Homework 5

CSCI 371

Prove whether the following are regular or not.

1. Strings of a’s and b’s where there are 2 more a’s than b’s
2. Strings of A-Z where the letters in the string appear in reverse alphabetical order (ex. Spoonfeed)
3. {w : w is the encoding (in the scheme we describe next) of a date that occurs in a year that is a prime number}. A date will be encoded as a string of the form mm/dd/yyyy, where each m, d, and y is drawn from {0-9}.
4. Strings of 0’s and 1’s where the number of 0’s is NOT the same as the number of 1’s (hint: use closure properties and other tools).