CSE205-Assignmnet #1

Due Date 26/2/2019, 9:30.

1. Give state diagrams for DFAs recognizing the following languages. In all parts the alphabet is {0,1}.

   a. $\{w|\ w$ begins with a 1 and ends with a 0$\}$
   b. $\{w|\ w$ contains at least three 1s$\}$
   c. $\{w|\ w$ contains the substring 0101, i.e., $w = x0101y$ for some x and $y\}$
   d. $\{w|\ w$ has length at least 3 and its third symbol is a 0$\}$
   e. $\{w|\ w$ starts with 0 and has odd length, or starts with 1 and has even length$\}$
   f. $\{w|\ w$ doesn't contain the substring 110$\}$

2. Give state diagrams for NDFs recognizing the following languages. In all parts the alphabet is {0,1}.

   a. {w| w begins with 0 and ends with 1}

   b. {w| w contains the substring 001}

   c. {w| w contains at least two 0s, or exactly two 1s}

Notes:
- You should work in groups of 5 students.
- Your solutions should be handwritten.
- Electronic submission is not accepted.