

str = "Vishwa"  
0 1 2 3 4 5

index = 0

String  
↳ sequence of characters

index = [0, 5] = [0, 5]  
arr = [1, 2, 3]  
arr[1] → 1, arr[2] → 2  
arr[2] → 2

Addressing array index

$$\begin{aligned} 0^{\text{th}} &= 1249 + 0 \\ 1^{\text{st}} &= 1249 + 1 \\ 2^{\text{nd}} &= 1249 + 2 \end{aligned}$$

Address of arr

Address

arr

arr = [3, 4, 8, 9]

Mathematical

arr

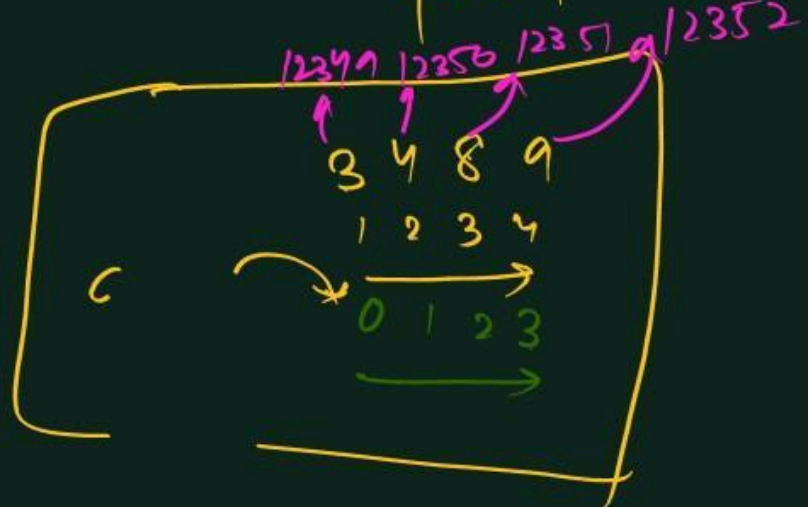
arr[1]

arr[0]

arr[1] = arr[0] + 1

arr[2] = arr[1] + 1

contiguous location in memory



str = Vishwa  
-6 -5 -4 -3 -2 -1  
0 1 2 3 4 5  
[0, n-1] (every language)  
[-1, -n]

0 →  
1  
+5 -4 -3 -2 -1  
str = 'Vishwa'  
0 1 2 3 4 5  
←

str[4] → h  
str[10] →  
str[-3] → h  
str[-13] → A

slicing

str = 'Vishwa'

0 1 2 3 4 5  
←←←←←

str[1:3] → 'is'

0  
1  
2  
3  
4  
5  
str[a:b]

Character → a<sup>e</sup>  
a+1  
a+2  
↓  
(b-1)

str = 'Vishwa'

00 → starting → 5<sup>th</sup> index → str[0:6] or [:6]  
C → 4<sup>th</sup> → end → str[4:] str[:] →

str = 'Vishna Mohan'

↓

str[::2]

VsW.Mnn

start  
↑  
str[a:b:c]  
↓  
end

str = vishwa  
↑  
str[: :1] → vishwa\_

str[: :2] = vsw  
str[: :8] = vh



str = "vishna Mohan"

str[: : 2] → vsW-on

str = 'Mohan'

Reverse → [::-1]

How you iterate  
(+)  $\xrightarrow{R \text{ to } L}$   
⇒  $\xrightarrow{L \text{ to } R}$

