Computer Science 411
Homework 3: Finite Automata
Fall 2015
Due 9/18/2015

1. Give a DFA for each of the following languages:

   (a) (4 points) All strings over {a, b, c} that contain an odd number of b's

   (b) (4 points)All strings over {a, b, c} that contain an even number of a's and an odd number of b's

   (c) (4 points) All strings over {a,b} that contain either bab or aab (or both)

   (d) (4 points) All strings over {a,b} that contain both bab and aab

   (e) (4 points) All strings over {a,b} that contain bab but not aab

2. Give a NFA for each of the following languages:

   (a) (4 points) L = All strings over {a, b, c, d} of length at least 2 whose second symbol does not appear elsewhere in the string. So bdabc, acbab, bacbd, abcdc $\in L$, while aa, bcabc, abcbc, dd $\notin L$

   (b) (4 points) L = All strings over {a, b, c} such that every c is followed by either the substring bab or baa

   (c) (4 points) L = All strings over {a, b, c} that end in abbac.