1. (20 Pts.) Show how to implement a first-in, first-out queue with a priority queue. Show how implement a stack with a priority queue. (Queues and stacks are defined in Section 10.1).


3. (20 Pts.) Problem 7-1 on page 159 of text book.

4. (15 Pts.) Problem 7-3 on page 161 of text book.

5. (20 Pts.) Describe an $O(n)$-time algorithm that given a set $S$ of $n$ distinct numbers an a positive integer $k \leq n$, determines the $k$ numbers in $S$ that are closest to the median of $S$.