

Assignment on:

Maximum Subarray Problem

SWE 4809: Algorithm Engineering



Md. Atiqur Rahman

Lecturer

Department of Computer Science and Engineering

Islamic University of Technology

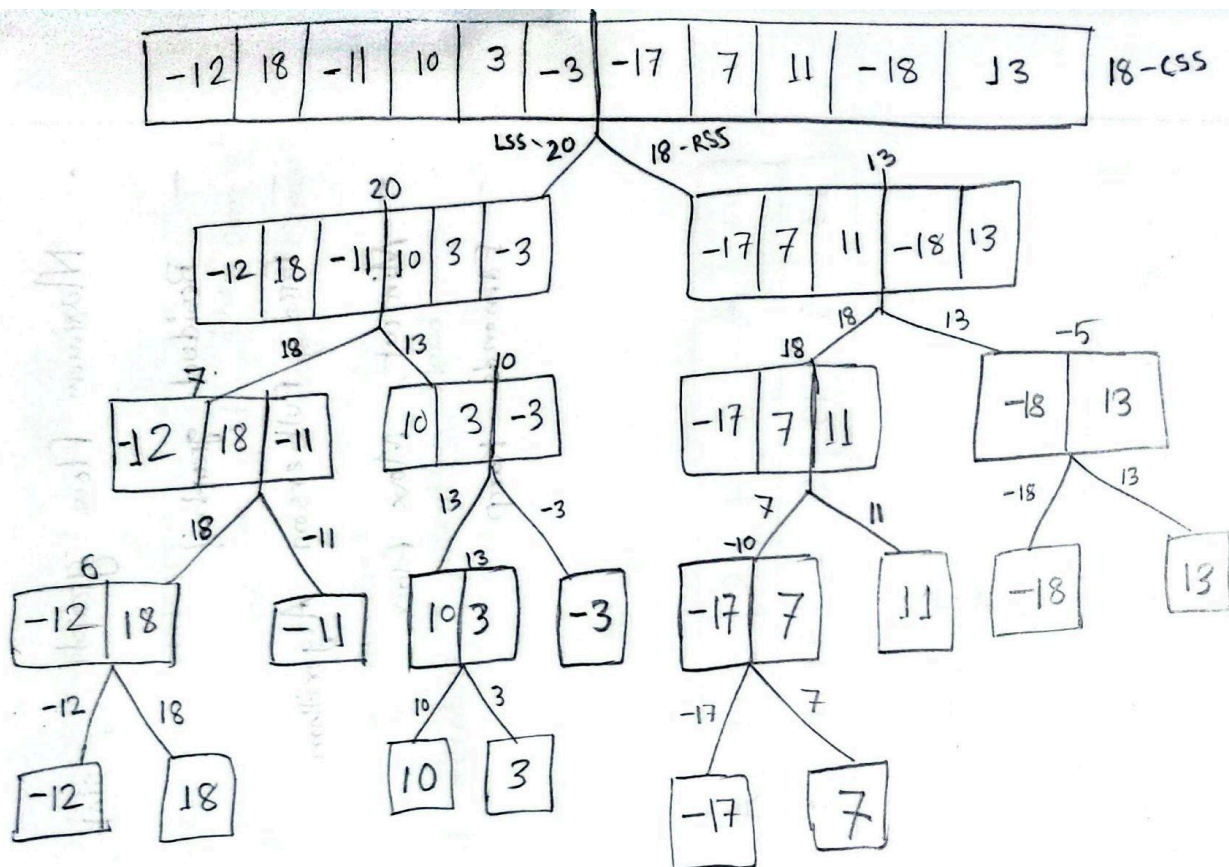
Submitted By:

Mashrur Ahsan (200042115)

M	A	S	H	R	U	R	A	H	S	A	N
13	1	19	8	18	21	18	1	8	19	1	14

↓ Difference Array

-12	18	-11	10	3	-3	-17	7	11	-18	13
-----	----	-----	----	---	----	-----	---	----	-----	----



Here, Right Subarray Sum (RSS) = 18
 Left Subarray Sum (LSS) = 20
 Cross Subarray Sum (CSS) = 18

So, the value of the
 Maximum Subarray = 20

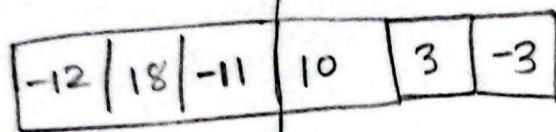
... 18 | -11 | 10 | 3 ...
 20

An example:

$$\dots 18 + (-11) + 10 + 3 \dots$$

20 - CSS

Here the CSS is written in the middle top section of all arrays



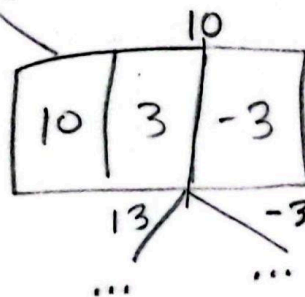
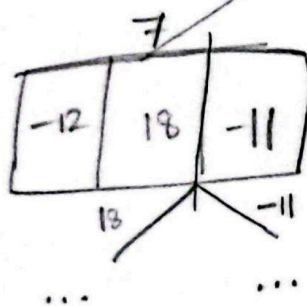
LSS - 18

13 - RSS

$$\max(7, 18, -11)$$

↓

18



$$\max(10, 13, -3)$$

↓

13

In this small section ; CSS - 20
LSS - 18
RSS - 13