

Visible?

int 1, 2, 3, 4, 5  
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DS → Arrays

- ↳ Indexed Collection
- ↳ Finite no.
- ↳ homogenous Elements

Array is an object

arr [] → naming

int n → declaration  
n = 5; → initialization

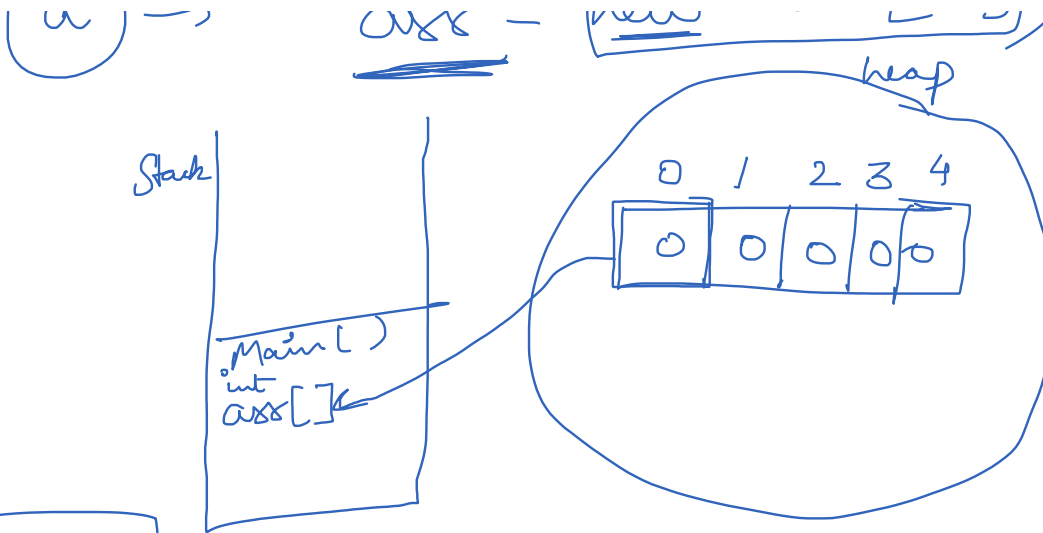
int arr[]; → Declaration  
int [] arr; → or

Creating an Array

(a) Array Creation Expression

(b) Array Initializer List

(a) → ~~arr~~ = new int [5];  
heap



arr[0].  
arr[1].

1 int = 4 bytes

Array → 20 bytes

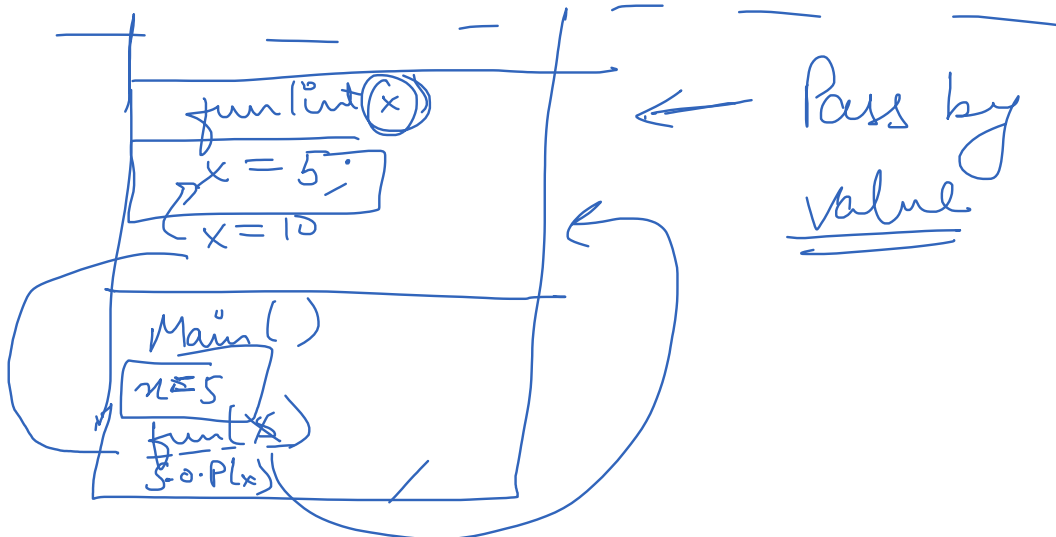
n element array → [0] to [n-1]