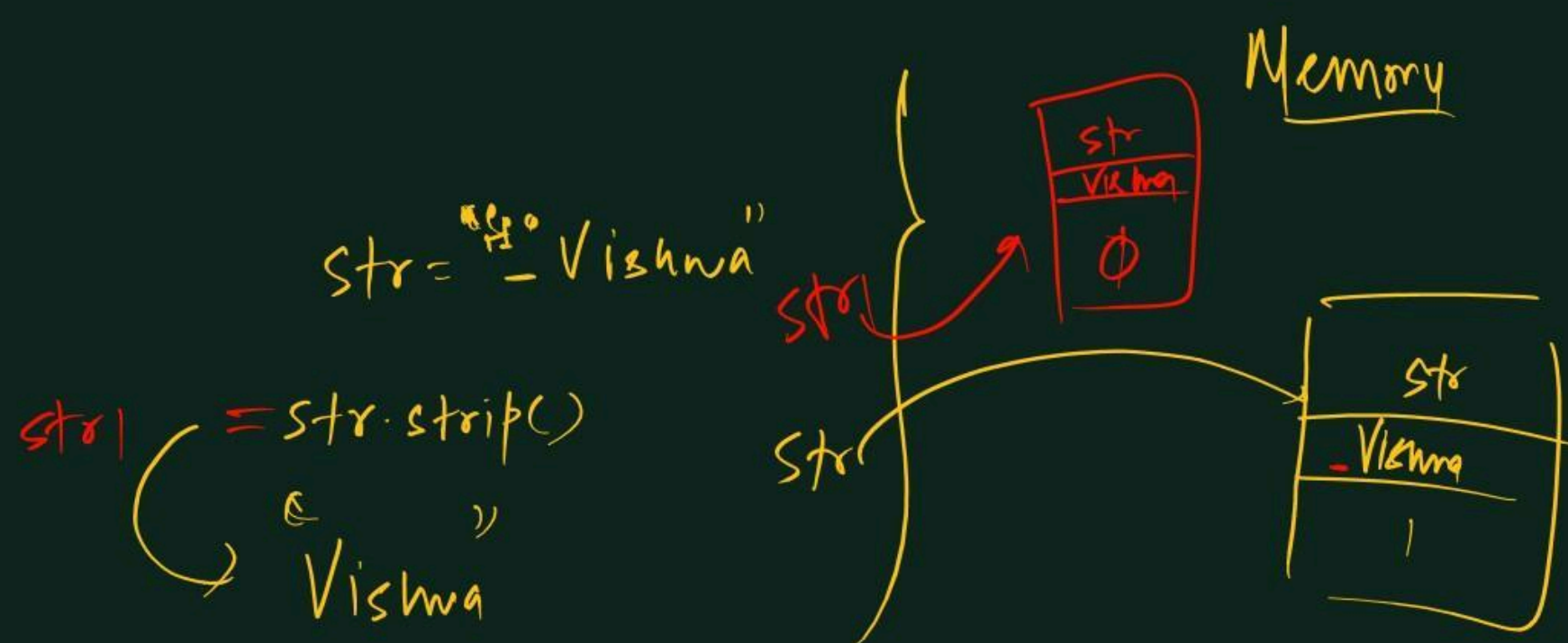
entire string

