

Assignment 2

Advanced Computing Concepts for Engineering

Due Mar 17, 2015

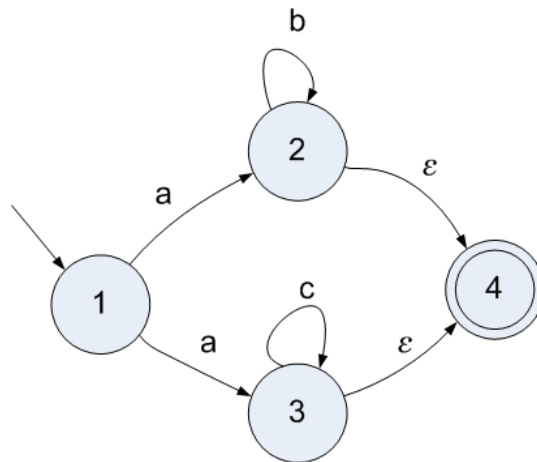
The work that you turn in for this assignment must represent your individual effort. You are welcome to help your fellow students understand the material of the course and the meaning of the assignment questions, however, the answer that you submit must be created by you alone.

Q0. [10] Design a regular expression for a language over $\{‘q’, ‘b’, ‘o’\}$ with the following properties.

- Strings in the language begin with a ‘q’ and end with a ‘q’.
- Strings in the language are at least two characters long.
- Between the first ‘q’ and the final ‘q’ the string consists of any number of chunks where each chunk is either an ‘o’ or the two characters “bb” or the two characters “bq”.

Q1[10]. Use Thompson’s construction to create an N DFA for the regular expression $((‘a’; ‘b’) | (‘a’; ‘c’))^*$.

Q2 [10] Use the subset construction algorithm to transform this N DFA into a DFA. Show your work by making a table that shows the trace of the algorithm.



Q3 [10] Convert the following NDFR to a regular expression. Show the intermediate REFRs.

