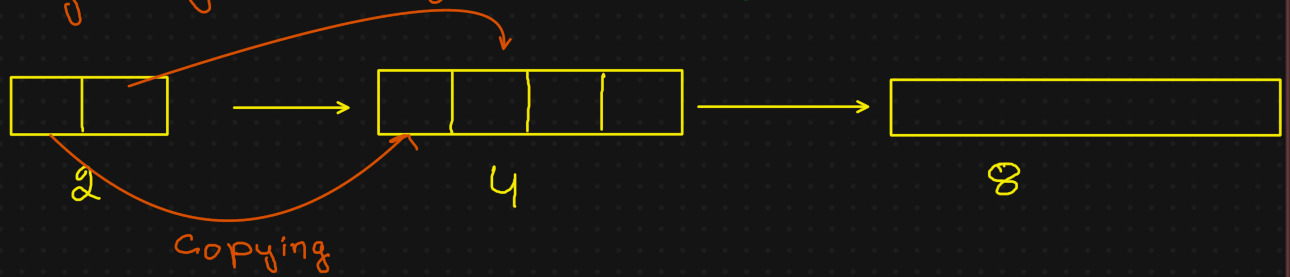


# Custom List Class

OOPS → Class → Custom Data Type

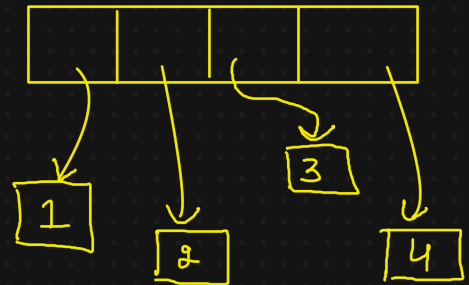
1. Array was fixed in size → dynamic array



2. Homogenous, only a single type allowed



Call by value  
Array



Call by reference  
List

We want to implement/create our own list

# Implementation of Custom List Class

Custom List



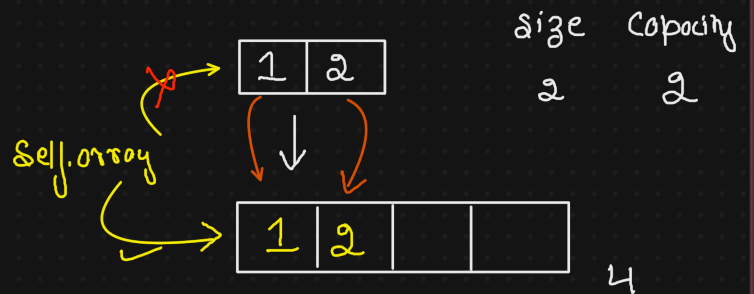
Size  $\rightarrow$  how much are stored  
right now

Capacity  $\rightarrow$  how much we can  
store

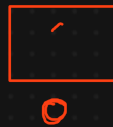
List

## 1. Append

l1.append



$\text{array}[\text{self.size}]$



size = 0

2. len  $\rightarrow$  `-- len --`  $\rightarrow$  size

3. pop()  $\rightarrow$  removes the last element  
and give it back



size = 4  
capacity = 4

1	2	3	4
0	1	2	3

size - 1  
size = size - 1 = 3

4. Print  $\rightarrow$  `-- str --`

## 5. Indexing

--getitem--

10	20	30	40	50
0	1	2	3	4

$l1[0] = 10$

$l1[5], l1[100]$

## 6. clear

reinitializes the string

## 7. Insert

size = 4

$[100, 200, 300, 400]$

insert (2, 90)  
pos element

start = 4

end = 2 → 3

$\text{range}(0, 5) \rightarrow [0, 1, 2, 3, 4]$

$\text{range}(4, 2, -1) \rightarrow [4, 3]$

adding  
element →

$[100, 200, 300, 400, 400]$

$[100, 200, \cancel{300}, 300, 400]$

$[100, 200, 90, 300, 400]$

$[100, 200, 90, 300, 400]$