

Joder G. C. Jr

LISTA-1-EXERCICIO-1-LETRA-a

$\{\lambda, ab, c, abab, abc, cab, cc, \dots\}$

LISTA-1-EXERCICIO-1-LETRA-b

$\{a, b, c, aa, ab, ac, ba, bb, bc, ca, cb, cc, \dots\}$

LISTA-1-EXERCICIO-1-LETRA-c

$\{\lambda, abc, abcabc, abcabcabc, \dots\}$

LISTA-1-EXERCICIO-2-LETRA-a

$\{a, b, c, d\}$

LISTA-1-EXERCICIO-2-LETRA-b

$\{00, 01, 11, 100, 010, 110\}$

LISTA-1-EXERCICIO-2-LETRA-c

$\{10100, 10111, 11000, 11011\}$

LISTA-1-EXERCICIO-2-LETRA-d

$\{Anabela, Emanuela, Gabriela, Isabela, Rafaela\}$

LISTA-1-EXERCICIO-3-LETRA-a

$\{\uparrow\uparrow, \uparrow\downarrow, \uparrow\uparrow\uparrow, \downarrow\uparrow, \downarrow\downarrow, \downarrow\uparrow\uparrow, \uparrow\uparrow\uparrow\uparrow, \uparrow\uparrow\downarrow, \uparrow\uparrow\uparrow\uparrow\uparrow\}$

LISTA-1-EXERCICIO-3-LETRA-b

$\{\uparrow\uparrow\uparrow, \uparrow\downarrow\downarrow, \uparrow\uparrow\uparrow\uparrow, \downarrow\uparrow\uparrow, \downarrow\downarrow\uparrow, \downarrow\uparrow\uparrow\uparrow, \uparrow\uparrow\uparrow\uparrow, \uparrow\downarrow\uparrow, \uparrow\uparrow\uparrow\uparrow, \uparrow\uparrow\downarrow, \uparrow\uparrow\uparrow\uparrow, \downarrow\uparrow\uparrow, \downarrow\downarrow\downarrow\}$

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LISTA 1-EXERCICIO 3 LETRA C

{ H_2H_2 , H_2Fe , FeH_2 , FeFe , SO_2SO_2 , SO_2O_2 , SO_2Cl_2 , O_2SO_2 , O_2O_2 , O_2Cl_2 , Cl_2SO_2 , Cl_2O_2 , Cl_2Cl_2 }

LISTA 1-EXERCICIO 3 LETRA D

{ H_2H_2 , H_2Fe , FeH_2 , FeFe , SO_2SO_2 , SO_2O_2 , SO_2Cl_2 , O_2SO_2 , O_2O_2 , O_2Cl_2 , Cl_2SO_2 , Cl_2O_2 , Cl_2Cl_2 , H_2SO_4 , H_2O_2 , H_2Cl_2 , FeSO_4 , FeO_2 , FeCl_2 , H_2S , H_2Se , H_2Te , H_2Si , H_2Ge , H_2Sn , H_2Pb , H_2Bi , H_2Sb , H_2As , H_2V , H_2Cr , H_2Mn , H_2Co , H_2Ni , H_2Cu , H_2Zn , H_2Ag , H_2Au , H_2Pt , H_2Ir , H_2Rh , H_2Os , H_2Ru , H_2Pd , H_2Fe , H_2Co , H_2Ni , H_2Cu , H_2Zn , H_2Ag , H_2Au , H_2Pt , H_2Ir , H_2Rh , H_2Os , H_2Ru , H_2Pd }

LISTA 1-EXERCICIO 4 LETRA O

{ H_2H_2 , H_2Fe , FeH_2 , FeFe }

LISTA 1-EXERCICIO 4 LETRA B

{ H_2H_2 , H_2Fe , FeH_2 , FeFe , SO_2SO_2 , SO_2O_2 , SO_2Cl_2 , O_2SO_2 , O_2O_2 , O_2Cl_2 , Cl_2SO_2 , Cl_2O_2 , Cl_2Cl_2 }

