

CS 181 - Homework 1

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Section 1B

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Problem 1.1

Question	M_1	M_2
a	q_1	q_1
b	$\{q_2\}$	$\{q_1, q_4\}$
c	$\{q_1, q_2, q_3, q_1, q_1\}$	$\{q_1, q_1, q_1, q_2, q_4\}$
d	No	Yes
e	No	Yes

Table 1: Answers for respective questions for each DFA

Problem 1.6

b

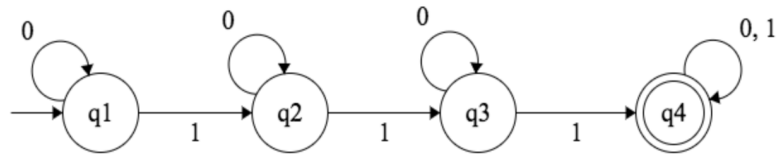


Figure 1: DFA for at least three 1's

d

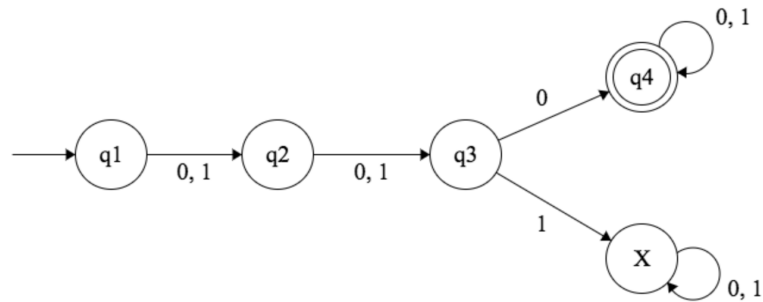


Figure 2: DFA that has length of at least 3 and third symbol as 0

e

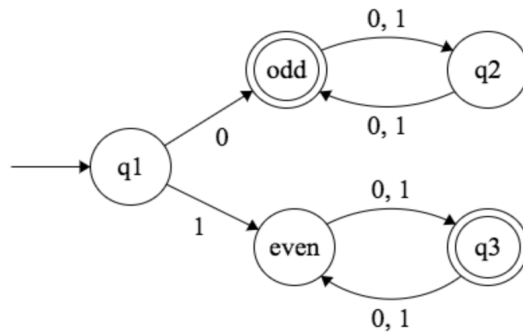


Figure 3: DFA that starts with 0 and has odd length, or starts with 1 and has even length

f

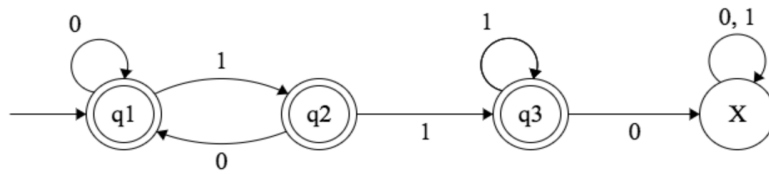


Figure 4: DFA that doesn't contain the substring 110

h

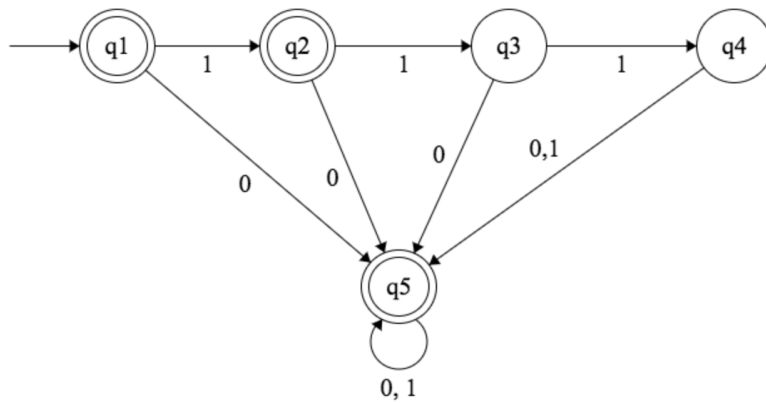


Figure 5: DFA with any string except 11 and 111

j

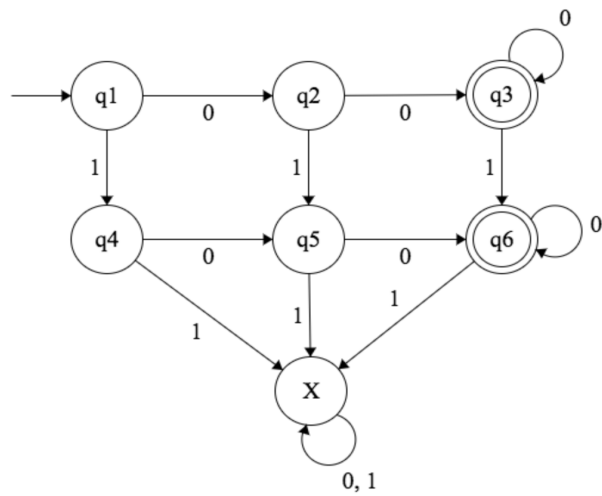


Figure 6: DFA that contains at least two 0s and at most one 1

k

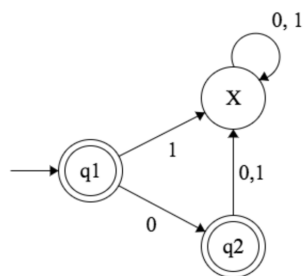


Figure 7: DFA for $\{\epsilon, 0\}$

n

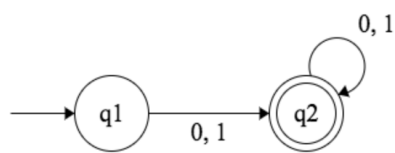


Figure 8: DFA for All strings except the empty string