27-08 Assignment Problems

27 August 2022 10:13

Q-1 arr - 7 3 5 4 5 3 4 } I/P

O/P - 7 → unique

Naive:-

XOR

		XOR	OR
0	0	0	0
0	1	1	1
1	0	1	1
1	1	0	1

AND / OR / XOR

1. Commutative
2. Associative

a+b = b+a

a x b = b x a

a b

5 3

5+3 = 8 5x3 = 15

3+5 = 8 3x5 = 15

(a+b)+c = a+(b+c)

(a x b) x c = a x (b x c)

5 3 4 5 2 3 4

= 5 ^ 3 ^ 4 ^ 5 ^ 2 ^ 3 ^ 4

= (5 ^ 5) ^ (3 ^ 3) ^ (4 ^ 4) ^ 2

= 0 ^ 0 ^ 0 ^ 2

= 0 ^ 0 ^ 2

= 0 ^ 2

= 2

3 | 5 }

2 | 3 | 1
2 | 1 | 1
0

2 | 5 | 1
2 | 2 | 0
2 | 1 | 1
0

OR

0 1 1 → 3
1 0 1 → 5
1 1 1
2^2 2^1 2^0 => 7

xor 0 1 1
1 0 1
1 1 0 → decimal

```
let arr = [7,3,5,4,5,3,4]; // 7
```

7 ^ 3 - 4

4 ^ 5 - 1

1 ^ 4 - 5

5 ^ 5 - 0

0 ^ 3 - 3

3 ^ 4 - 7

0 1 1
xor 1 0 1
1 1 0 → 110

3 → 1 1

---

arr - 1 5 7 1 target - 6

result

return result

elem

target

10

10 - 2 = 8

target - curr elem

curr - [2 3 4 5 5 6 7 8] result → 2

target - 10

10 - 2 => 8

10 - 3 => 7

result

ret_result {}

{6, 4}

{7, 3}

{8, 2}

{5, 5}

0
1
2 -
3 -
4
5 - 5
6 - 4
7 - 3
8 - 2

Q. [1, 2, 3] I/P

1
2
3
1 2
2 3
1 2 3

O/P

3 pointer

1 2 3
0 1 2

i
j
k

i	j	K	→ Print every elem from i → j	O/P
0	0 1 2 3	0		1
				1 2

Sparse Matrix

[1 2 3
0 0 1
0 0 0]

majority => 0

9 / 2 => 4

[3 1 3 3 2]

