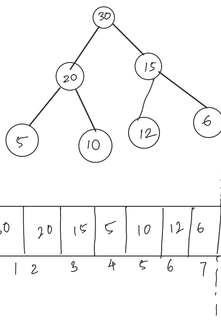
Insertion in a heap

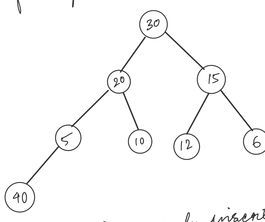
05/06/22 12:58 AM

Max Heap



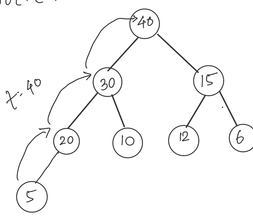
element to be inserted (E) = 40

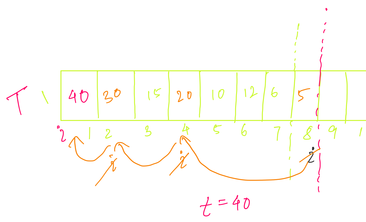
Step 1 ⇒ insert the element (E) into the next free space (i.e at index 8)



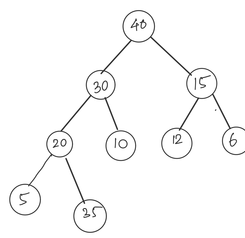
Step 2 ⇒ Move the newly inserted element until it becomes a max heap. Rearrange the elements to make it max heap.

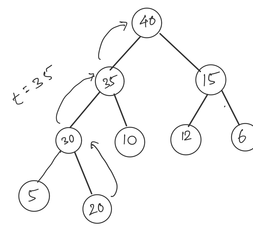
Step 3 ⇒ (How to rearrange?) ⇒ compare 40 with its parent. Keep 40 in a temporary variable t. copy 5 (parent of 40) to 40's place. Now again compare 40 with 20. 40>20 bring 20 to the previous place of 5. Again compare 40 with 30. 40>30. So bring 30 down to 20's place and as above 30 there is no element copy 40 to the previous place of 30 (i.e the root).

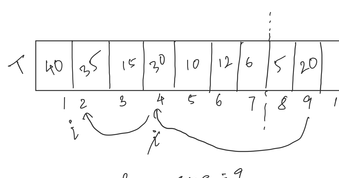




E = 35







heap size = 9

array size = 10