Assignment 1 Solutions

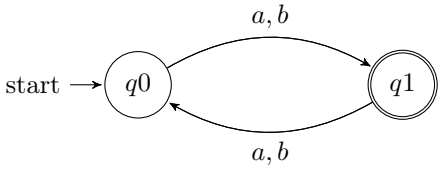
CMPT 440L - Spring 2020

Mark.blankson-hemans1@Marist.edu

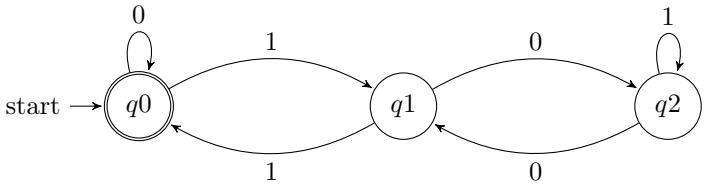
February 10, 2020

1)

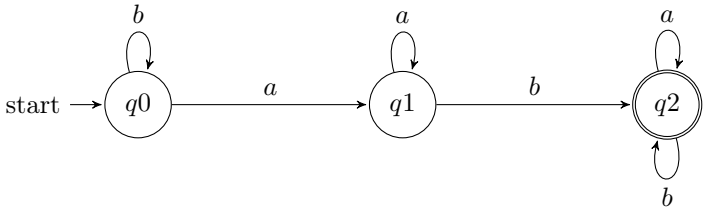
a)



b)



c)



2)

a) = ([q0 , q1] , [a , b] , [x] , [q0] , [q1])
x = x(q0,a) = q1
x = x(q0,b) = q1
x = x(q1,a) = q1
x = x(q1,b) = q1

b) = ([q0 , q1] , [a , b] , [x], [q0] , [q1])
x = x(q0,a) = q0
x = x(q0,b) = q1
x = x(q1,a) = q1
x = x(q1,b) = q0

c) = ([q0 , q1 , q2] , [0 , 1] , [x], [q0] , [q0, q2])
x = x(q0,0) = q1
x = x(q0,1) = q2
x = x(q1,1) = q1
x = x(q1,0) = q1
x = x(q2,0) = q2
x = x(q2,1) = q2

3)

a) q1 = not accepted

b) q2 = not accepted

c) q0 = accepted

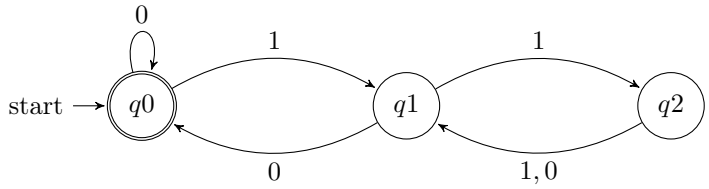
d) q2 = not accepted

e) q0 = accepted

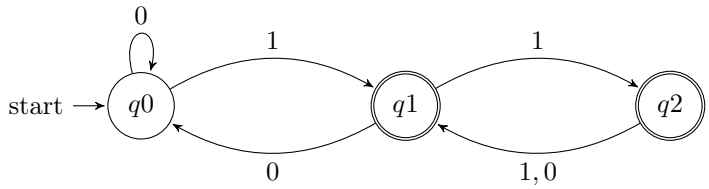
f) q0 = accepted

4)

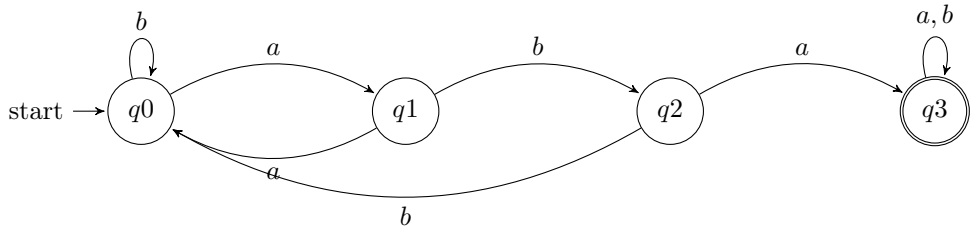
a)



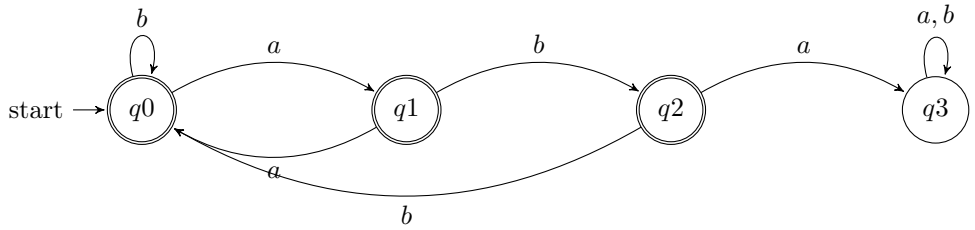
b)