5 / 2 => 2

O/P → 3

count > n/2

[1 2 3 4 5] XX

Sorted

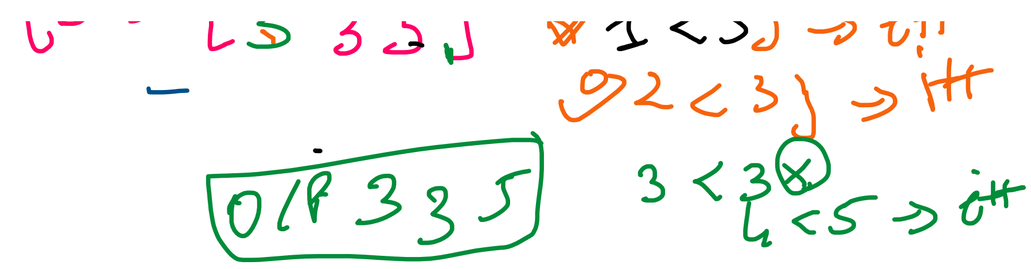
Intersection of 2 arrays

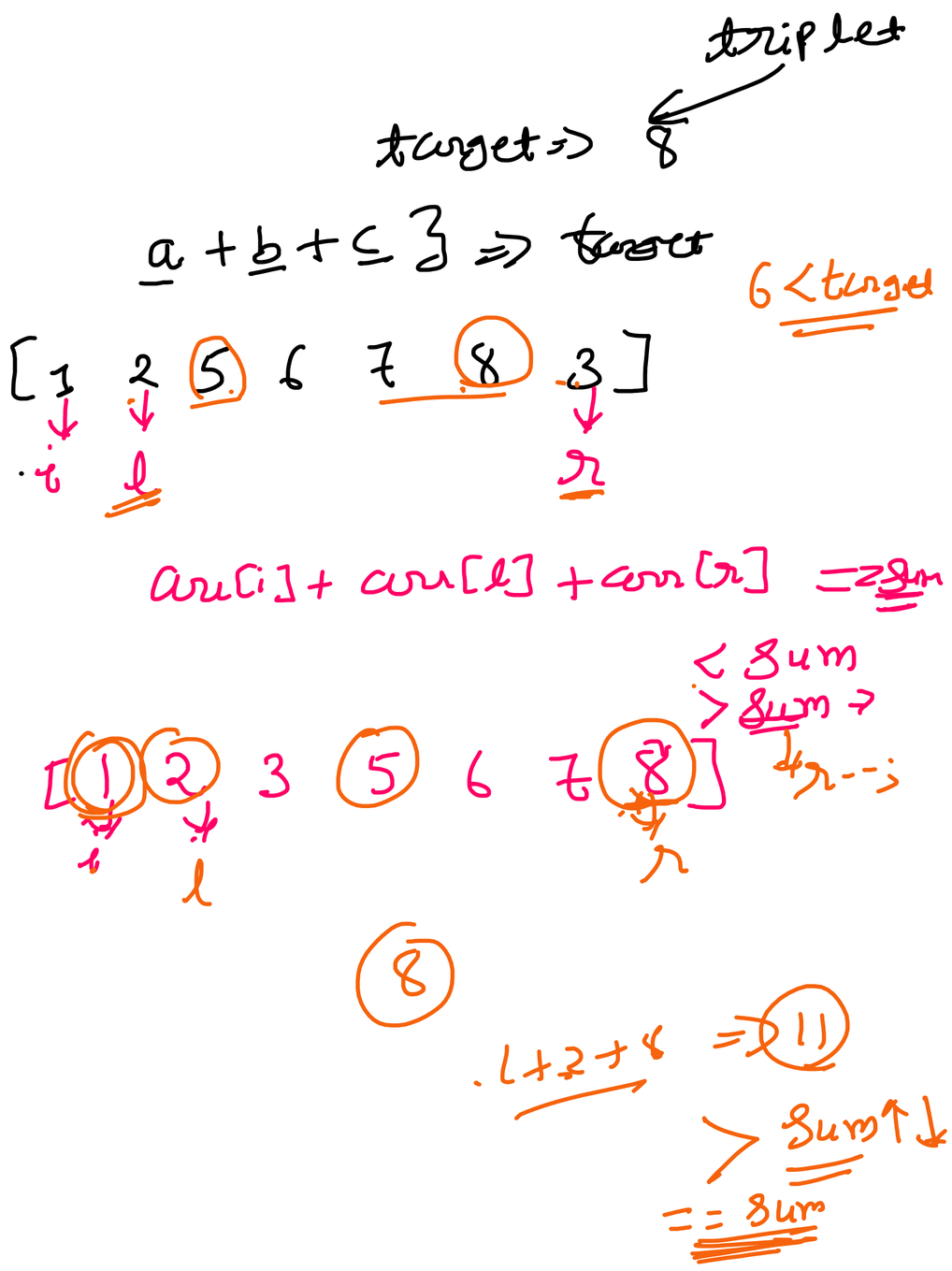
O/P :- [3 3 5]

Sorted

A → [1 2 3 3 4 5 6]

B → [2 3 5 ...]


0 1 2 3 3 5
2 < 3 ⇒ ++
3 < 3
4 < 5 ⇒ i++


triplet
target ⇒ 8
a + b + c ⇒ target
6 < target
[1 2 5 6 7 8 3]
i l r
arr[i] + arr[l] + arr[r] = = sum
< sum
> sum ⇒
r --;
[1 2 3 5 6 7 8]
i l r
8
1 + 2 + 6 ⇒ 11
> sum ↑↓
= = sum