Algorithm
Due Date: 9:20AM, November 8
Autumn, 2012
The following problem sets are all from CLRS.

Homework 5

1. What are the minimum and maximum numbers of elements in a heap of height h?

2. Show that an n-element heap has height $\lfloor \lg n \rfloor$.

3. Show that the subtree size of the root node in an n-element heap is at most $2n/3$.

4. Show that the worst-case running time of Max-Heapify on a heap of size n is $O(\lg n)$.

5. Using the figure in page 16 of Lecture Note 6 as a model, illustrate the operation of Max-Heapify$(A, 3)$ on the array $A = \langle 27, 17, 3, 16, 13, 10, 1, 5, 7, 12, 4, 8, 9, 0 \rangle$.