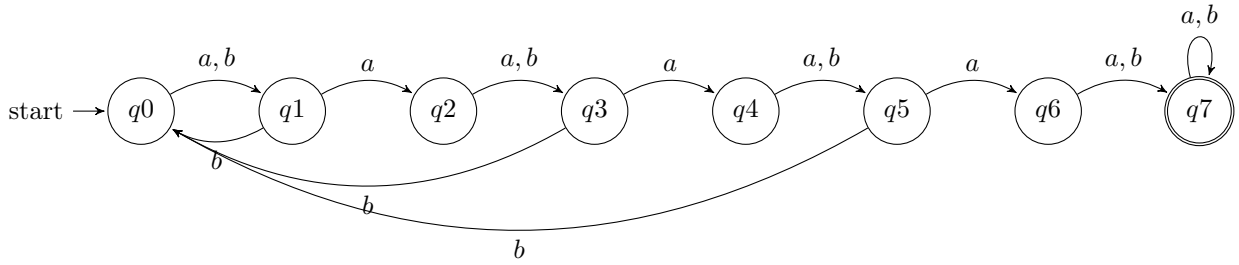
c)



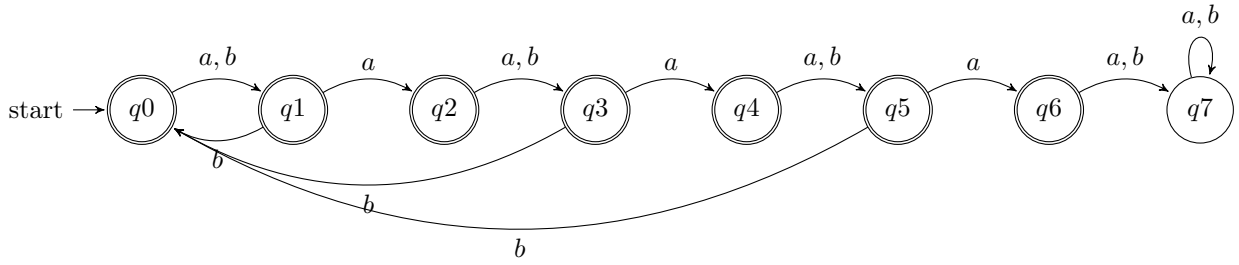
d)


start
q0
q1
q2
q3
a
b
a
b
a
a, b
a
b

e)

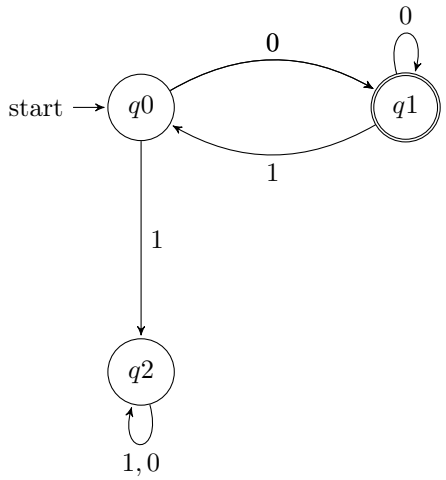

start
q0
q1
q2
q3
q4
q5
q6
q7
a, b
a
a, b
a
a, b
a
a, b
a, b
b
b
b

f)


start
q0
q1
q2
q3
q4
q5
q6
q7
a, b
a
a, b
a
a, b
a
a, b
a, b
b
b
b

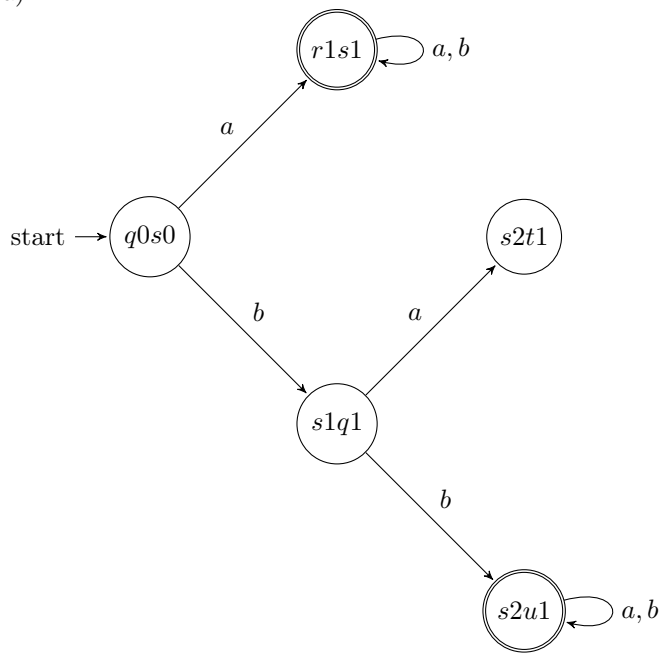
5)

a)

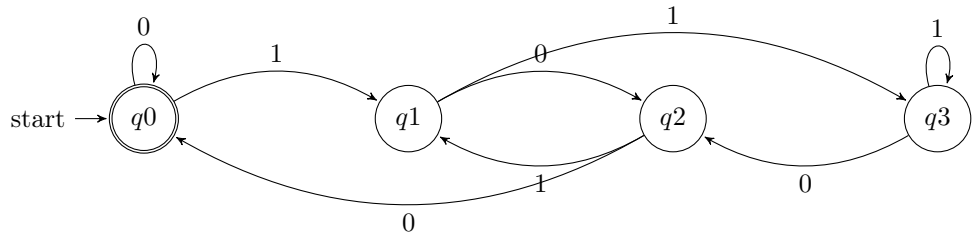

start
q0
q1
q2
0
0
1
1
1, 0

6)

a)


r1s1
a, b
a
start
q0s0
s2t1
b
a
s1q1
b
s2u1
a, b

b)
7)


0
1
1
0
1
start
q0
q1
q2
q3
1
0
0