Bayer Moore

Appointments

One method is is by using
Hashing method but
what is happening is
Hashing is a better method
but not optimal one, due
the constraints the ~~we have~~
given in the question

We need to use Bayer-~~Moo~~ Moores Alg
(MOST VOTING ALG)

arr = [7, 7, 5, 7, 5, 1, 5, 7, 5, 5, 7, 7, 5, 5, 5, 5]

To give greatest count of reccuring elements which is greater than n/2 (size of arr)

May

M	T	W	T	F	S	S	M	T	W	T	F	S	S
				1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31							

Appointments

It is abt 2 elements
initially → ele → not initialized
→ count = 0
→ This count doesn't store any max no. of recurrences of an element.

Taking ex - arr - [7, 7, 5, 7, 5, 1, 5, 7, 5, 5, 7, 7, 5, 5, 5, 5]

Step 1 when the ~~element~~ element is initialized to a[i], where [i = 0], count becomes count++, i.e count = 1
element = 7 count = 1

Step 2 element = 7, i = 1 element = a[i]
∴ count = 2.

Step 3 element = 7, i = 2. element != a[i]
[7 != 5]
∴ the 'element' is != to a[i]
The count = count - 1;, i.e
Presently count = 1

June

M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30												

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~~Step4 - element = 7~~

$i = 3$, element = a[i]

∴ count++ i.e count = count+1;

∴ count = 2.

Step5 - element = 7, i=4 element $\neq$ a[i]

7 ≠ 5

count = count-1

// count = 1

Step6 - element = 7 i=5 element $\neq$ a[i]

7 ≠ 5

count = count-1

count = 0

[7, 7, 5, 7, 5, 1, 5, 7, 5, 5, 7, 7, 5, 5, 5, 5]

In this subarray ~~7 occurs 3 time~~ we come back to count=0

Hence, now we can conclude in this subarray, 7, occurs lessthan n/2 times.

Appointments

Now update the 'element' to i = 6, we are updating ~~the elem~~ so to consider the next element, i.e i=6 since count came back to 0,

~~Step7 element = a[i], i=6, = [5]~~

count = 1

Step8 element = 5, i=7

element ≠ a[i]

$\boxed{count = 0}$

Step9 updates the element=5, i=8 count=1

Step10 a[i] = element i=9 count = 2

5 = 5

Step 11 ~~a[i] ≠ element i=10 count=1~~

7 ≠ 5

Step12 a[i] ≠ element i=11 count=

7 ≠ 5

Step 13 ∴ i = 12, 13, 14, 15

∴ a[i] = 5 count = 4

5 = a[i] = element