CIT 596 Homework 2

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1

Give the state tables (δ) for the FSMs given (omitted).

Note: I've included the output for each transition following the name of the state being transitioned to.

1.1

State machine described by $\{Q, \Sigma, \delta, q_0, F\}$ where $Q = \{S_0, S_1, S_2\}, \Sigma = \{0, 1\}, q_0 = S_0, F = \{\},$ and δ is:

	0	1
S_0	S_1, 0	S_2, 1
S_1	S_2, 0	S_1, 0
S_2	S_2, 1	S_0, 0

Table 1: State transition table for FSM given in problem 1a.

1.2

State machine described by $\{Q, \Sigma, \delta, q_0, F\}$ where $Q = \{S_0, S_1, S_2, S3\}, \Sigma = \{0, 1\}, q_0 = S_0, F = \{\},$ and δ is:

	0	1
S_0	S_3, 0	S_1, 1
S_1	S_0, 0	S_1, 1
S_2	S_3, 0	S_1, 1
S_3	S_1, 0	S_3, 0

Table 2: State transition table for FSM given in problem 1b.

2

For FSMs above, give output generated for string 10001. Repeat for string 11011101.

Input	Output from Table 1	Output from Table 2
10001	11110	10001
11011101	10000000	11011101

Table 3: Output for problem 2.

3

Construct the state diagram for the Moore machine with the given state table (omitted). I am assuming the start state is S0.

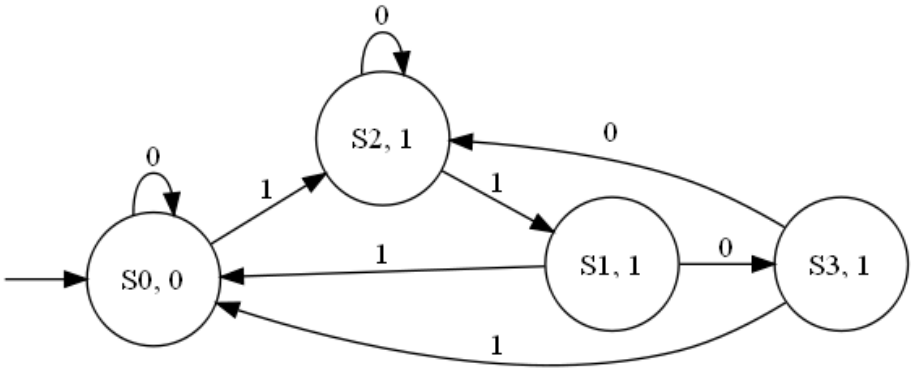

Figure 1: State diagram for Question 3

4

For the Moore machine in question 3, find the output for the given input strings. I am assuming the start state is S0.

Input	Output
0101	00111
111111	0110110
11101110111	011001100110
1010111	01111011

Table 4: Output for problem 4.