

Copy of 18CSC301T- FORMAL LANGUAGE AND AUTOMATA-CT1_CSE

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Part B

Answer all the Question (5 x 2 = 10 Marks)

11 Consider the following DFA (Fig.B1) and answer Q.11(a)-11(b)

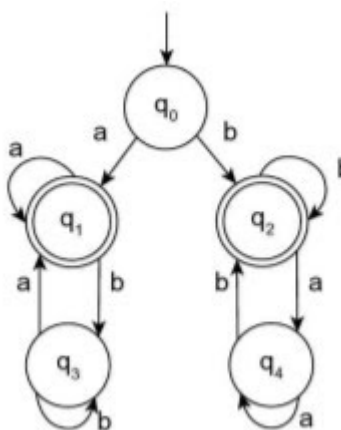


Fig.B1

Your answer



11 (a) Write the formal definition of the given DFA (In the place of the symbolic representation the students can write the name of the symbol) *

Your answer

11 (b) Write the language accept by the given DFA in Fig.B1 (Don't write the example string, write the generic statement} *

$L = \{w | w \text{ is a string starting and ending with sa}\}$

12 Consider the following E-NFA (Fig.B2) and answer Q.12(a)-12(b)

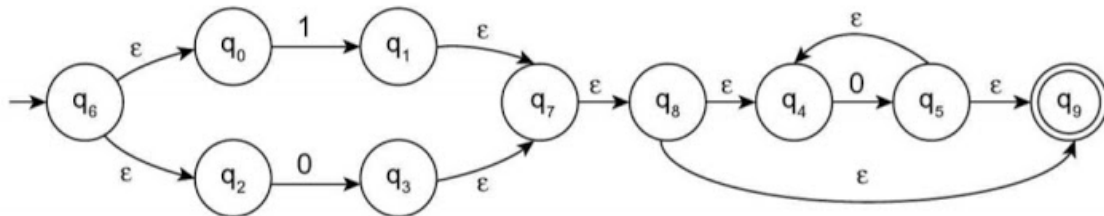


Fig.B2

Your answer

12(a) Write the E-Closure(q_1) *

Your answer

12(b) Write the E-Closure(q_4) *

Your answer



13 Find the Regular Expression for the following questions and answer
Q.13(a)-13(b)

Your answer

13(a) The set of the language of all strings of 0 and 1 containing exactly two 0's *

$0(01)^*$

13(b) The set of all strings over $\{a, b\}$ in which the number of occurrences of 'a' is divisible by 3 *

$aa(ab)^*$

14 Consider the following E-NFA (Fig.B3) and answer Q.14(a)-14(b)

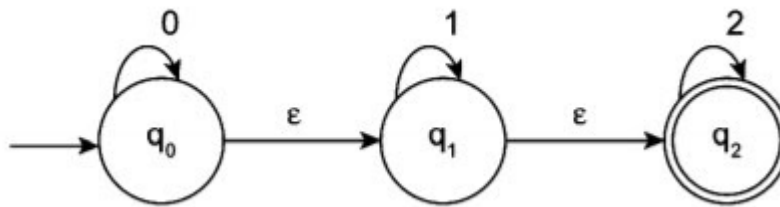


Fig.B3

Your answer

14(a) *

Find the transition of $\hat{\delta}(q_0, 0)$

$\{q_0, q_1\}$

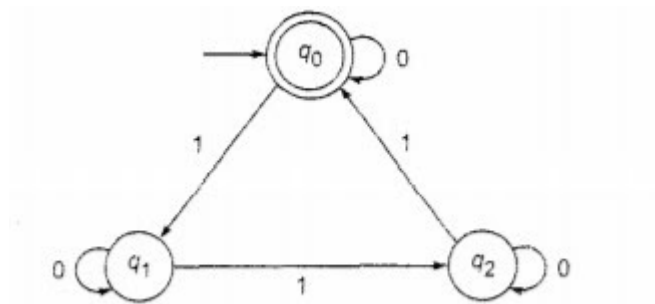


14(b) *

Find the transition of $\hat{\delta}(q_1, 1)$

{q1,q2}

15 Consider the following (Fig.B4) and answer Q.15(a)-15(b)



Your answer

15(a) a. Check whether 0110 will be accepted by this automata *

no

15(b) By making which state as final state "0110" will be accepted by the above automata *

q2



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