



Today's agenda

↳ function game

↳ Problems on array

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## // function game

Pass by value

main() {

int a = 10;

int b = 20;

Swap(a, b);

System.out.println(a); → 10

System.out.println(b); → 20

3

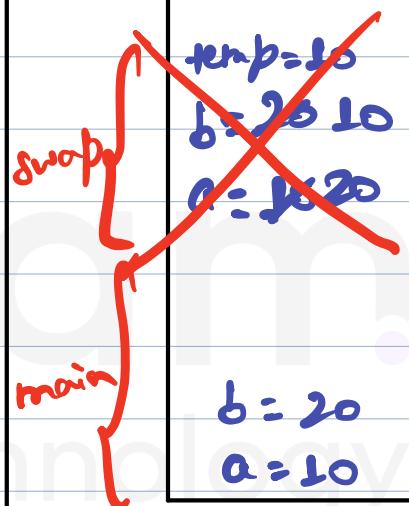
Public static void Swap(int a, int b){

int temp = a;

a = b;

b = temp;

3



Note: Variables across functions are not connected.

## Quiz 2

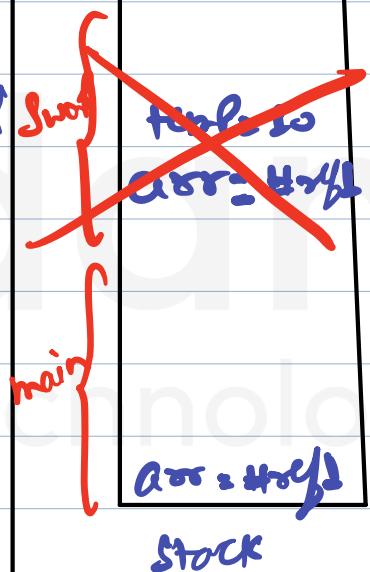
```
main() {  
    int[] arr = {10, 20};  
    Swap(arr);  
}
```

System.out.println(arr[0]); → 20  
System.out.println(arr[1]); → 10

3

```
Public static void Swap( int[] arr ) {
```

```
    int temp = arr[0];  
    arr[0] = arr[1];  
    arr[1] = temp;
```



3

Note: Arrays across functions are connected.



Q) Given  $N$  array elements, count total no. of elements having atleast 1 element greater than itself.

ex:  $\text{arr}[7]: \{ -4, -3, 7, 9, 3, 9, 4 \}$   
 $\hookrightarrow \text{ans} = 5$

$\text{arr}[8]: \{ 3, 4, 11, 8, 2, 10, 9, 11 \}$   
 $\hookrightarrow \text{ans} = 6$

$\text{arr}[5]: \{ 7, 7, 7, 7, 7 \}$   
 $\hookrightarrow \text{ans} = 0$

Obs1: main element of the array won't be counted.

Obs2: except for main element, all the elements are valid.

// find the main element.

$\hookrightarrow$  Count the occ. of main element: mainCount

$\text{ans} = N - \text{mainCount}$ .



## IIIP pseudo code

```
void main() {
    Scanner Scn = - - - -
    int n = Scn.nextInt();
    int[] arr = new int[n];
    i<=n-1
    or
    for(int i=0; i<n ; i++){
        arr[i] = Scn.nextInt();
    }
}
```

int ans = greaterCount(arr);

S-O-P (ans);

3



Public static int greaterCount ( int [] arr) {

int man = arr[0];

for (int i=1; i<arr.length; i++) {  
 if (arr[i] > man) { man = arr[i]; } }

}

int manCount = 0;

for (int i=0; i<arr.length; i++) {  
 if (arr[i] == man) { manCount++; } }

}

return arr.length - manCount;

3



## Q) Swap indexes

↳ Given array of length  $N$  and two indexes  $idx1$  and  $idx2$ , swap the element of those two indexes.

Ex: arr[5] : {<sup>0</sup> 5 <sup>1</sup> 15 <sup>2</sup> 25 <sup>3</sup> 35 <sup>4</sup> 45}

$idx1 = 1$

$idx2 = 3$

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## Q) Reverse array

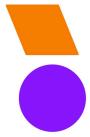
In Given array of length  $n$ , Reverse the whole array.

ex: arr[5]: {10 20 30 40 50}

arr[8]: {10 20 30 40 50 60 70 80}

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Q) Reverse a Part of array

Given  $N$  array element and  $[s, e]$ , reverse the array from  $[s, e]$ .

$\text{arr}[10] = \{ -3 \overset{0}{\cancel{}} 4 \overset{1}{\cancel{}} 2 \overset{2}{\cancel{}} 8 \overset{3}{\cancel{}} 3 \overset{4}{\cancel{}} 9 \overset{5}{\cancel{}} 6 \overset{6}{\cancel{}} 2 \overset{7}{\cancel{}} 8 \overset{8}{\cancel{}} 10 \}$

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