Homework Set #5

1. (20 points) **QuickSort:** This problem uses array **A** = < 22, 98, 17, 6, 34 > from Problem 4 of HW#5.   You will apply **QuickSort** to array **A** to sort it into non-decreasing order. Use the (nonrandomized) version of **Partition** given on p. 146 of the text.

  (a) Illustrate the operation of **QuickSort** using Figure 7.1 on p. 147 as a model for the operation of **Partition**.

  (b) How many swaps are performed by **QuickSort** to sort the array **A**? How does this compare with the number of swaps used by **HeapSort** for this same array in Problem 4 of HW#5?

2. (30 points) **QuickSort:** Textbook Problem 7-3 on p. 161.