1. Use Heap Sort to sort the following list of numbers as follows:
   (a) Insert the items in a tree in order of arrival shown
   (b) Heapify the tree
   (c) Extract items from the tree and re-heapify the tree to generate the sorted list of numbers (in descending order)
      
24 9 7 22 0 20 2 43 50 48

Show all working!

2. Sort the list of items from Qu. 1. using Quick Sort with partition in place and selecting the first item in the partition as the pivot.

3. Describe your best implementation of a byte (unsigned char) sorting algorithm. What is its complexity? How many operations are needed for a list of size n?

4. Implement the method PrintSortList (Node *tree) which takes the ordered binary tree *tree and prints a sorted list of items (in ascending order) on the screen. Outline any bugs in your code.