DSA through C++

Dynamic Array data structure

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Agenda

1. Introduction to Dynamic Arrays
2. doubleArray( )
3. halfArray( )
4. Array vs Dynamic Array

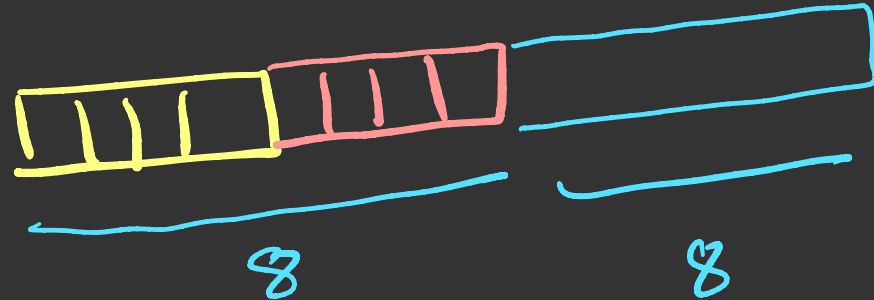# Introduction to Dynamic Arrays
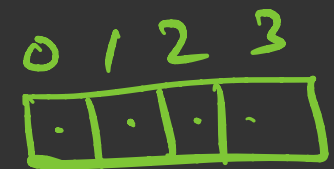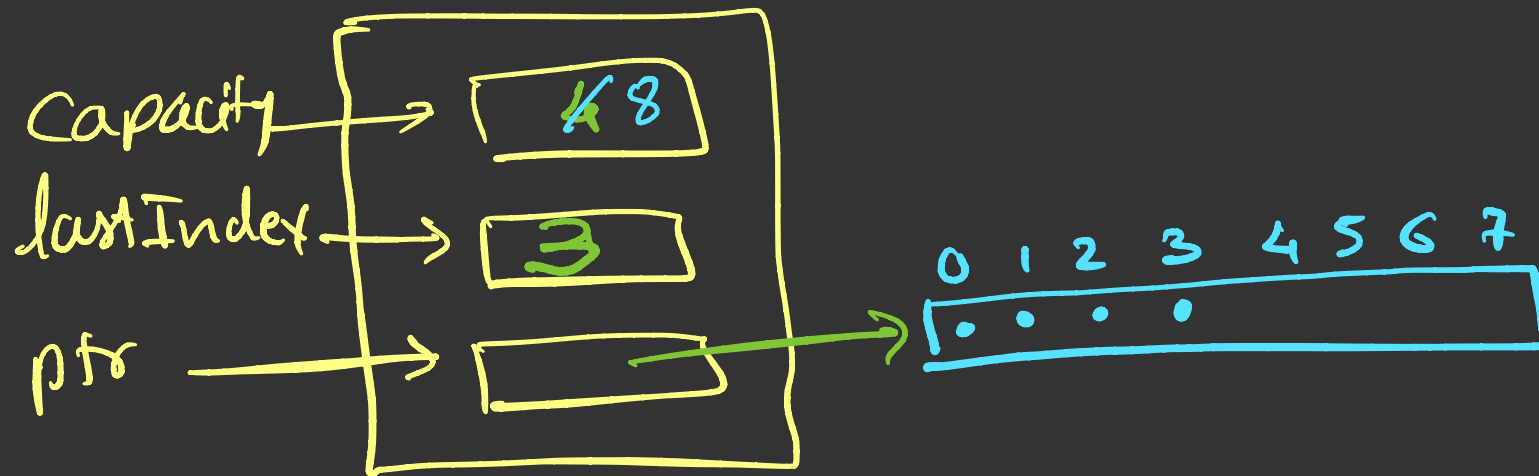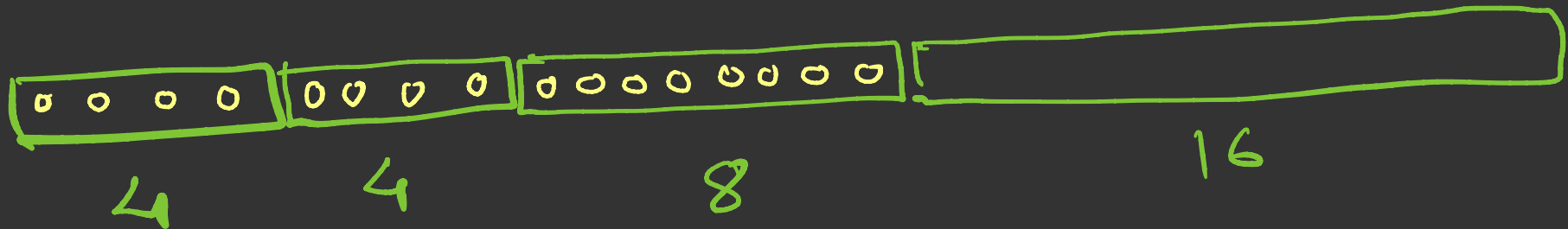
Array obj:

fixed size

Dynamic Array

① grow

② Shrink

8   8
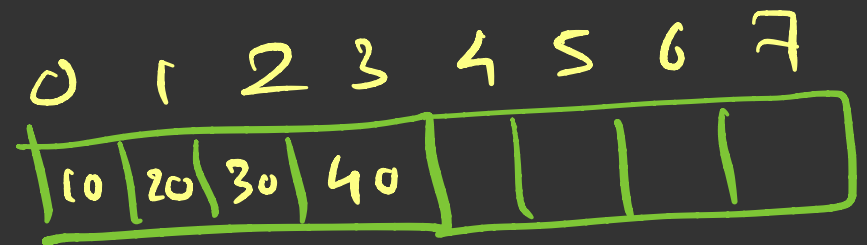
doubleArray ( )

when to grow array?

you are trying to insert or append data
in array and array is full.

4   4   8   16

Capacity → 4 8

lastIndex → 3

ptr →

0 1 2 3 4 5 6 7

0 1 2 3

halfArray()

when to call halfArray?

you are trying to delete a data from the array. After successful deletion, if array is half filled then call halfArray()

8

3

0	1	2	3
10	20	30	40

0	1	2	3	4	5	6	7
10	20	30	40				
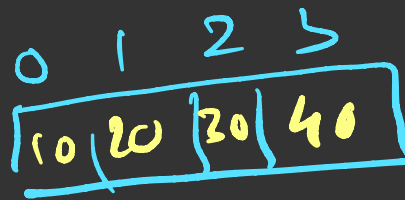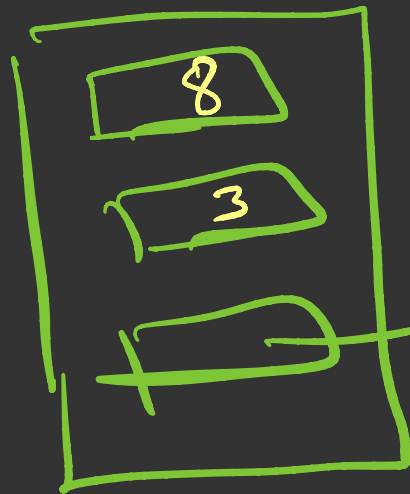
Array vs Dynamic Array

Array can't grow
or shrink

Dynamic Array
can grow and shrink