ATIVIDADE EXTRA-CLASSE

4 – Minimização de AFD e AFD → GR – GABARITO

1-)

a-)Autômato Minimizado:

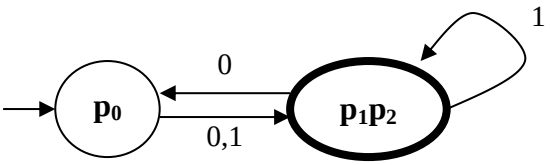


Tabela Resultante:

p_1	X	
p_2	X	
	p_0	**p_1**

b-)

Autômato Minimizado (como não houve minimização, mantem-se o original):

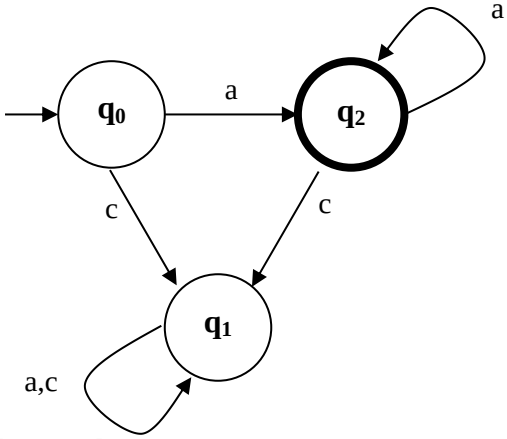


Tabela Resultante:

q_1	⊗	
q_2	X	X
	q_0	**q_1**

c-)

Autômato Minimizado:

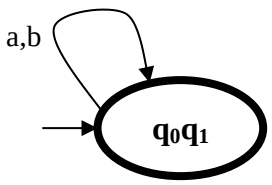


Tabela Resultante:

q_1	
	q_0

d-)
Autômato Minimizado:

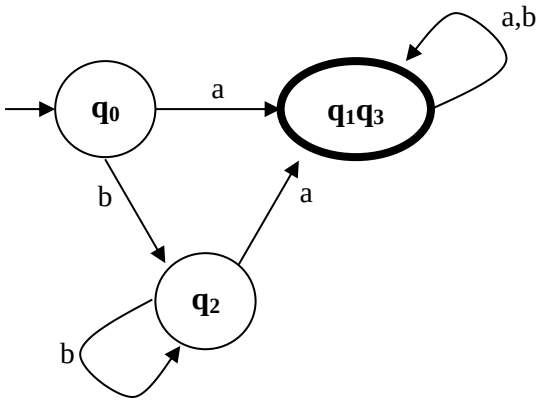


Tabela Resultante:

q_1	X		
q_2	⊗	X	
q_3	X		X
	q_0	q_1	q_2

e-)
Autômato Minimizado:

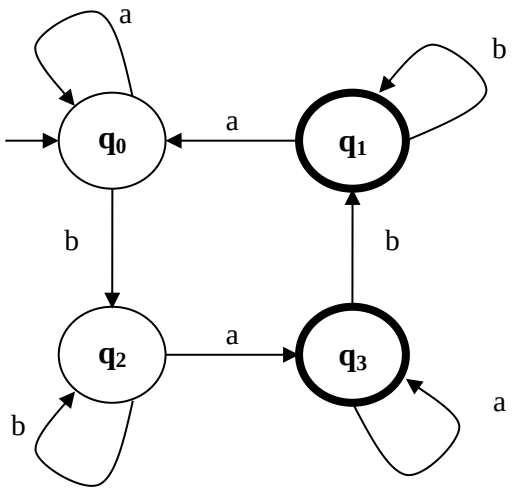


Tabela Resultante:

q_1	X		
q_2	⊗	X	
q_3	X	⊗	X
	q_0	q_1	q_2

f-)

Autômato Minimizado:

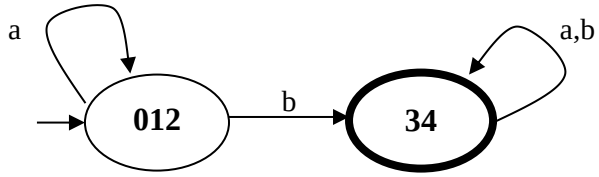


Tabela Resultante:

