Compiler Design (Lab Exam 1)

25 March 2021, Duration 2 Hrs.

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1. There are three basic approaches to minimize a DFA
   a. Detection of unreachable states and eliminating them from DFA
   b. Identification of non-distinguishable states, and merging them together
   c. Detecting dead states and eliminating them from the DFA

   Implement DFA minimization for all the above three cases using C/C++. Your program should be modular in nature to check for the above three cases individually, as well as all together.

   Similar to the previous lab you should take the input DFA from user or read from a file, and show the result.

   E.g. for case a, your input and output should be as follows (S is the starting state and A is the final state):

Input
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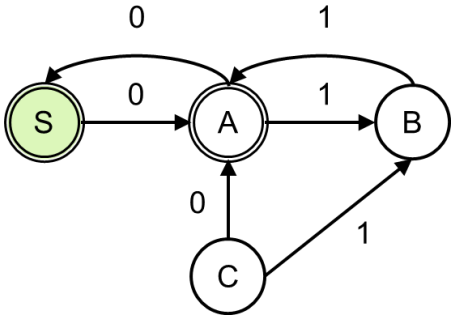

Output
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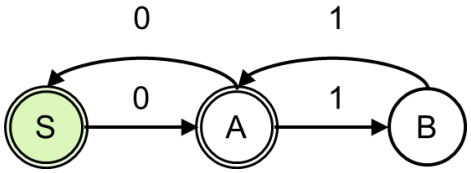
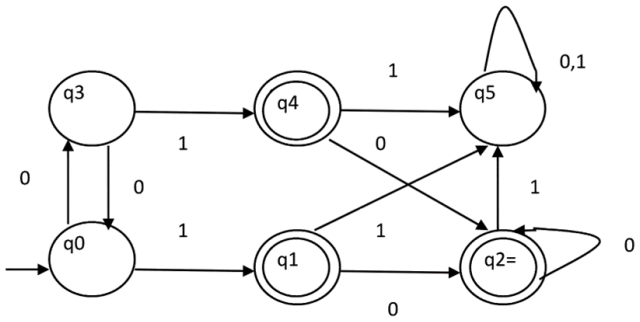
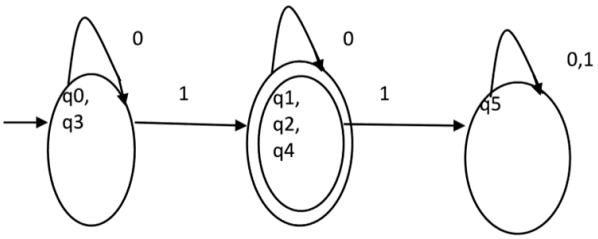


For case b,





For case c, from the following DFA you should be able to detect state B as dead state.