LISTA 1-EXERCICIO 4 LETRA C

{ H_2SO_4 , H_2O_2 , H_2Cl_2 , FeSO_4 , FeO_2 , FeCl_2 }

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LISTA-2-EXERCICIO-1-LETRA-a
 $C^*(a|c)^*(a[a-c]^*)^*$

LISTA-2-EXERCICIO-1-LETRA-b
 $(b|c)^*(a(b|c)^*a(b|c)^*)^*$

LISTA-2-EXERCICIO-1-LETRA-c
 $(0|1)^+00$

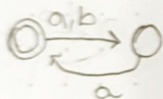
LISTA-2-EXERCICIO-1-LETRA-d
 $10101(011)(011)^+$

LISTA-2-EXERCICIO-2-LETRA-a

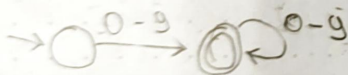
Reconhece os e ls, ou seja, é um autômato que reconhece valores binários.

LISTA-2-EXERCICIO-2-LETRA-b
 Reconhece apenas o símbolo 'a'

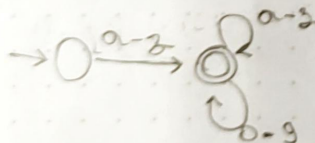
LISTA-2-EXERCICIO-3-LETRA-a



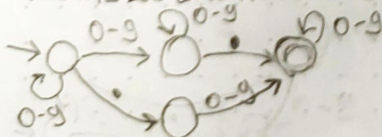
LISTA-2-EXERCICIO-3-LETRA-b



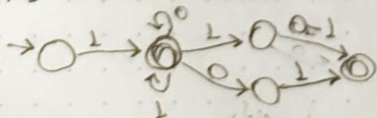
LISTA-2-EXERCICIO-3-LETRA-c



LISTA-2-EXERCICIO-3-LETRA-d



LISTA-2-EXERCICIO-3-LETRA-e



LISTA-2-EXERCICIO-4-LETRA-a
 LF

LISTA-2-EXERCICIO-4-LETRA-b
 $[a-z]^+[0-9]^+$

LISTA-2-EXERCICIO-4-LETRA-c
 $[0-9]^+$

LISTA-2-EXERCICIO-4-LETRA-d
 $([0-9]^+|" "[0-9]^+)|(" "[0-9]^+)$

LISTA-2-EXERCICIO-4-LETRA-e
 $(" "-|" "[a-z]^+" "n")| [blank]^+$

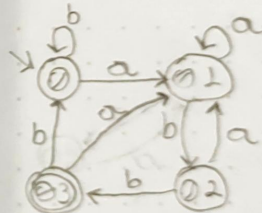
LISTA-3-EXERCICIO-1-LETRA-a

	a	b
0	13✓	✓
13	2✓	4✓
*2	2✓	✓
*4	✓	4✓



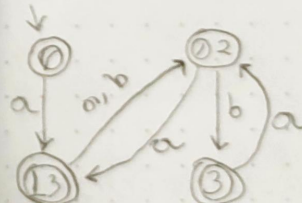
LISTA-3-EXERCICIO-1-LETRA-b

	a	b
0	01✓	0✓
01	01✓	02✓
02	01✓	03✓
*03	01✓	0✓



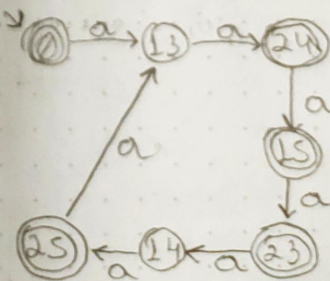
LISTA-3-EXERCICIO-1-LETRA-c

	a	b
0	13✓	✓
*13	02	02
02	13✓	3-
*3	02	✓



LISTA-3-EXERCICIO-1-LETRA-d

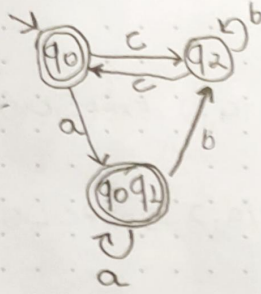
	a
*0	13✓
13	24✓
*24	15✓
*15	23✓
*23	14✓
14	25✓
*25	13✓



