CSCI 338: Assignment 2 (6 points)

Elliott Pryor

Feb 18, 2020

This assignment is due on **Tuesday, Feb 18, 11:30pm**. It is strongly encouraged that you use Latex to generate a single pdf file and upload it under *Assignment 2* on D2L. But there will NOT be a penalty for not using Latex (to finish the assignment). This is **not** a group-assignment, so you must finish the assignment by yourself.

Problem 1

(1.1) Problem 1.6.c, 1.6.f (page 84— all the questions with only numbers given are referred to the 3rd edition of the textbook).
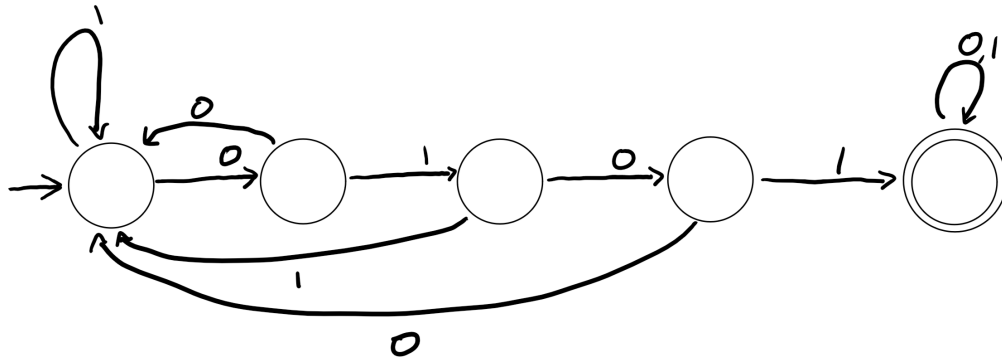
1.6.c

Figure 1: Solution to 1.6.c

(1.2) Problem 1.7.b, 1.7.c (page 84).

Problem 2

Problem 1.16.a, Problem 1.16.b (page 86).

Problem 3

Problem 1.19.a, 1.19.b (page 86).

Problem 4

Problem 1.21.a (page 86).

Problem 5

Prove the following languages are not regular.

(5.1) $A = \{a^{n^3} | n \geq 0\}$. Here a^x means a string of x a's.

(5.2) $B = \{0^n 1^m 0^n | m, n \geq 0\}$.