Trapping Rain Water

height = [0,1,0,2,1,0,1,3,2,1,2,1]

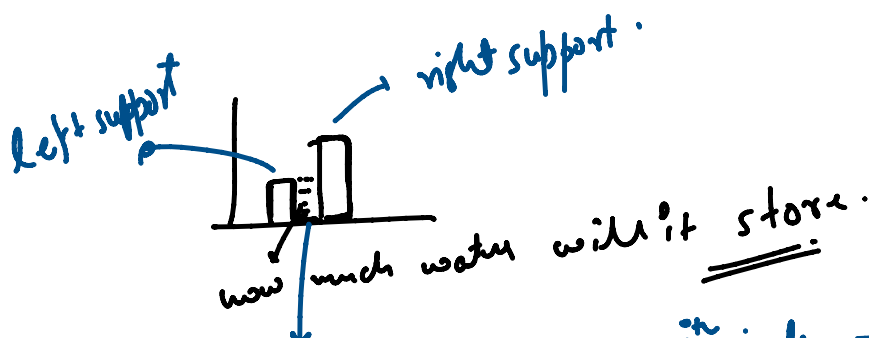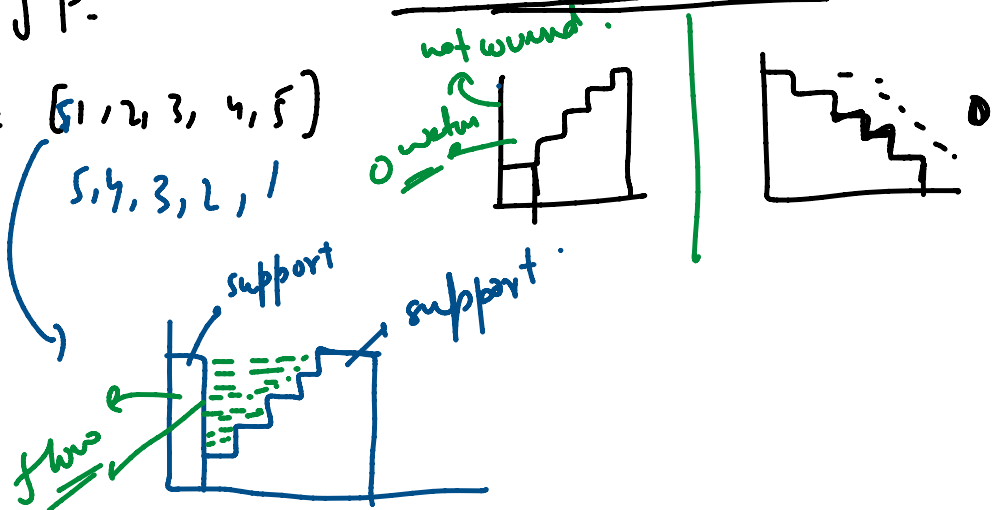# First we need to workout the condition of storing water.

(i) → there must be a mismatch/gap in bars.

$$arr = [1,1,1,1,1,1] \rightarrow$$

(ii) that gap must be covered from either side.

$$arr = [1,2,3,4,5]$$

$$5,4,3,2,1$$

not covered.
0 water

0

support

support

flow

left support   right support

how much water will it store.

4   2.

how much water wi...

water at i^{th} index $= \begin{cases} \min(\text{leftsup}, \text{rightsup}) \\ \quad - arr[i] \\ 1 - 0 = 1 \end{cases}$

$\widehat{4} \qquad 2.$

0

this index

limit
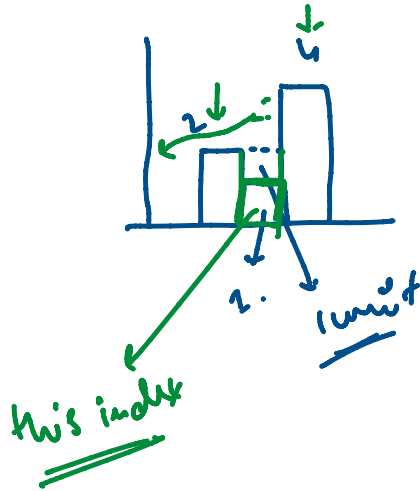
$\min(2, 4) - 1$

$\dfrac{}{2 - 1 = \boxed{1}}$

$\textcircled{2} - 1$

water at $[4 \to 5] = \min(ls, rs)$ $2, 3$

$\qquad - arr[4]$

$\qquad\qquad \downarrow$

$\qquad\qquad 0$

$2 - 0 = \textcircled{2}$

itself 2 3 itself

$\widehat{3}$
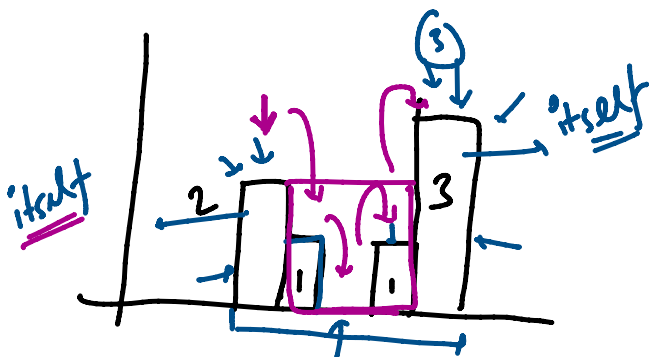
$\to \textcircled{4}$ units water

water $= \cancel{4} \cancel{3} \cancel{3} 4$

water $+= \boxed{\dfrac{\min(ls, rs) - arr[i]}{2, 3} - 2 = 0.}$

$2 - 1 = 1$

water = (2,3 - ?

2,3 - 1 = 1
2,3 - 0 = 2
2,3 - 1 = 1

2,3 , -3
2-3 → (-1 ve) → discard

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left support =

right support =

0	1	1	2	2	2	2	3	3	3	3	3

ls

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

rs

| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 |

i=0
water

for (int i=0; i<n; i++)
    water += min(ls[i], rs[i]) - arr[i];

    3 - 0 = 0

y

1
2
3 4
4
5
6 7
7
8 9
9
10

y

(5)(6) →

$\textcircled{0}$, 3 − 0 = 0!

$\textcircled{1}$, 3 − 1 = 0.

$\textcircled{1}$, 3 − 0 = 1

→ $\textcircled{2}$, $\textcircled{3}$ − 2 = 0

$\textcircled{2}$ 3 − 1 = 1

$\textcircled{2}$ 3 − 0 = 2

$\textcircled{2,3}$ − 1 = 1

3,3 − 3 = 0

3,$\textcircled{2}$ − 2 = 0.

3$\textcircled{2}$ − $\textcircled{1}$ = 1

3$\textcircled{2}$ − 2 = 0

3,1 − 1 = 0