Automata, Computability and Formal Languages — Spring 2020
CS 3350 — L. Longpré

Assignment 4, due 2/13/2020 in class

1. The string reversal operator s^R reverses the string.

   For example, $(0100011)^R = 1100010$, and $(\text{bravo})^R = \text{ovarb}$.

   The language reversal operator is defined as follows: $L^R = \{w^R \,|\, w \in L\}$.

   Show that regular languages are closed under reversal. (Hint: Show how to transform a regular expression to express the reversal of the language.)

2. Use the closure of regular language under reversal to prove that the following language is not regular:

   $L = \{1^n 0^n | n \geq 0\}$.