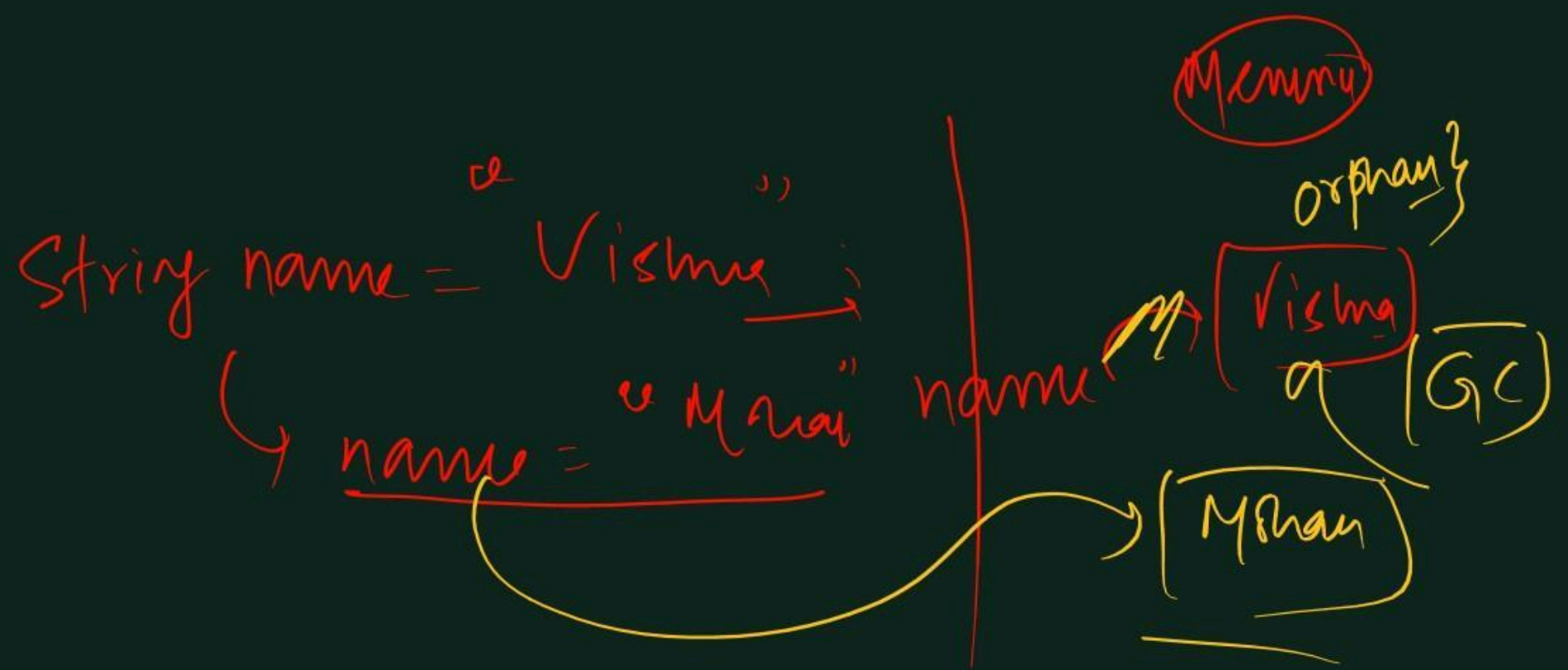
str = "My Dear Student"