1				
2				
3	X	X	X	
4	X	X	X	
	0	**1**	**2**	**3**

g-)

Autômato Minimizado:

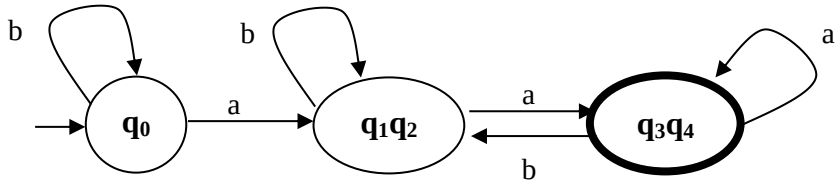


Tabela Resultante:

q_1	⊗			
q_2	⊗			
q_3	X	X	X	
q_4	X	X	X	
	q_0	**q_1**	**q_2**	**q_3**

h-)

V é um estado Inacessível, por isso não é minimizável.

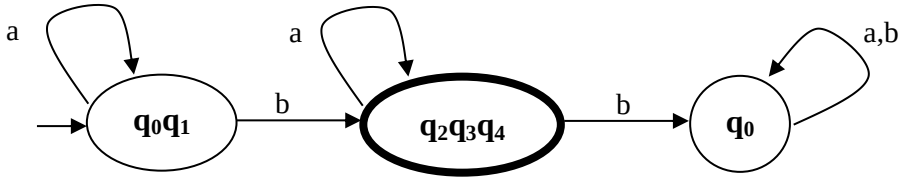
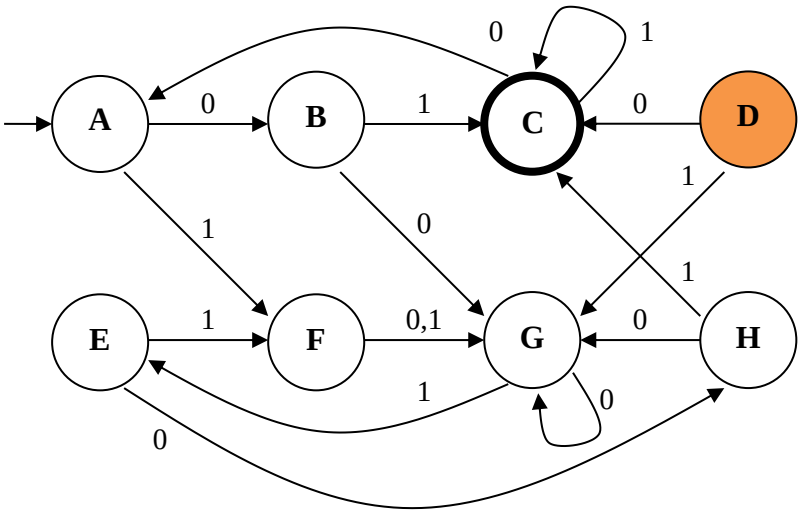


Tabela Resultante:

q_1					
q_2	X	X			
q_3	X	X			
q_4	X	X			
q_5	⊗	⊗	X	X	X
	q_0	**q_1**	**q_2**	**q_3**	**q_4**

i-)
D é um estado inacessível a partir do estado inicial A, desta forma não pode ser minimizado.



j-)
Autômato Minimizado:

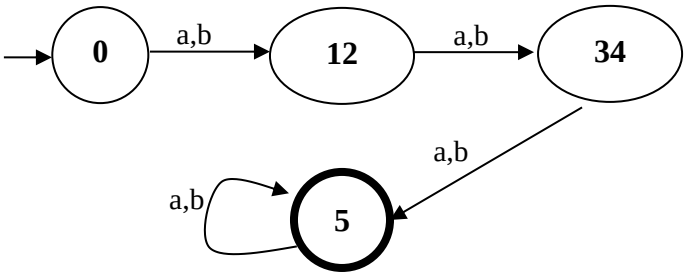


Tabela Resultante:

