Activity Sheet 2

Manager name:

Recorder name:

Speaker name:

Section 2.1

1. Consider book problem 1.1.5 from your first activity sheet, where you discussed an algorithm for finding all the common elements between two shorted lists.

   a. What would be the *input size* for this problem?

   b. What would be the *basic operation* that we would consider for this problem?

   c. What would be the worst-case and best-case efficiencies of the algorithm you found for this problem? Explain. Can you also figure out the average-case efficiency?

2. Exercise 2.1.8: For each of the following functions, determine how much the value will change if the parameter n is increased fourfold: $\log_2 n$, $\sqrt{n}$, n, n^2, n^3, 2^n.

Section 2.2

3. Exercise 2.2.1: Using the appropriate notation, indicate the time efficiency of sequential search in the worst case, the best case and the average case.

4. Looking back at book problem 1.1.5, as in the first activity above: In terms of the sizes n and m of the two lists, describe the worst-case efficiency of the algorithm you found.