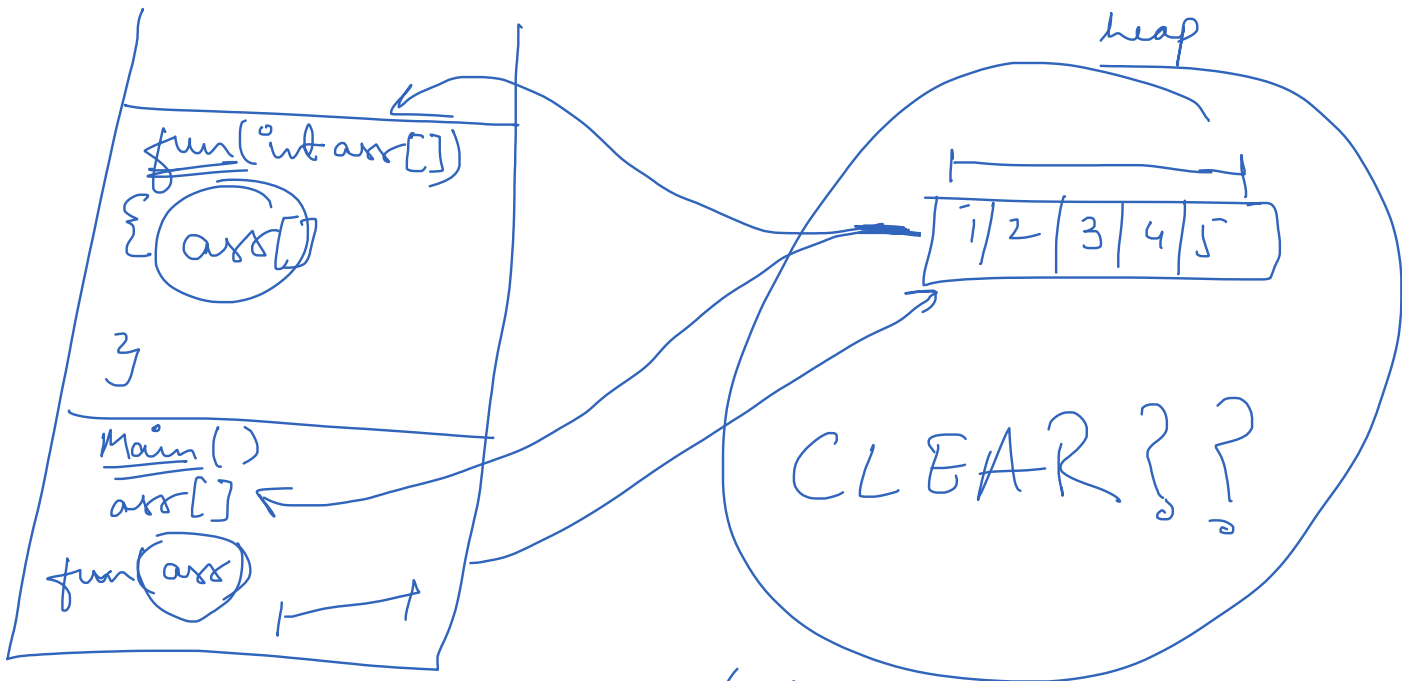
int arr[] = new int [10];

