CS2023 - Data Structures and Algorithms

In-class Lab Exercise - Week 8

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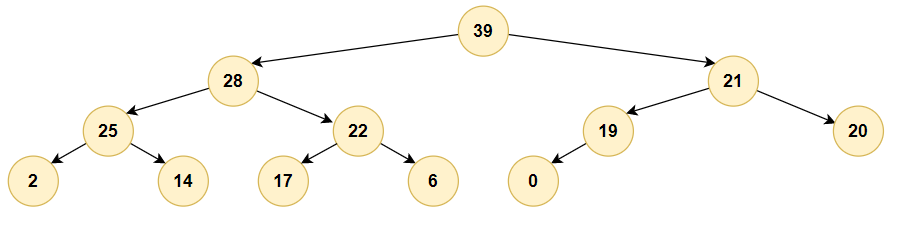
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**Terminal Output (Input is a random array)**

**Text

Description automatically generated**

**Sample Max Heap for the input**

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Time complexity of Heap Sort

* Heapify operation - O(logn) where n is the number of nodes in the subtree
* Build heap operation (perform heapify for all nodes) – O(n)
* Extract top of the heap – O(logn)
* Extract top of the heap n times – O(nlogn)

Total time complexity = O(n) + O(nlogn) = **O(nlogn)**

Complete GitHub repository for code: <https://github.com/Anuki16/cs2023-data-structures-algorithms>