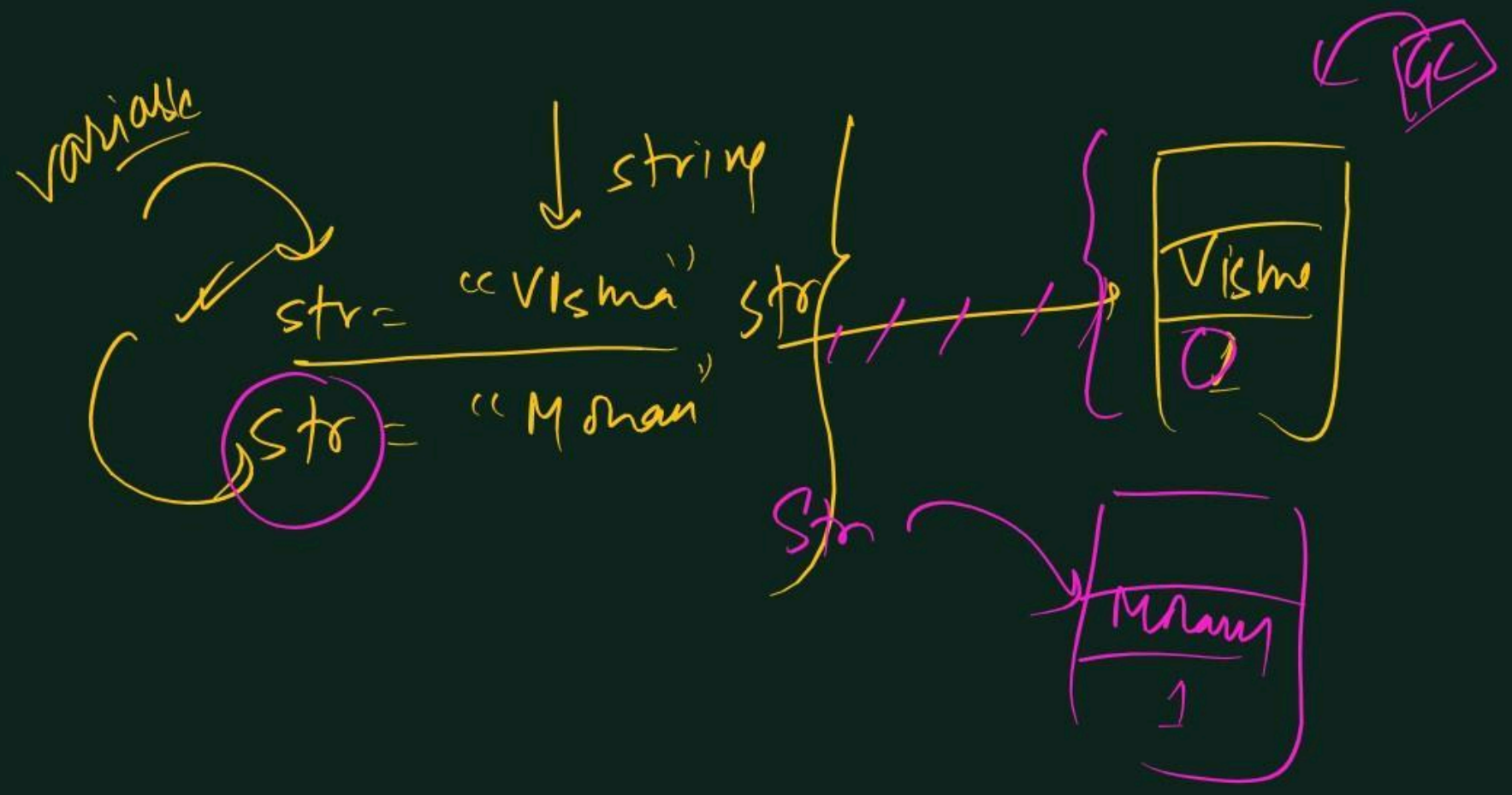
str[3:7:-1]

(start)

