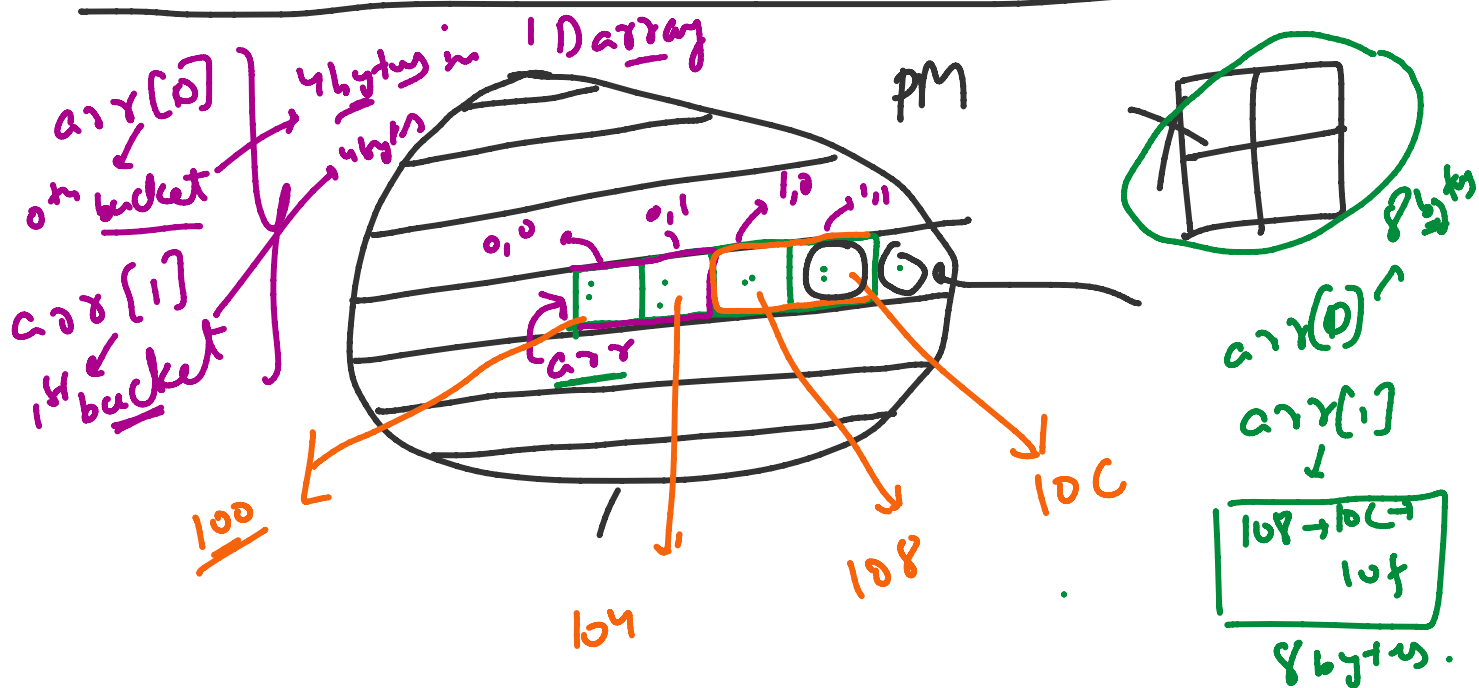


## 2 D arrays

01 July 2023 08:56

$$\text{mat}[2][2] = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$$

$$\text{arr}[2][2] = \{ \{1, 2\}, \{3, 4\} \};$$



in 1 D array

$$\text{arr}[i] \rightarrow (\text{arr} + i)$$

in 2 D array

$$\text{int arr}[i] \rightarrow (\text{arr} + i \times \text{width})$$

int arr[i] →

$$(arr + i \times (\text{sizeof data type}) \times (\text{colsize}))$$

$$arr[i][j] = (arr + (i \times 4 \times \text{colsize}) + (j \times 4))$$

int arr[2][2] = arr[1][1]

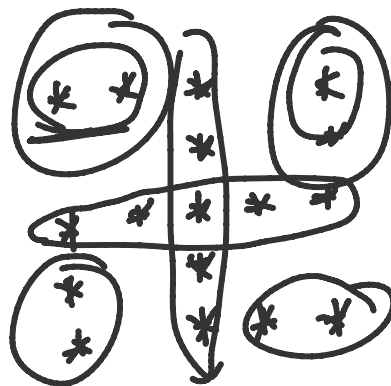
$$* (arr + 1 \times 4 \times 2 + 4)$$

$$= (arr + 8 + 4)$$

$$arr + 12$$

$$(1,1) \rightarrow arr + 12$$

$$arr[0][3] \rightarrow arr + 12$$



$$r = r/2 = 1$$

$$c = c/2 = 1$$

if  $c = 0$ ,  $c = c/2$   
 $r > 0$ ,  $r = r/2$   
 $c = c/2$

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ifcc = 21      82 - 11