1

Initializers list

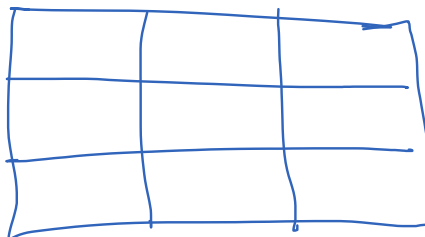
int arr[] = { 4, 5, 6, 7, 8 };





Pass by reference

3x3  
↓  
rows columns



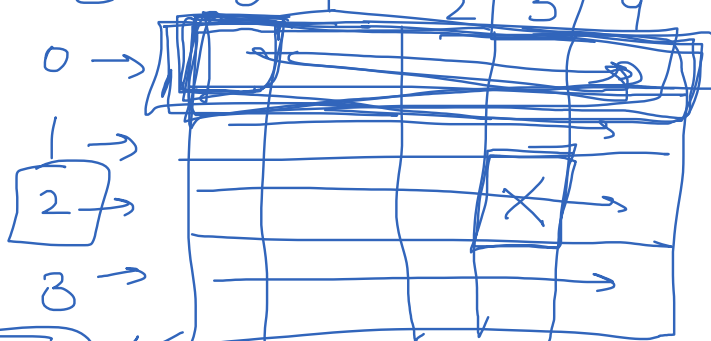
(0,0) (0,1) (0,2) ... (0,q)  
(1,0) (1,1) (1,2) ... (1,q)  
...  
(p-1,0) (p-1,1) (p-1,2) ... (p-1,q)

(row, col)

(p-1, q-1)

arr[0][0]

4x5  
arr[2][3]



mat[0]

mat[1] → 1<sup>st</sup> row

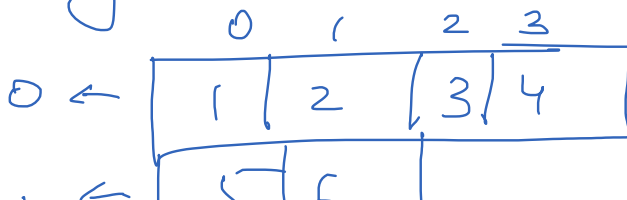
0 → (1 → q-1)  
1 → (1 → q-1)

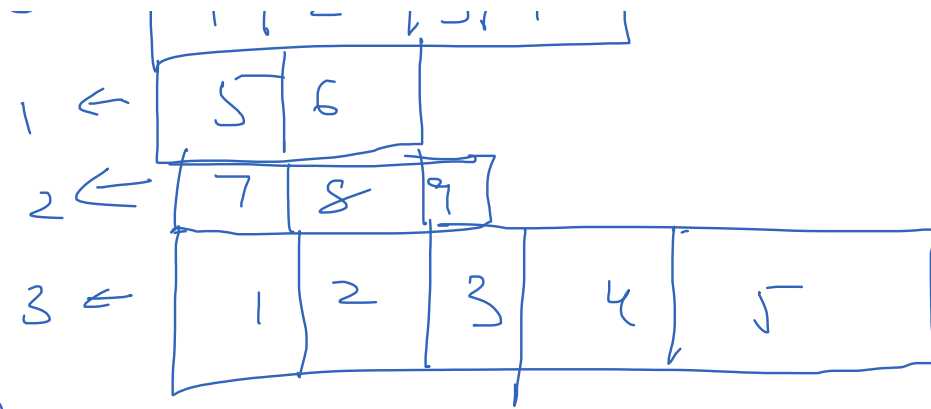
mat

mat.length → 4

Jagged Array

mat[i].length





② Ways

①  $\text{int } A[][] = \{$   
 $\{ 1, 2, 3, 4 \}$   
 $\{ 5, 6 \}$   
 $\{ 7, 8, 9 \}$   
 $\{ 1, 2, 3, 4, 5 \}$   
 $\}$

②  $\text{int } A[][] = \text{new int } [4][ ];$

⊗

$A[0] = \{ 1, 2, 3, 4 \}$

$A[1] = \text{new int } [2];$

$A[2] = \text{new int } [3];$

$A[3] = \text{new int } [5];$