Max Chunks to make an array Sorted - II

Given an arr[N], containing, having n numbers,
you have to split the array into maximum possible no. of chunks, such that after individual sorting of those chunks, the whole array gets sorted

* Everything is same as type - I problem, but array index values are not permutation of index

Ex:- arr[ ] : {23, 10, 18, 27, 35, 48, 26, 52 50, 64, 68}

if you take this array, there is nothing to do with indexes and array values like previous type

Intuition behind this is,

arr[ ] : {23, 10, 18, 27, 35, 48, 26, 52 50, 64, 68}

if you Consider this portion ⇒ Max of this portion = 23

min of this portion = 26 ⇐ This is rest

So, if you sort portion I & II seperately

they won't merge

Because,

in portion -I (Max = 23)

in portion -II (Min = 26)

if portion -II get sort individually, the first element will be 26

and that defenetly lies after max element of portion -I

This is main logic

So, at which ever index the max element is less than the min element of rest of the elements after that particular index

We make chunk

* How do we keep track of which is max & particular index and which is min from back till that before index ??

We do prefixMax & SuffixMin

Ex:- arr[] : {23, 10, 18, 27, 35, 48, 26, 52 50, 64, 68}

prefixMax[] : {23, 23, 23, 27, 35, 48, 48, 52, 52, 64, 68}

suffixMin[] : {10, 10, 18, 26, 26, 26, 26, 50, 50, 64, 68}

At every index, check

prefixMax[i] <= suffixMin[i+1] → if true gotten a chunk

Ex:- arr[ ] : {23, 10, 18, 27, 35, 48, 26, 52, 50, 64, 68}

	0	1	2	3	4	5	6	7	8	9	10
prefixMax[ ] :	23	23	23	27	35	48	48	52	52	64	68
suffixMin[ ] :	10	10	18	26	26	26	26	50	50	64	68

i	prefixMax[i]		suffixMin[i+1]	Result (prefixMax[i] <= suffixMin[i+1])	Chunk
0	23		10	False	0
1	23		18	False	0
2	23	<=	26	True	1
3	27		26	False	1
4	35		26	False	1
5	48		26	False	1
6	48	<=	50	True	2
7	52		50	False	2
8	52	<=	64	True	3
9	64		68	False	3
10	—		—	—	—

At last index,

No need to check for chunk, because there will be no SuffixMin[i+1]

Note:

Return whatever last updated chunk value with +1

Because, the last portion is going Unchecked, and it will be definitely a Chunk