Assignment #2:
Due February 7

1. Exercises 4.3-6, 4.3-9
2. Exercises 4.4-2, 4.4-6
3. Problem 4-3: (b),(c), and (f)
4. Problem 4-4
5. (Challenge Problem – Need not be turned in and solution will not be provided): Consider Case 3 of master theorem: (i) \( f(n) = \Omega(n^{\log_b a + \epsilon}) \) for some \( \epsilon > 0 \); and (ii) \( \alpha f\left(\frac{n}{2}\right) \leq cf(n) \) for some \( c < 1 \) for \( n \) sufficiently large. Do we need both of these conditions or is one stronger than the other?