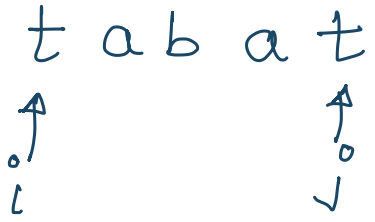
① Palindrome -

Given → a long string (like a sentence)

1) convert everything to lowerCase.

2) Now, except lowercase & 0-9
it there is something, make it " "



match charAt(i) = charAt(j)

i++

j--

(2) Two integer Sum II.

→ Given → Sorted array

[1, 2, 3, 4] target = 3.

left ↑ right ↑

check if left + right = target.

if sum < target → increase left.

sum > target → increase right.

sum == target → return {left, right}.

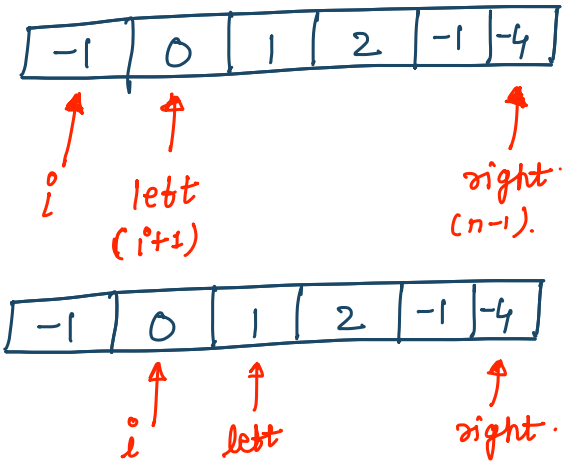
③ 3 sum

Given array →  – Not sorted.

① sort array

we loop on each element.

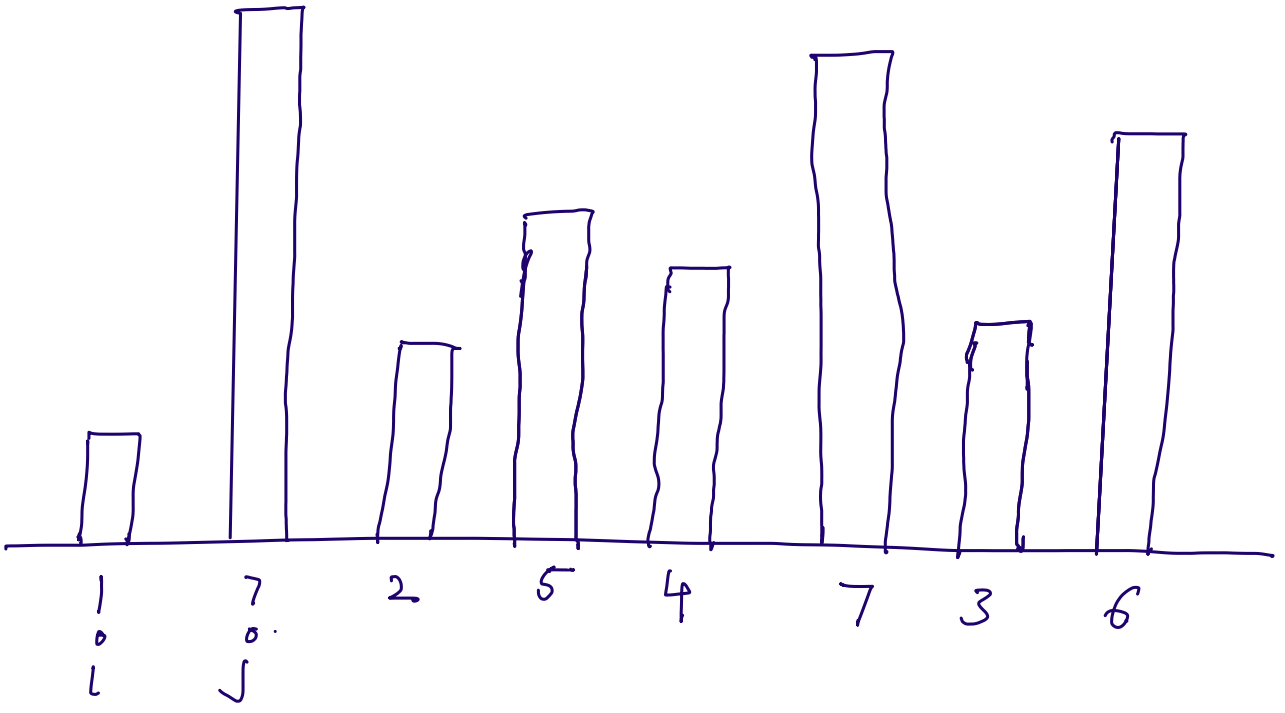
$i = 0 \rightarrow i = n-1$.



