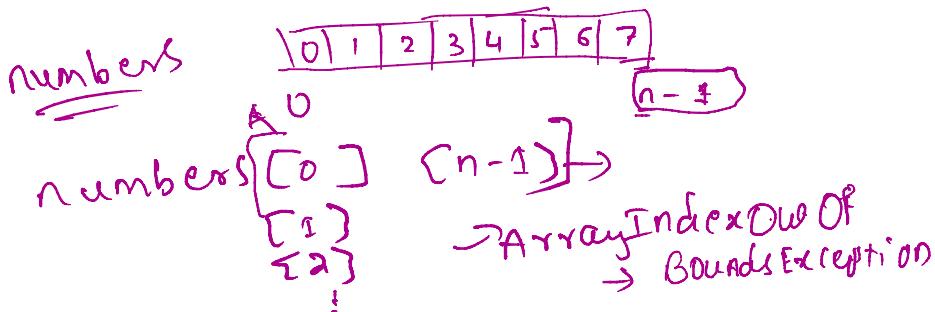


A arrays

Collection of Homogeneous Elements



Declaration :

C++ `int arr a[10];`

java →

`int a[] = new int[10];` → size

`int []a = new int[10];`

Arrays of other data types:

<code>byte []</code>	<code>short []</code>	<code>long []</code>	<code>double []</code>
<code>char</code>	<code>int</code>	<code>float</code>	<code>boolean</code> <code>{true, false}</code>

- * read \rightarrow double values into array, then in reverse order of insertion

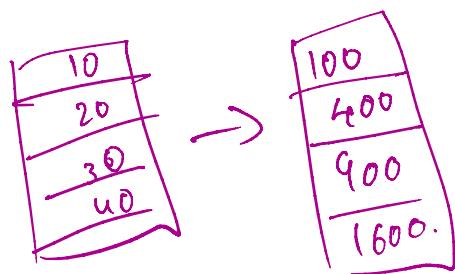
for ex. $\{1, 2, 3, 4\} \rightarrow \{4, 3, 2, 1\}$

- * find the smallest element in array of no. numbers.

* find ...
20 numbers.

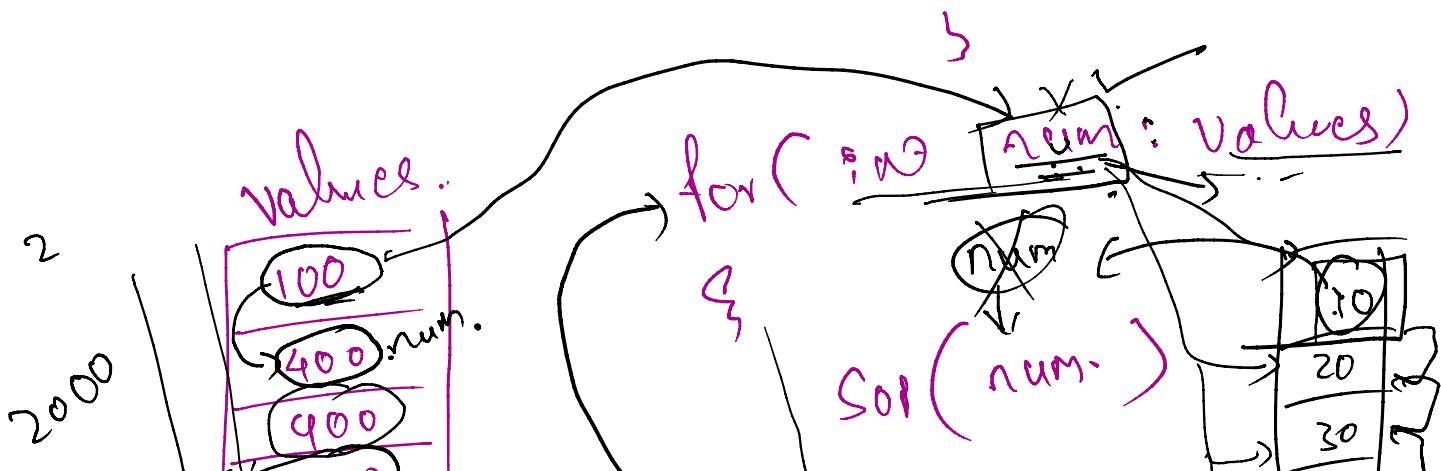
* find the sum, average of elements in array.

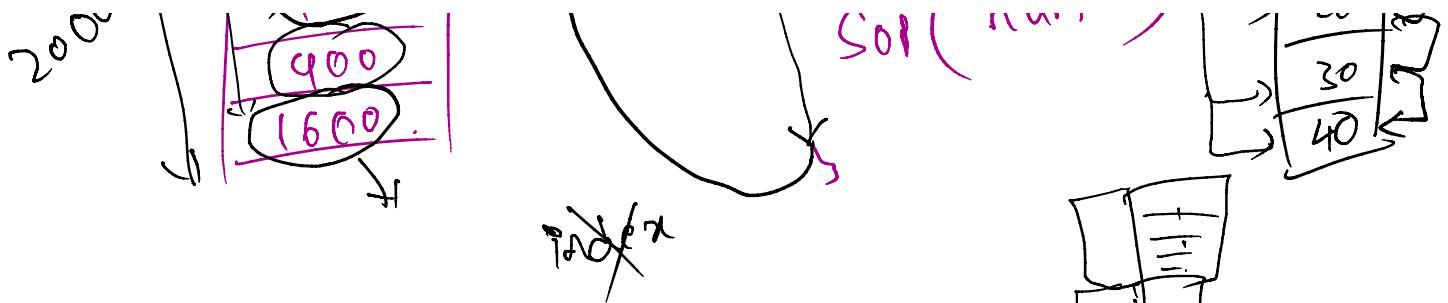
Solution



for-each loop

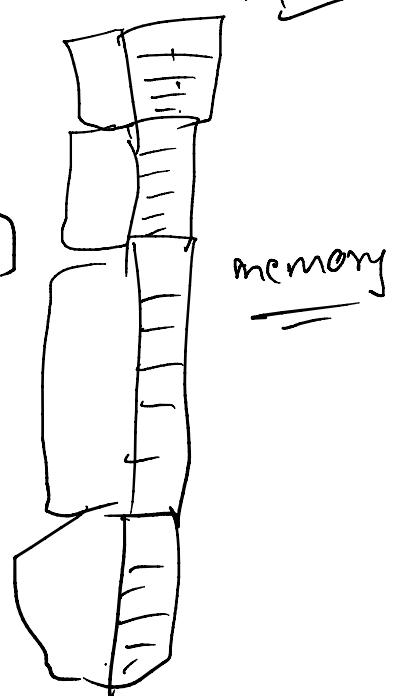
```
int []array = new int[10];  
for (int i=0; i<10; i++) { }  
for (int num: array) { }  
    sout (num);
```





row length 2-d. arrays
matrix.length $(0,0) \rightarrow (0,4)$
col. length
 $\text{Matrix}[0].length \rightarrow 5$

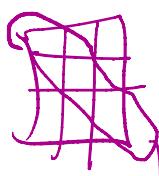
$a[4][5]$



* for matrix, display row-wise sum.

1	2	3	4
5	6	?	8
9	10	11	12

row wise sum 10
 $2 \rightarrow 26$
 $3 = 42$



* Total sum of matrix.

* Sum of principal diagonal elements

- * Addition of two matrices. (Same size)
 - = { \vdots : 3}
- * smallest & largest elements & their position
 $[i, j]$
 \uparrow
 point