6-3







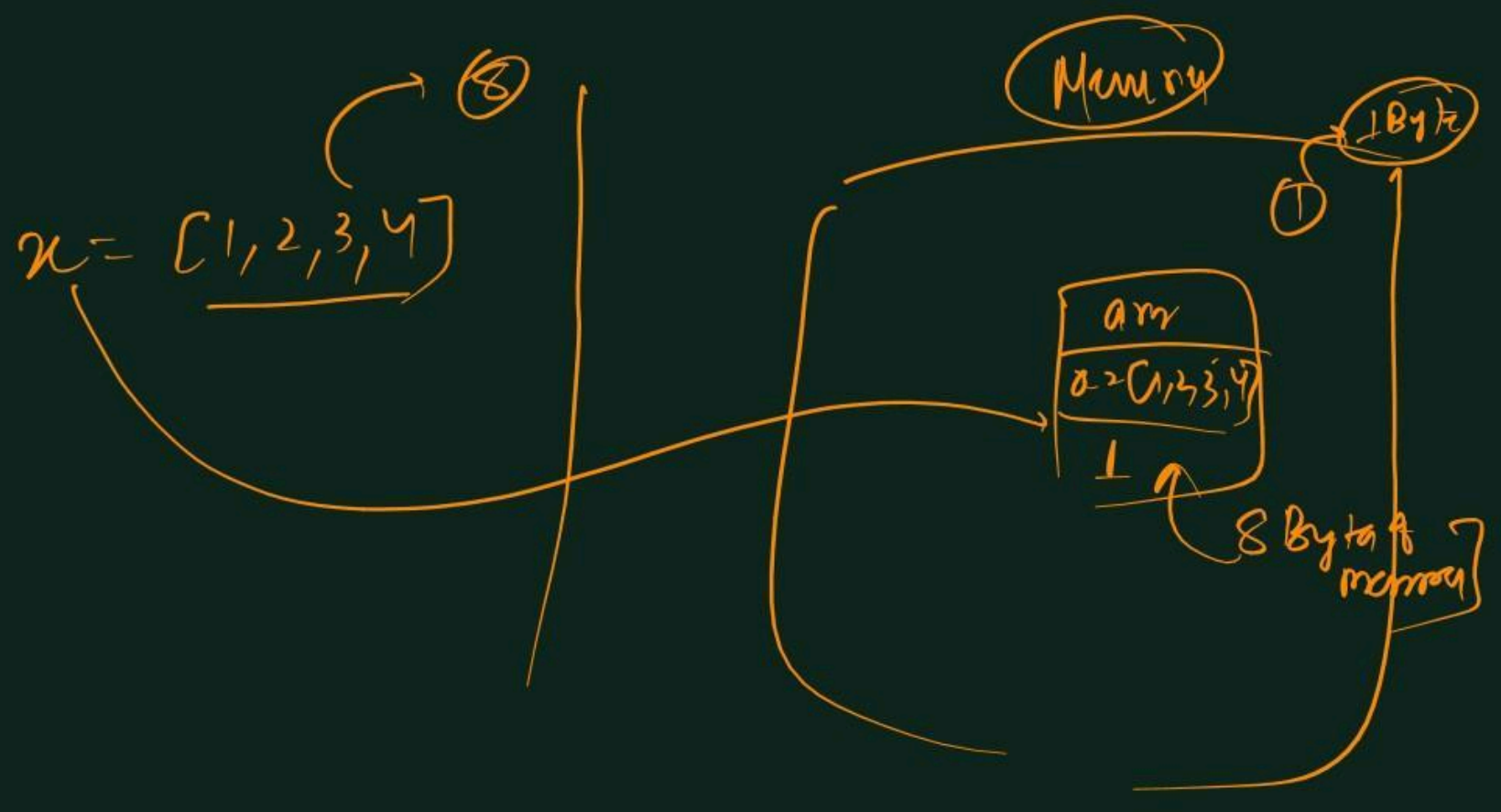
List → sequence of ordered ↑ index ] → Array]

$\left\{ \begin{array}{l} \text{nums} = \text{[3, 4, 5, 9]} \\ \text{nums} = \text{list()} \rightarrow \text{[]} \end{array} \right.$



slicing → string]

1.  $\rightarrow$  Dynamic Array  $\downarrow$  size  $q-8$   
[ ]  
 $x = \text{list}()$



str1 = "Vishnu"

str2 = "Vishnu"

x = [1, 2, 3]

y = [1, 2, 3]

a = 5  
b = 5

z = a

a  
b

arr
5
2

str1

str2

Vishnu
2

z  
x

arr
[1, 2, 3]
2

y

arr
[1, 2, 3]
1

↙ a = 5

b = 5

Mutable

x<sub>1</sub> = [1, 2, 3]

y<sub>1</sub> = [1, 2, 3]

a →

b →

int
5
2

x<sub>1</sub> →

Ⓢ

arr
[1, 2]
1

arr
[1, 2, 3]

[1, 2, 99, 2345689]

→ 12359  
→ 1236  
→ 12361  
→ 12363

(1, 2, 99, 2345689)

$a = \left[ \underbrace{'Vishal'}_0, \underbrace{99}_1, \underbrace{True}_2, \underbrace{12.3}_3, \underbrace{['Monan', 1]}_4 \right]$

✓ a = 5

b = 5

→ a = (3)  
(Reference)

