COMP 312
Assignment 6
Due at 1:10 p.m., Thursday, April 9, 2009
All problems are of equal value.

Reading

Cormen, Leiserson, Rivest and Stein, Appendix C, Chapters 5, 7 and 9 (also Sections 31.8 and 32.2).

Practice

CLRS, C.2-2,C.2-3,C.2-9,C.2-10,C.3-1..3, 5.1-2, 5.2-1..3,5.2-5, 5.4-1, 5.4-2, 5.4-4, 5.4-6, 5-1, 7.3-1, 7.3-2, 7-2, 7-4..6, 8.4-3..5, 9.2-1..4, 32-2.1, 32-2.2, 32.2-4.

To Be Handed In

1. CLRS, 5.1-3. (Hint: Make a decision based upon the result of more than one flip of the biased coin.)

2. CLRS, 5-2.

3. Consider the following program for computing the maximum of n distinct values stored in an array:

   ```
   max := a[0]
   for i = 1, ..., n-1
       if a[i] > max then
          max := a[i] (*)
   ```

   What is the expected number of times statement (*) is executed if the values appear in random order. For full marks express your answer using Θ-notation as a function of n.

4. CLRS, 5.2-4.

5. CLRS, 32.2-3.