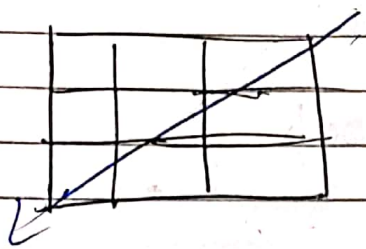


17/9/23 Week-5 4 Doubt class

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Date: 1220

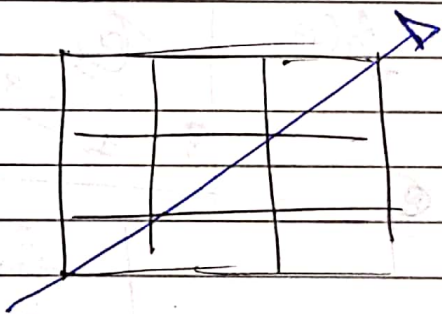


$(0, c-1) \rightarrow (0, 2)$
 $i++ \quad j \rightarrow \text{same}$ $(1, 1)$
 $(2, 0)$

$i=0, j=2$

for ($j > 0; j--$)

cout << a[i++] [j]



$(2, 0)$

$(1, 1)$

$(0, 2)$

$i = R-1, j = 0;$

while ($i > 0$)

cout << a[i] [j];

$i-- \quad j++$

}

Swap Implement $\rightarrow (a, b)$

i) Temp variable \rightarrow
 ii) +, - \rightarrow
 iii) XOR \rightarrow] \rightarrow All Done

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Rotate Array

i) Extra space \rightarrow extra space

ii) Single rotate k Times \rightarrow k Times

iii) Modulus $\rightarrow (i+k) \% n$

iv) Reversal Method

i/p \rightarrow 1 2 3 4 5 6 7 $k=3$

Algo \rightarrow Reverse whole array (0, n-1)

ii) Revers (0, k-1)

iii) Re (k, n-1)

0 1 2 3 4 5 6
7 6 5 4 3 2 1

5 6 7 4 3 2 1

\Rightarrow 5 6 7 1 2 3 4

$k = k \% \text{num.size}()$ \rightarrow This will always (0, n-1) \rightarrow value

arr \rightarrow 1 2 3 4 5

k=0 \rightarrow 1 2 3 4 5

k=1 \rightarrow 5 1 2 3 4 k=6

k=2 \rightarrow 4 5 1 2 3 k=7

k=3 \rightarrow 3 4 5 1 2 k=8

k=4 \rightarrow 2 3 4 5 1 k=9

k=5 \rightarrow 1 2 3 4 5 k=10

Repeating after n-1 values

\rightarrow Pattern is Repeating

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Q) Rearrange Array by Sign

i/p \rightarrow 3 | 1 | -2 | -5 | 2 | 4

o/p \rightarrow 3 | -2 | 1 | -5 | 2 | 4

arr \rightarrow

0	1	2	3	4	5
3	-2	1	-5	2	4

Condⁿ, i) \rightarrow ex plus then neg

ii) Order must be preserved

(n-1) \rightarrow Temp space

pos \rightarrow

3	1	2
---	---	---

\downarrow

At even position

neg \rightarrow

-2	-5	-4
----	----	----

\downarrow $n/2$

At odd position

\Rightarrow for $i = 0 \rightarrow n$
if $(i \% 2 == 0)$

arr[2*i] = pos[i]

else \rightarrow arr[2*i+1] = neg[i]

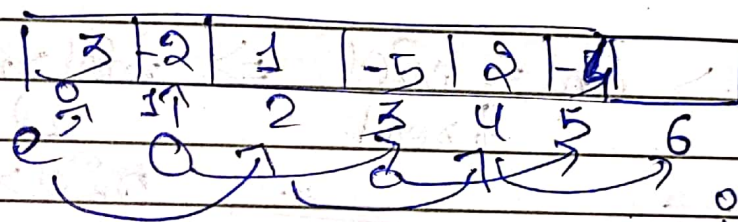
OR


```
int i = 0;
while (i < pos.size())
    ans.push_back(pos[i])
    ans.push_back(neg[i])
    i++;
}
```

M2 → Two Pointers

even → e = 0

arr → [3] [1] [-2] [-5] [2] [-4] Odd → o = 1
 e → +ve o → -ve



if (nums[i] > 0)

if ans[o] = nums[i]
 o++

Loop end → when

e / o > nums.size()

or

e / o < nums.size

else → nums[i] < 0

ans[o] = nums[i]

o++

if condⁿ loop ke chalu
 h

i < nums.size()

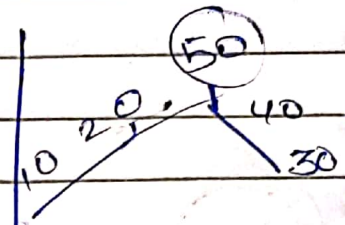
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Peak element in Mountain Array

0	1	2	3	4
10	20	50	40	30
	$s \rightarrow$	\uparrow mid		\uparrow e

$s = 0$
 $e = n - 1 \rightarrow \text{mid} = \frac{0 + 4}{2} = 2$



$\text{mid} + 1 > \text{mid} \rightarrow$ hum A line peh
 $s = \text{mid} + 1$

$\text{mid} - 1 > \text{mid} \rightarrow$ hum B line peh
 $e = \text{mid} - 1$

else \rightarrow ans = mid \Rightarrow mid $>$ mid + 1
 & break
 mid $>$ mid - 1

I also figured out this Approach

$50 > \text{mid} - 1$ & $\text{mid} > \text{mid} + 1$
 $\text{mid} + 1 < \text{mid} > \text{mid} - 1$
 \rightarrow Return mid

(S-1) \rightarrow Basically, first approach kiko ya condition kya ho skta.

(S-2) \rightarrow same condition kiko, then Dry-Run karo Test Cases

(S-3) \rightarrow And code ko Improve krte Raho.