

# # Segment Tree

## Concepts & Qns... #



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"No more fear of Segment Tree"

#Motivation

"If your basics/concepts are clear,  
no one can stop you."



video - 6

Recap :-

- we understood about segment Tree ? what ? why ? when ?
- buildSegmentTree
- Example - Range Sum in an array
- Update Query
- Range Query
- why take  $4*n$  size array

Qn-1: Sum Query - II

Range Minimum  
Query...

GFG

## Range Minimum Query



Difficulty: Medium

Accuracy: 62.3%

Submissions: 6K+

Points: 4

Given an array  $A[]$  and its size  $N$  your task is to complete two functions a constructST function which builds the segment tree and a function RMQ which finds range minimum query in a range  $[a,b]$  of the given array.

### Input:

The task is to complete two functions constructST and RMQ.

The constructST function builds the segment tree and takes two arguments the array  $A[]$  and the size of the array  $N$ .

It returns a pointer to the first element of the segment tree array.

The RMQ function takes 4 arguments the first being the segment tree st constructed, second being the size N and then third and forth arguments are the range of query a and b. The function RMQ returns the min of the elements in the array from index range  $a$  and  $b$ . There are multiple test cases. For each test case, this method will be called individually.

### Output:

The function RMQ should return the min element in the array from range  $a$  to  $b$ .

arr = {<sup>0</sup>1, <sup>1</sup>2, <sup>2</sup>3, <sup>3</sup>4}

RMQ =  $\left. \begin{array}{l} a = 0 \\ b = 2 \end{array} \right\} \text{Output} = 1$