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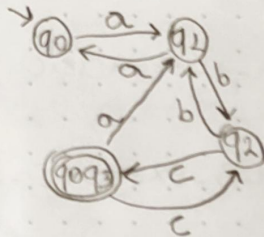
LISTA-3-EXERCICIO-1-LETRA-e

	a	b	c
*q0	q0q1		q2
q2		q2	q0
*q0q1	q0q1	q2	



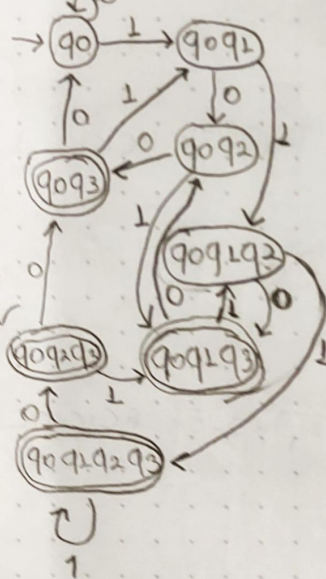
LISTA-3-EXERCICIO-1-LETRA-f

	a	b	c
q0	q1		
q1	q0	q2	
q2		q1	q0q3
*q0q3	q1		q2



LISTA-3-EXERCICIO-1-LETRA-g

	0	1
q0	q0	q0q1
q0q1	q0q2	q0q1q2
q0q2	q0q3	q0q1q3
*q0q3	q0	q0q1
q0q1q2	q0q2q3	q0q1q2q3
*q0q1q3	q0q2	q0q1q2
*q0q2q3	q0q3	q0q1q3
q0q1q2q3	q0q2q3	q0q1q2q3



LISTA-3-EXERCICIO-2-LETRA-a

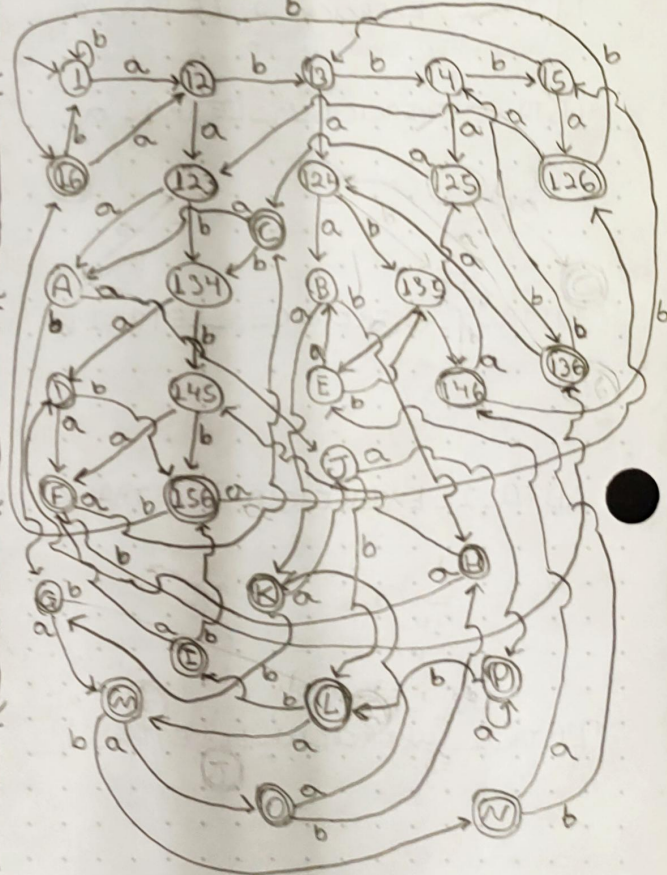
	x	y	z
A 1234	567	67	
B *67			
C *567			1234