1	⊗				
2	⊗				
3	⊗	⊗	⊗		
4	⊗	⊗	⊗		
5	X	X	X	X	X
	0	**1**	**2**	**3**	**4**

2-)
a-) Sendo $p_0 = X$, $p_1 = Y$ e $p_2 = Z$, temos $G = (V, T, P, S)$ ➔ $G = (\{X, Y, Z\}, \{0, 1\}, P, X)$ onde:
P={X ➔ 0Y | 1Z,
Y ➔ 0X | 1Z | ε,
Z ➔ 0X | 1Y | ε}

b-) Sendo $q_0 = X$, $q_1 = Y$ e $q_2 = Z$, temos $G = (V, T, P, S)$ ➔ $G = (\{X, Y, Z\}, \{a, c\}, P, X)$ onde:
P={X ➔ aZ | cY,
Y ➔ aY | bY,
Z ➔ aZ | bY | ε}

c-) Sendo $q_0 = X$ e $q_1 = Y$, temos $G = (V, T, P, S)$ ➔ $G = (\{X, Y\}, \{a, b\}, P, X)$ onde:
P={X ➔ aX | bY | ε,
Y ➔ aY | bY | ε}

d-) Sendo $q_0 = X$, $q_1 = Y$, $q_2 = W$ e $q_3 = Z$, temos $G = (V, T, P, S)$ ➔ $G = (\{X, Y, W, Z\}, \{a, b\}, P, X)$ onde:
P={X ➔ aY | bW,
Y ➔ aY | bY | ε,
W ➔ aZ | bW,
Z ➔ aZ | bY | ε}

e-) Sendo $q_0 = X$, $q_1 = Y$, $q_2 = W$ e $q_3 = Z$, temos $G = (V, T, P, S)$ ➔ $G = (\{X, Y, W, Z\}, \{a, b\}, P, X)$ onde:
P={X ➔ aX | bW,
Y ➔ aX | bY | ε,
W ➔ aZ | bW,
Z ➔ aZ | bY | ε}

f-) Sendo 0 = V, 1 = X, 2 = Y, 3 = W e 4 = Z, temos $G = (V, T, P, S)$ ➔ $G = (\{V, X, Y, W, Z\}, \{a, b\}, P, V)$ onde:
P={V ➔ aX | bW,
X ➔ aY | bZ,
Y ➔ aX | bZ,
W ➔ aZ | bW | ε,
Z ➔ aW | bZ | ε}

g-) Sendo $q_0 = V$, $q_1 = X$, $q_2 = Y$, $q_3 = W$ e $q_4 = Z$, temos $G = (V, T, P, S)$ ➔ $G = (\{V, X, Y, W, Z\}, \{a, b\}, P, V)$ onde:
P={ V ➔ aX | bV,
X ➔ aW | bY,
Y ➔ aZ | bY,
W ➔ aW | bY | ε,
Z ➔ aW | bY | ε}

h-) Sendo q_0 = U, q_1 = V, q_2 = X, q_3 = Y, q_4 = W e q_5 = Z, temos G = (V, T, P, S) ➔ G = ({U, V, X, Y, W, Z}, {a, b}, P, U) onde:
P={ U ➔ aV | bX,
V ➔ aU | bY,
X ➔ aW | bZ | ε,
Y ➔ aW | bZ | ε,
W ➔ aW | bZ | ε,
Z ➔ aZ | bZ}

i-) Sendo A = S, B = T, C = U, D = V, E = X, F = Y, G = W e H = Z, temos G = (S, T, V, T, P, S) ➔ G = ({U, V, X, Y, W, Z}, {0, 1}, P, S) onde:
P={ S ➔ 0T | 1Y,
T ➔ 0W | 1U,
U ➔ 0S | 1U | ε,
V ➔ 0U | 1W,
X ➔ 1Y | 0Z,
Y ➔ 0W | 1W,
W ➔ 0W | 1X,
Z ➔ 0W | 1U}

j-) Sendo 0 = U, 1 = V, 2 = X, 3 = Y, 4 = W e 5 = Z, temos G = (V, T, P, S) ➔ G = ({U, V, X, Y, W, Z}, {a, b}, P, U) onde:
P={ U ➔ aV | bX,
V ➔ aY | bW,
X ➔ aW | bY,
Y ➔ aZ | bZ,
W ➔ aZ | bZ,
Z ➔ aZ | bZ | ε }