Problem Set 3 — Due Monday, February 1, 1999

Problem 1. Page 86, Exercise 1.14, part (b).

Problem 2. Page 86, Exercise 1.16, part (b).

Problem 3. Page 89, Problem 1.31.

Problem 4. Page 90, Problem 1.41.

Problem 5. Use the pumping lemma to show that the following languages are not regular.

(a) $L_a = \{0^m 1^n 0^{m+n} : m, n \geq 0\}$.

(b) $L_b = \{0^{2^n} : n \geq 0\}$.