

C++ STLs / JAVA JCF

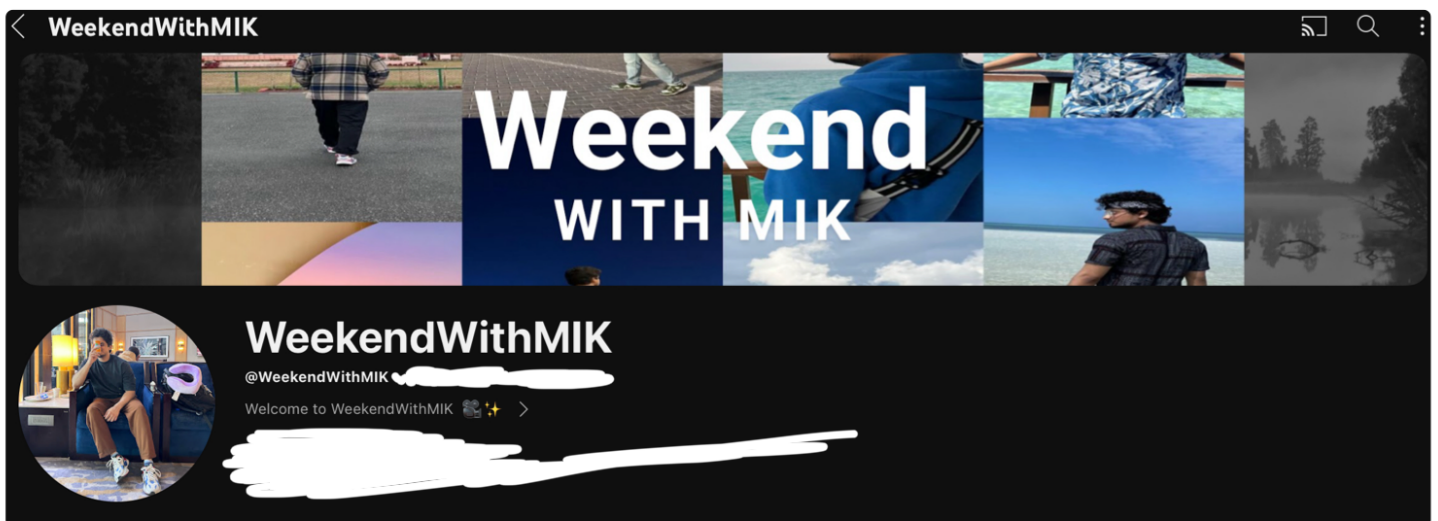
Video - 8



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Motivation :-

If you really have the will power to learn things, there is nothing that can stop you from growing.



MIK...

2529. Maximum Count of Positive Integer and Negative Integer

Easy

Topics

Companies

Hint

Given an array `nums` sorted in non-decreasing order, return the maximum between the number of positive integers and the number of negative integers.

- In other words, if the number of positive integers in `nums` is `pos` and the number of negative integers is `neg`, then return the maximum of `pos` and `neg`.

Note that `0` is neither positive nor negative.

Example :- $nums = \{-3, -2, -1, 0, 0, 1, 2\}$

Output :- 3

$\max(2, 3)$

Using

C++ STL

Count-if

```
Count-if (begin(nums), end(nums), lambda P);
```

```
Count-if (begin(nums), end(nums), lambda N);
```

```
auto (lambda P) = [ ] (int num) {  
    return num > 0 ;  
}
```

```
auto (lambda N) = [ ] (int num) {  
    return num < 0 ;  
}
```

```
return max (P, N);
```

JAVA version

nums → +ve / -ve

Stream → Operations
(counting, filtering)
etc.

filter
count

$P = (int)$ Arrays.stream(nums).filter(lambda P).count()
↑ Predicate
long

$N = (int)$ Arrays.stream(nums).filter(lambda N).count()
↑ Predicate
long

IntPredicate lambda P = num → num > 0;

IntPredicate lambda N = num → num < 0;

return Math.max(P, N);

T.C = $O(N)$

Sorted.

$$S.C = O(1)$$

$$\log(N)$$

Follow UP :- $\log(N)$
sorted
(Binary Search)

nums = {⁰-3, ¹-2, ²-1, ³0, ⁴0, ⁵4, ⁶5}

$$n = 7$$

"First number ≥ 1 "

$$n - 5 = 7 - 5 = 2$$

int first = lower-bound(begin(nums), end(nums), 1)

- begin(nums);

First number $\neq 0$

int FirstZero = lower-bound(begin(nums), end(nums), 0);
- begin(nums);

max ($\underbrace{n - \text{FirstP}}_{\# \text{ +ves}}$, $\underbrace{\text{FirstZero}}_{\# \text{ -ves}}$);

Java...

Arrays.BinarySearch().

lower_bound.

nums = {⁰-3, ¹-2, ²-1, ³0, ⁴0, ⁵4, ⁶5}

≥ 1  $mid = 4$
 $result = 5;$ $// \text{First ele } \geq 1$


$n - result$
 $= 7 - 5 = 2$

lower:
 ≥ 0

$T.C = O(\log(n))$

$S.C = \underline{\underline{O(1)}}$