we run a while loop (left < right)

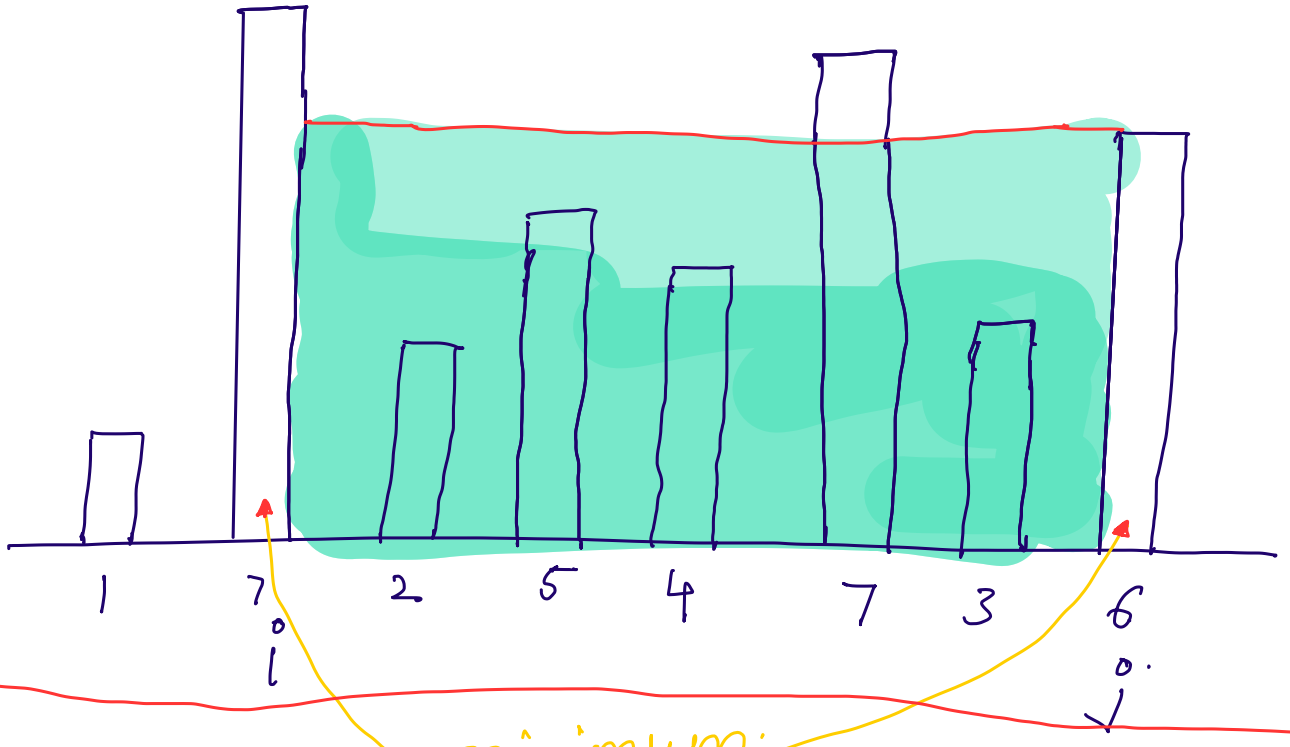
```
if (sum < 0)
    left ++
else if (sum > 0)
    right --
else
    add ( left, right)
we skip duplicates

    left ++
    right ++
```

