Lec-8

18/09/24 2:22 PM

[1, 2, 3, 4, 5, 6, 7, 8] K=3 Reversal Algo

6 7 8 1 2 3 4 5 K=4

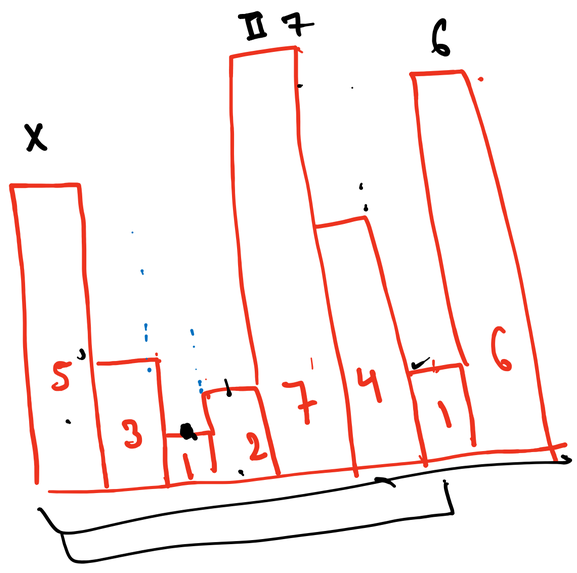
8 7 6 5 4 3 2 1

5 6 7 8 1 2 3 4

K=3 8 7 6 5 4 3 2 1 / 6 7 8 / 1 2 3 4 5

5 4 3 2 1 6 7 8 → K → 1 5 4 3 2 1 8 7 6

change 6 7 8 1 2 3 4 5



[5, 3, 1, 2, 7, 4, 1, 6]

2+4+3+2+5 = 16 ✓

(5, 7) = 5-5 = 0 ✓
(5, 7) = 5-3 = 2
(5, 7) = 5-1 = 4
(5, 7) = 5-2 = 3
(7, 7) = 7-7 = 0
(7, 6) = 6-4 = 2

(7, 6) = 6-1 = 5
(7, 6) = 6-6 = 0

n=8 [5, 3, 1, 2, 7, 4, 1, 6] (0 1 2 3 4 5 6 7)

i = n-2 i >= 0 i--
R(i) = max(R(i+1), arr(i))

	0	1	2	3	4	5	6	7
Left	5	5	5	5	7	7	7	7
Right	7	7	7	7	7	6	6	6

i=0 min(L(0), R(0)) - arr(0) = (5, 7) - 5 = 5-5 = 0
i=1 Min(L(1), R(1)) - arr(1) = (5, 7) - 3 = 2
i=2 Min(L(2), R(2)) - arr(2) = (5, 7) - 1 = 4
i=3 Min(L(3), R(3)) - arr(3) = (5, 7) - 2 = 3
i=4 min(L(4), R(4)) - arr(4) = (7, 7) - 7 = 0
i=5 min(L(5), R(5)) - arr(5) = (7, 6) - 4 = 2
i=6 min(L(6), R(6)) - arr(6) = (7, 6) - 1 = 5
i=7 min(L(7), R(7)) - arr(7) = (7, 6) - 6 = 0

R(n-1) = arr(n-1)
i=6 (N-2) R(6) = Max(R[7], arr(6))
i=5 R(5) = max(R(6), arr(5))
i=4 R(4) = max(R(5), arr(4))
i=3 R(3) = max(R(4), arr(5))
i=2 R(2) = max(R(3), arr(2))
i=1 R(1) = max(R[2], arr(1))
i=0 R(0) = max(R(1), arr(0))

Left(i) = max(Left(i-1), arr(i))

Left[0] = arr[0]
i=1 Left(1) = max[Left(0), arr(1)]
i=2 Left(2) = max[Left(1), arr(2)]
i=3 Left(3) = max[Left(2), arr(3)]
i=4 Left(4) = max(Left(3), arr(4))
i=5 Left(5) = max(Left(4), arr(5))
i=6 Left(6) = max(Left(5), arr(6))
i=7 Left(7) = max(Left(6), arr(6))

n=5 [2, 3, 4, 6, 2] (0 1 2 3 4)

Left(i) = Left(i-1) × arr(i-1)

	0	1	2	3	4
Left	1	2	6	24	144
		48	12	2	1

(144 96 72 48 144)

Left(0) = 1
i=1 Left(1) = Left(0) × arr(0)
i=2 Left(2) = Left(1) × arr(1)
i=3 Left(3) = Left(2) × arr(2)
i=4 Left(4) = Left(3) × arr(3)

R(n-1) = 1
i=3 R(3) = R(4) × arr(3)

Moore voting

Input: nums = [2,2,1,1,1,2,2]

Output: 2

x x x x x x

c = 2 v = 1 0 2 1

[2 7 3 7 3 7 7 7 2] (0 1 2 3 4 5 6 7 8)

if c == arr(i)