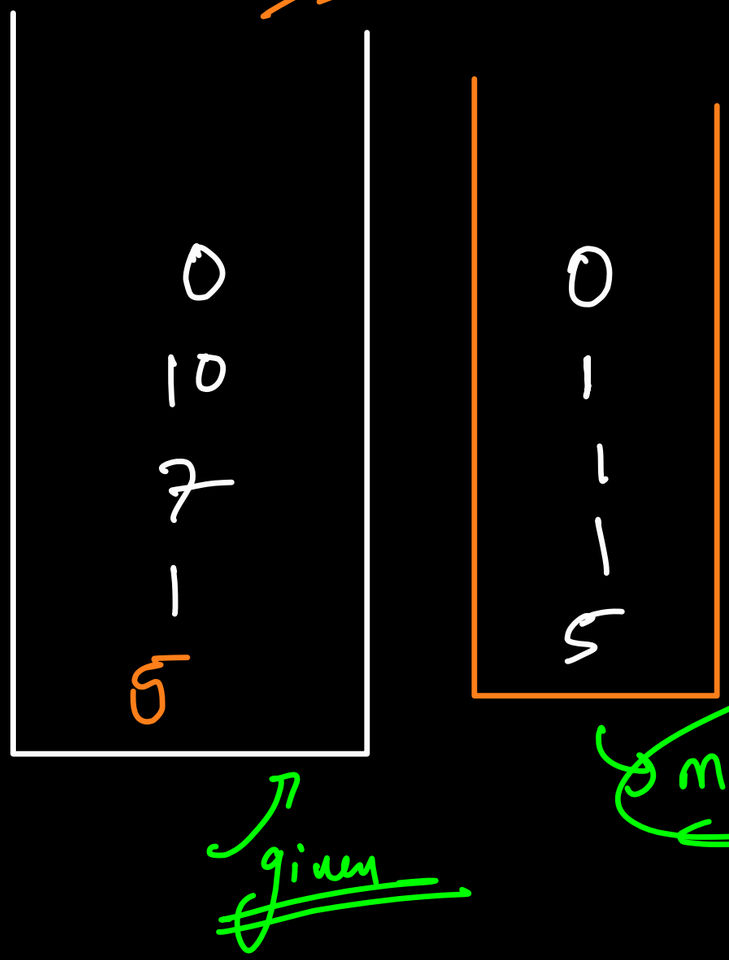
Substitute



push(x)
pop()
top()
} O(1)

getMin - O(1) → O(n)

Time O(1) Space - O(n)

Min Stack → top of min stack will tell current min of given stack

given

O(1)

O(1)

How to reduce the space ??

st.top() → y

incoming → x

min → 5 1 -10 -15

-10 8 3 5

when should we update the min??

new min detected

x < min → x - min < 0

x = 3

1

5

2

we got new min

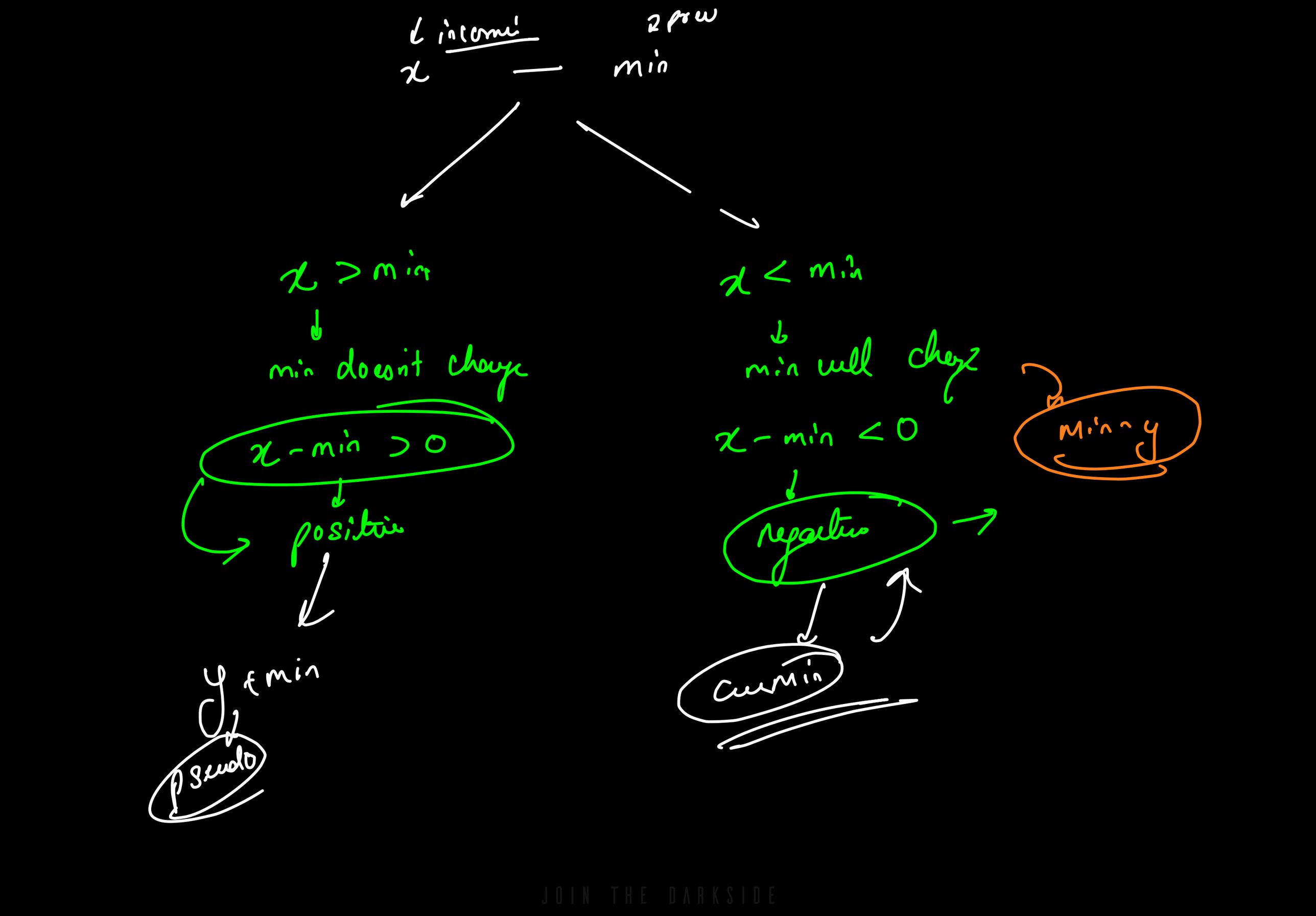
min = y

Given stack

we need a flag to understand after removal of any element should we update min or not and what should be the min value.

x > min

x - min >= 0 positive



$x < min$

$x - min < 0$

add x both sides

$x - min + x < x$

$2x - min < x$