Assignment 3

due Friday, October 20, 2017

1. [1st ed] exercise 1.16 \equiv [2nd and 3rd ed] exercise 1.21

2. [1st ed] exercise 1.23 (a,d) \equiv [2nd and 3rd ed] exercise 1.46 (a,c)


4. exercise 1.49 (only in 2nd and 3rd ed):
   (a) Let $B = \{ 1^k y \mid y \in \{0,1\}^* \text{ and } y \text{ contains at least } k \text{ 1's, for } k \geq 1 \}$. Show that $B$ is a regular language.

   (b) Let $C = \{ 1^k y \mid y \in \{0,1\}^* \text{ and } y \text{ contains at most } k \text{ 1's, for } k \geq 1 \}$. Show that $C$ is not a regular language.

5. [1st ed] exercise 2.4 (c,f) \equiv [2nd and 3rd ed] exercise 2.4 (c,e)

6. [1st ed] exercise 2.6 (b) \equiv [2nd and 3rd ed] exercise 2.6 (b)

7. (CIS 520 students only) Apply the state-minimization method to the DFA given below.
Figure 1: DFA to be minimized