

CSC 212 Tutorial

Heap

Problem 1

1. Construct a new binary min-heap from the following elements: 12, 5, 17, 22, 20, 9, 1, 32, 50, 16, 25, 8, 44 and 33 using the top-down approach
2. Perform three *RemoveRoot* operations on the heap you built in 1
3. Apply *HeapSort* on the heap you built in 1

Problem 2

Construct a max-heap from the following array using the bottom-up approach

0	1	2	3	4	5	6	7	8
-	1	20	9	24	9	15	10	54

Problem 3

What is the complexity of building a binary heap from a sequence of elements when all elements are:

- Sorted according to the heap property
- Sorted in the inverse of the heap property