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CS 222 Hw

Hw 9 Finite machines Jeremiah Webb

1.

$$S = \{q_0, q_1, q_2, q_3, q_4\}$$

$$\Sigma = \{0, 1\}$$

$$q_0 = q_0$$

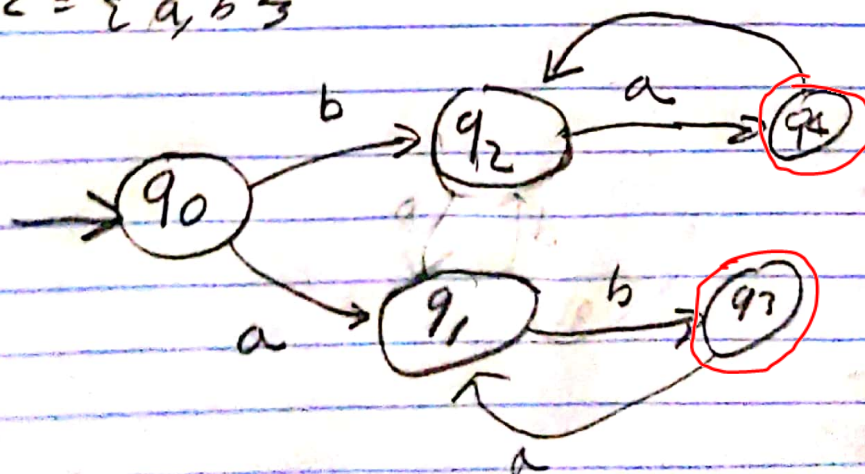
$$F = \{q_3, q_4\}$$

States	0	1
q_0	q_1	q_2
q_1	q_3	q_2
q_2	q_1	q_4 ✓
q_3	q_3	q_2
q_4	q_1	q_4

2.

$$S = \{q_0, q_1, q_2, q_3, q_4\}$$

$$\Sigma = \{a, b\}$$



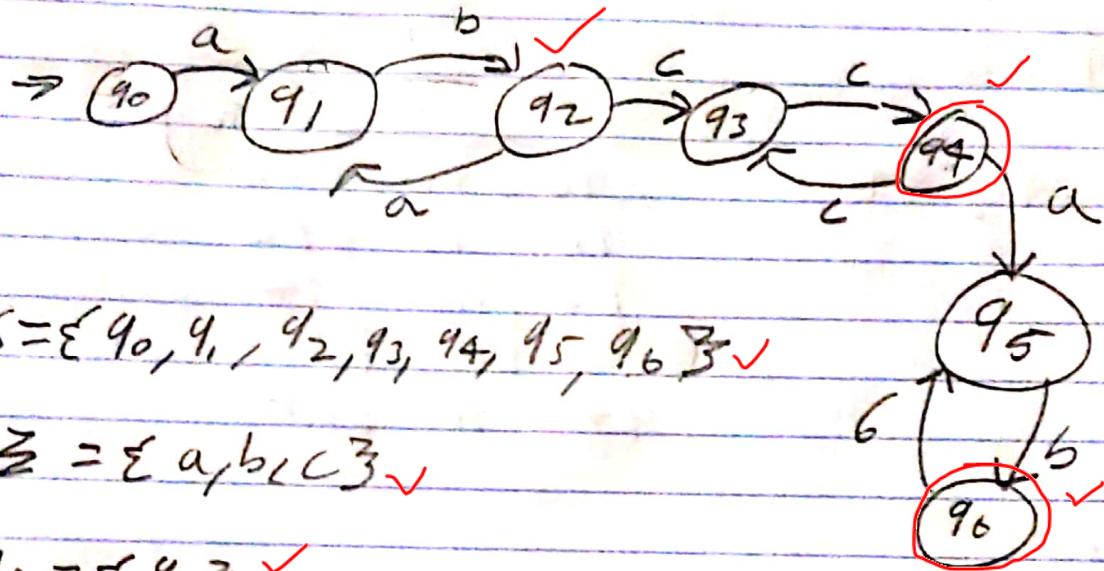
-1 Did not indicate final states

-1 Missing trap state

3.

$$L = (ab)^* + (cc)^* + (ab)^*$$

$$M = \{S, \varepsilon, q_0, F, \delta\}$$



$$S = \{q_0, q_1, q_2, q_3, q_4, q_5, q_6\} \checkmark$$

$$\Sigma = \{a, b, c\} \checkmark$$

$$q_0 = \{q_0\} \checkmark$$

Correct for given graph

$$F = \{q_6\} \checkmark$$

(-1) Did not indicate final states; q4 should also be a final state

(-1) Missing trap state

$$S(q_0, a) = q_1$$

$$S(q_1, b) = q_2$$

$$S(q_2, a) = q_1$$

$$S(q_2, c) = q_3 \checkmark$$

$$S(q_3, c) = q_4$$

$$S(q_4, a) = q_5$$

$$S(q_4, c) = q_5$$

$$S(q_5, b) = q_6$$

$$S(q_6, a) = q_5$$