CS5000: Assignment 2
Due: September 12, 2008 by 11:20am

Vladimir Kulyukin
Department of Computer Science
Utah State University

Problem 1: 1 point

Give an NFA for $0 + 1 + (00)^*$.

Problem 2: 1 point

Prove or disprove:

- $L((a + b)^*) = L(a^* + b^*)$.
- $L((a^*b^*)^*) = L((a + b)^*)$.

Problem 3: 1 point

Give regular expressions for the following regular expressions:

- $L_1 = \{0^n | n = 2k + 1, k \in N\}$.
- $L_2 = \{x \in \{a, b\}^* | x \text{ has at least 3 consecutive } a's\}$.

Problem 4: 1 point

Let x^R be the reversal of x. Prove that $(xy)^R = y^R x^R$.