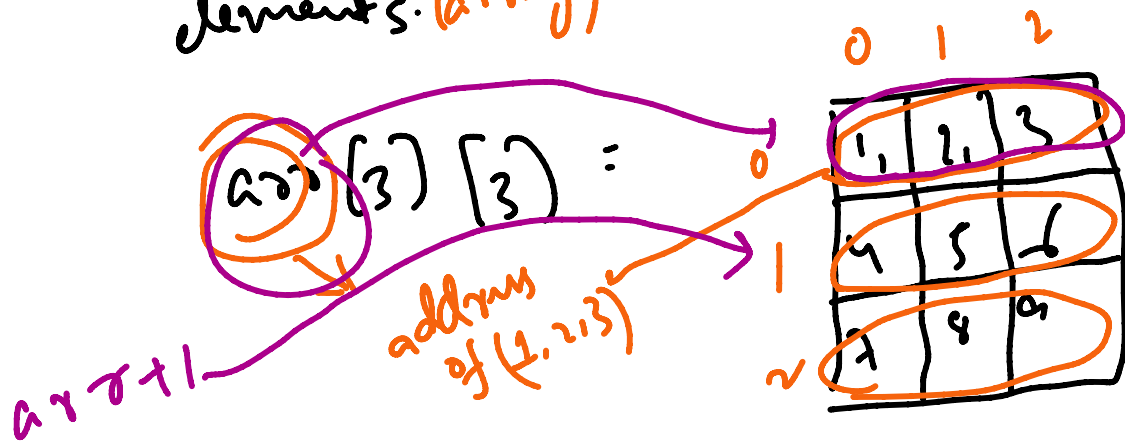


2D arrays contd.

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$arr[i][j]$ → j^{th} column element
 ↓
 pointer
 ↓
 i^{th} row

'arr' (arrayName) in case of 2D arrays is an internal pointer of array of column size elements. (array)



$$arr[0] = \{1, 2, 3\}$$

$$arr[1] = \{4, 5, 6\}$$

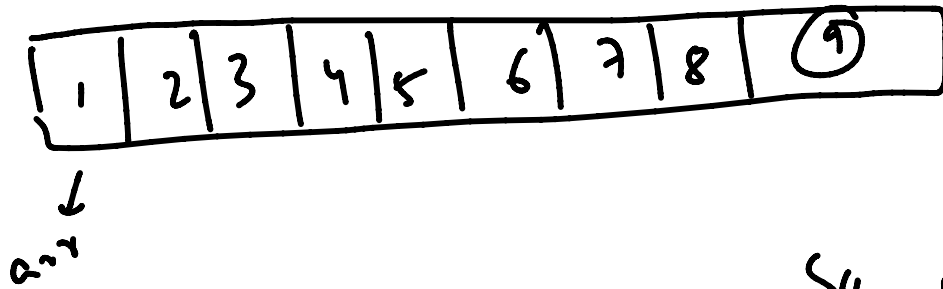
$$arr[i][j] = \left(arr + i * \overset{\text{total}}{\text{number of columns}} + j \right)$$

↓
 address of starting element.

$$arr[2][2] = \text{base} + 2 \times 3 + 2$$

6 + 2 = 8

9

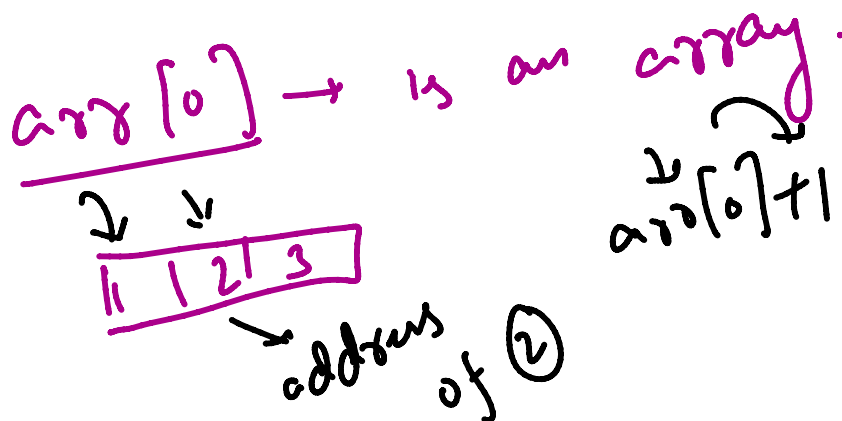


char $arr[3][3] = \{ "AB", "CD" \};$

address of A

$arr[0]$ is an array in itself.

↓
address of first element in $arr[0]$ array



for 2D arrays $arr[i][j]$ is
 $\star(\star(arr+i) + j)$

$\text{char } A \text{ 'A' } > \text{ 'B' }$ $\rightarrow 0$
 $\downarrow \quad \downarrow$
 $65 \quad 66$

$s1 = \text{"Hello"}$
 $s2 = \text{"world"}$

Index $\rightarrow 0$

$H > w$
 $\downarrow \quad \downarrow$
 $72 \quad 88$

$s1 = \text{"Hell"}$ \rightarrow
 $s2 = \text{"Hello"}$

$s2 > s1$