.

# Thank You