④ Container with most water:



for ($i = 0 \longrightarrow i = n-1$)

for ($j = i+1 \longrightarrow j = n-1$)

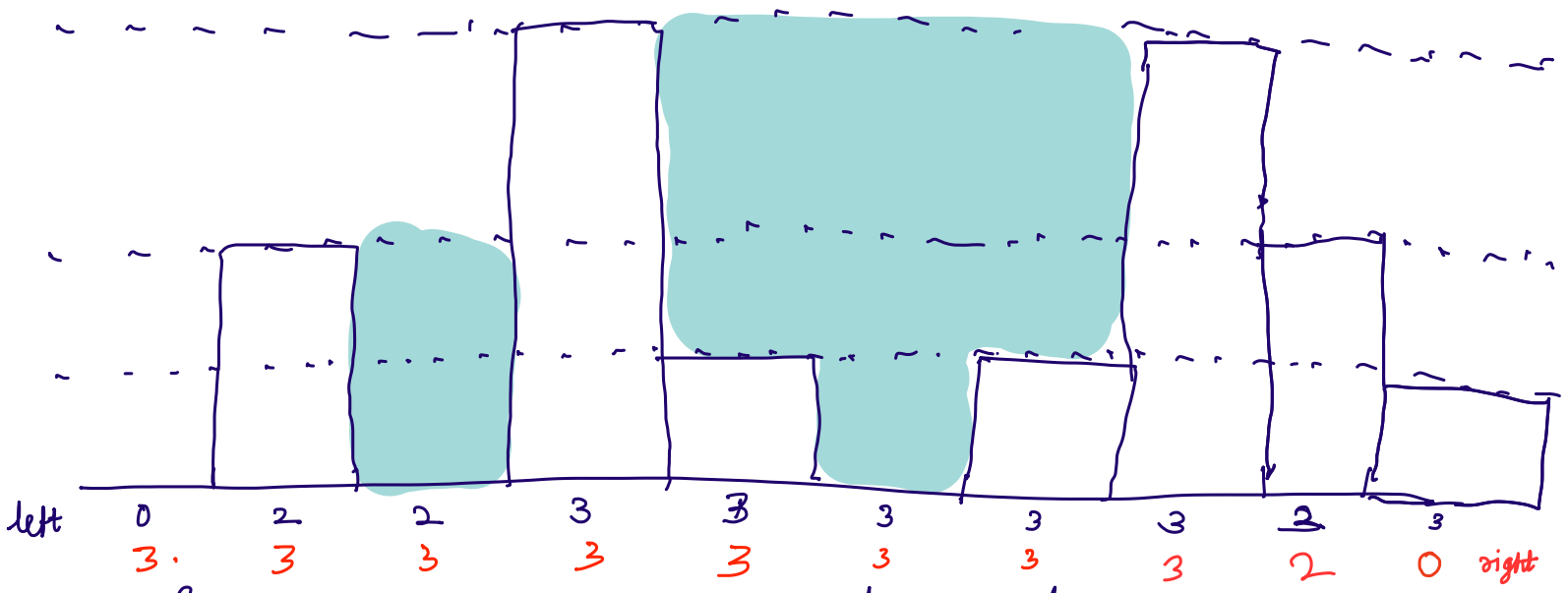


max = minimum. * Width.

(7, 6) → 6 (j − i).

Keep updating max.

⑤ Trapping Rain Water.



left Array → maximum from left.

Right Array → maximum from right.

for each index

amount of water we could store is.

$$\min(\text{left}(i), \text{right}(i)) - \text{height}(i)$$

keep adding in answer