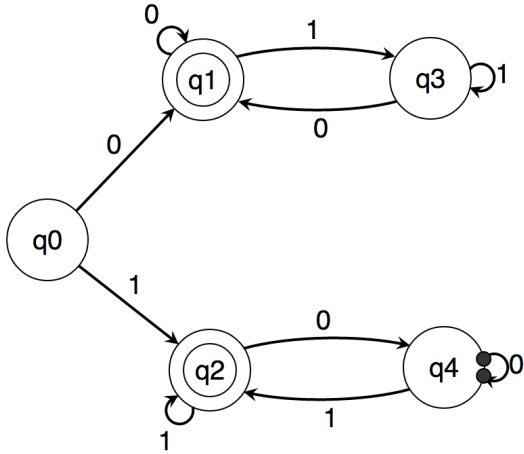homework 5 solutions

1.

(a.)



(b.)

2.
(a.)

q1

0,1   0        1

→ q0          q3  0,1

1        0

q2

(b.)

b,c,d,e

q1        a    q6

a,c,d,e

ε

q2    b    q7

ε           a,b,d,e

ε        q3    c    q8
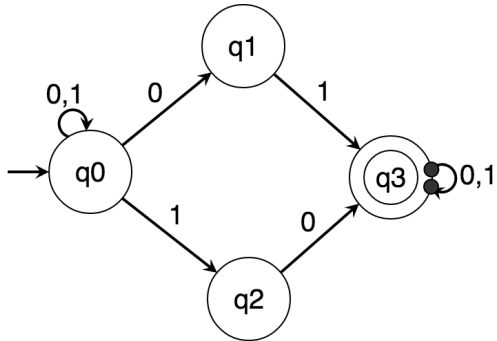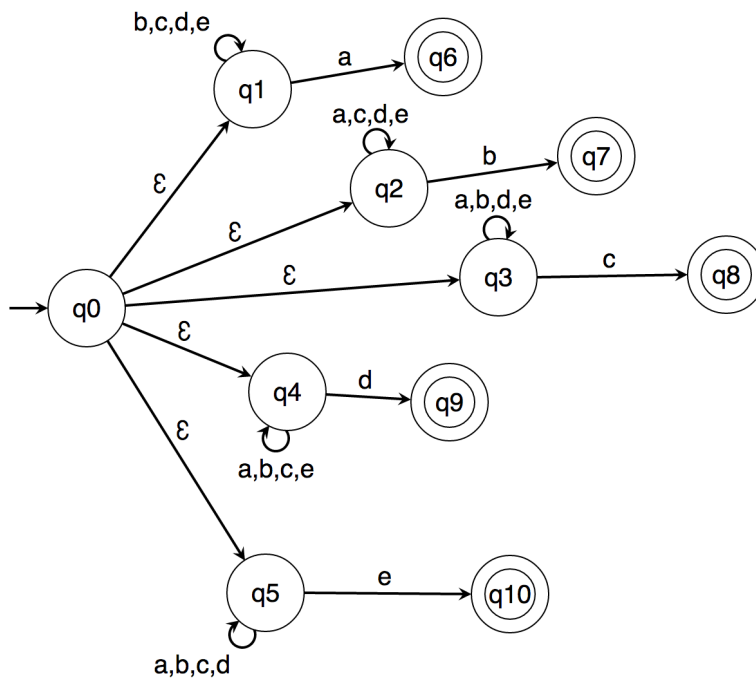
→ q0

ε

q4    d    q9

ε

a,b,c,e

q5    e    q10

a,b,c,d
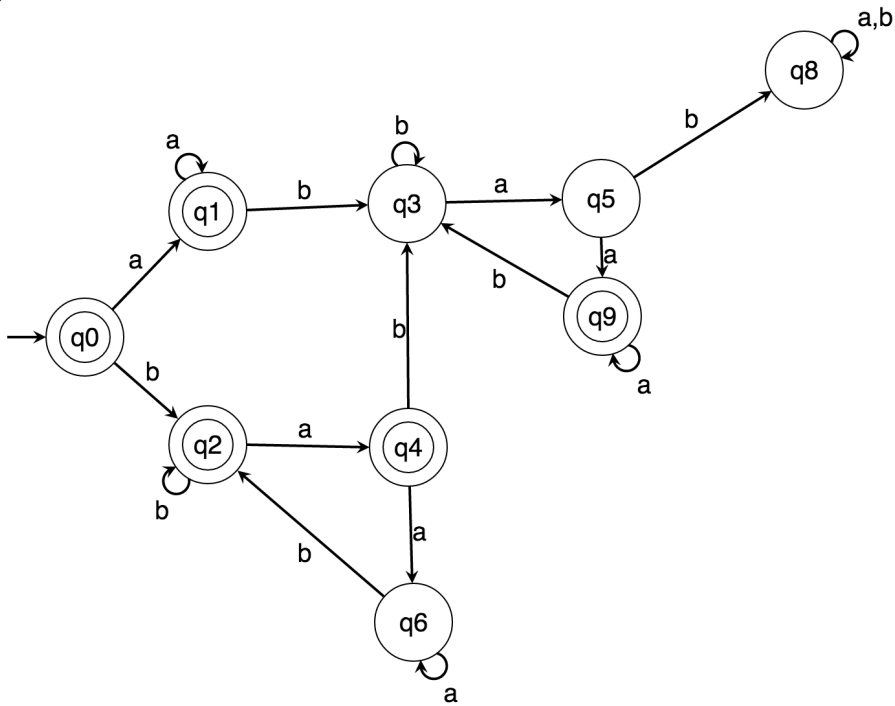
3. All strings that contain "00" or "11" as a substring.

4.
(a.) (0|1)*(00|11)(0|1)*
(b.) (00|11)*(0|1)