College of Computer & Information Science
Northeastern University
CSG714: Theory of Computation

Spring 2009
Handout 3
9 January 2009

Problem of the Week – 1

Unary languages

Consider the collection of unary languages over the alphabet $\{0\}$.

(a) Show that there is a one-to-one correspondence between the collection of all unary languages and the collection of sets of nonnegative integers.

(*Remark:* This is an easy observation.)

(b) Show that if L is an arbitrary unary language, then L^* is regular.