$n \leq 10^5$

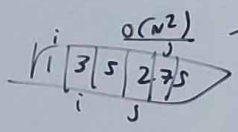
$(1 \leq minK, maxK \leq 10^6)$

(Count Subarrays with fixed bounds)

[1 3 5 2 7 5]

(minK = 1, maxK = 5)

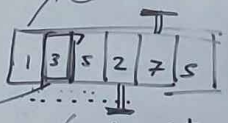
Brute Force → $O(N^2)$



(optimization)

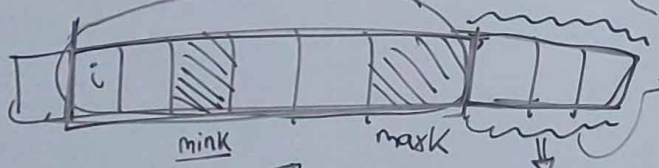
(element < minK) cannot pick this element

(or element > maxK, cannot pick this element)



reach a point such that minK appears or maxK appears. first.

How many subarrays starting from this will be my fixed bounds)



post this you have to find how many indices have val[i] in the range (minK, maxK)

find that index where (val[i] > maxK or val[i] < minK)

Case when (minK != maxK)

case when (minK = maxK) is a different story

(can be done using Segment tree)

T.C. $O(N \log N)$

I can maintain a minK, maxK location set.

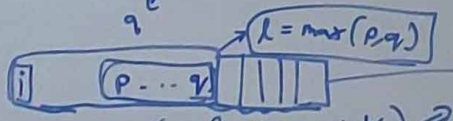
minK → {_____}

maxK → {_____}

From any given index i,

find p ← higher(i) → for maxK

q ← higher(i) → for minK.



(min(i, l) == minK) ⇒ then valid.

(max(i, l) == maxK) ⇒

ans += 1 + (K − (i − l))

(from (l+1, ... K.) just find where is the first index where sum > 0