

Assignment #6

Due Date: Saturday, October 24 at 11:59pm

Submit: eLearning

Late Policy: -10 points per hour late

Instructions: This is an individual assignment. Answers should be your own work.

Chapter 6

100 points total

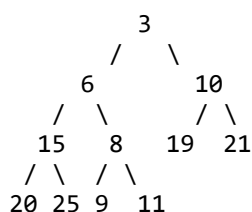
Questions are 10 points each.

- 1) Show the result of inserting the following values one at a time into an initially empty binary heap. (Show the heap after each insert). Use trees to illustrate each heap.

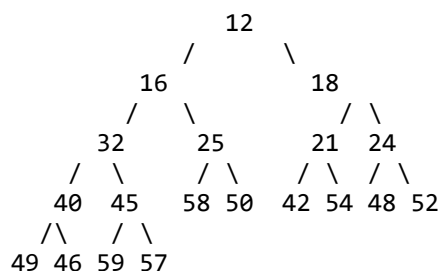
42, 11, 28, 8, 13, 61, 18

- 2) Show how the final heap created in the previous problem would be stored in an array.

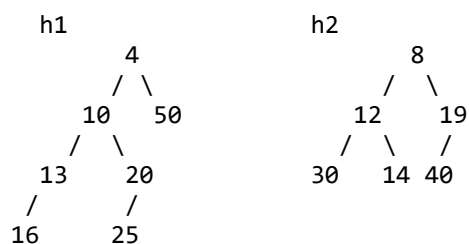
- 3) Show the result after a deleteMin on this binary heap. (Show each step).



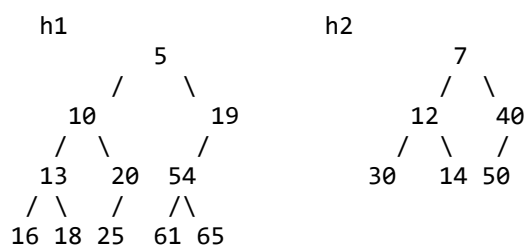
- 4) Show the result after a deleteMin on this binary heap. (Show each step).



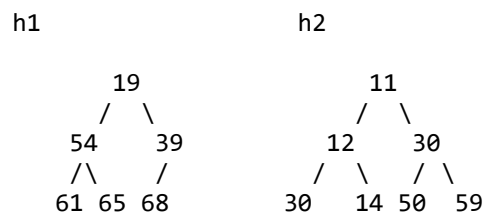
- 5) Show a recursive merge of the following leftist heaps. (Show each step).



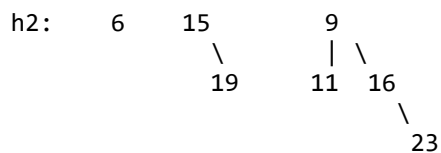
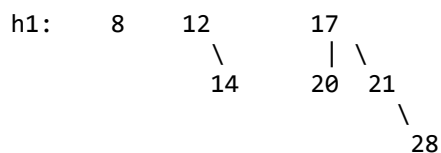
6) Show a recursive merge of the following leftist heaps. (Show each step).



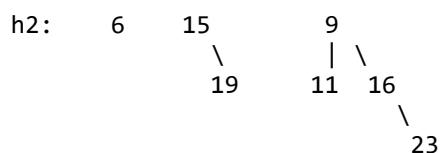
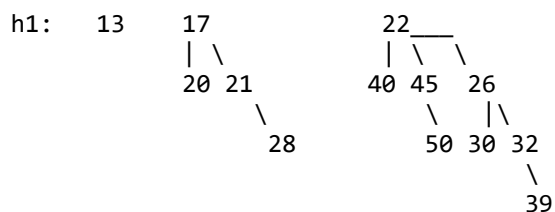
7) Show a recursive merge of the following skew heaps. (Show each step).



8) Show a merge of the following binomial queues. (Show each step).



9) Show a merge of the following binomial queues. (Show each step).



10) For the 3-heap shown in slide 37:

- (2 pts) show how it could be stored in an array
- (6 pts) give the formulas to find the left, middle, and right children from any parent
- (2 pts) give the formula to find the parent from any child

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hw6.doc (.doc can be .txt, .jpg, etc.)