LISTA-3-EXERCICIO-2-LETRA-b

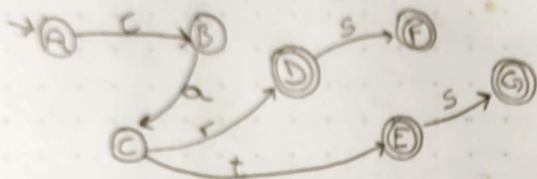
	a	b
-1	12	1
-12	123	13
-13	124	14
-14	125	15
-15	126	16
*16	12	1
-123	1234	134
-124	1235	135
-125	1236	136
*126	123	13
-134	1245	145
-135	1246	146
*136	124	14
-145	1256	156
*146	125	15
*156	126	16

	a	b
A 1234	12345	13456
B 1235	12346	13467
C *1236	1234	134
D 1245	1256	156
E *1246	1235	135
F 1256	1236	136
G 1345	12456	1456
H *1346	1245	145
I 1456	1256	156
J 12345	123456	13456
K *12346	12345	1345
L 13456	12456	1456
M *12456	12356	1356
N *1356	1246	146
O *12356	12346	1346
P 123456	123456	13456



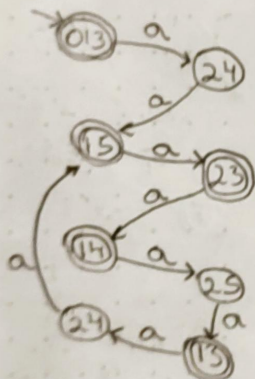
LISTA 3 - EXERCÍCIO 2 - LETRA C

	a	c	f	g	t
A- 1, 5, 10, 14	/	26, 11, 15	/	/	/
B- 26, 11, 15	39, 12, 16	/	/	/	/
C- 3, 9, 12, 16	/	/	13, 17	/	48
D- 13, 17	/	/	/	18	/
E- 18	/	/	/	3	/
F- 18	/	/	/	/	/
G- 19	/	/	/	/	/



LISTA_3-EXERCICIO_2-LETRA_J

	a
+013	24✓
24	15✓
+15	23✓
+23	14✓
+14	25✓
25	13✓
+13	24✓
24	15✓



LISTA 3 - EXERCÍCIO 2 - LETRA C

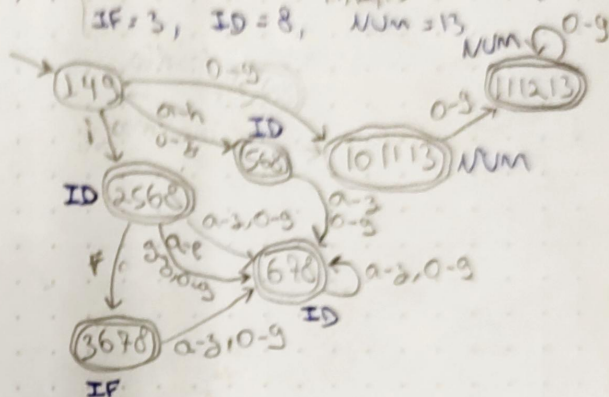
	0	1	2
A-23458	234698	234578	9,10,11,12,16
B-234698	234648	234598	9,10,11,12,16
C-234578	234698	234578	9,10,11,12,16
D*910111216	10,11,12,13,15,16	10,11,12,13,15,16	
E*101112,14,15,16	10,11,12,13,15,16	10,11,12,13,15,16	
F*10,11,12,13,15,16	10,11,12,13,15,16	10,11,12,13,15,16	



LISTA 3 - EXERCÍCIO 3 -

	I	F	[0-5]	[0-3]
149	2568	568	10113	2568
568	678	3678	678	5678
568	678	678	678	678
678	678	678	678	678
5678	678	678	678	678
10113			112,13	
11,12,13			11,12,13	

IF = 3, ID = 8, $1/Nm = 13$, 0-9

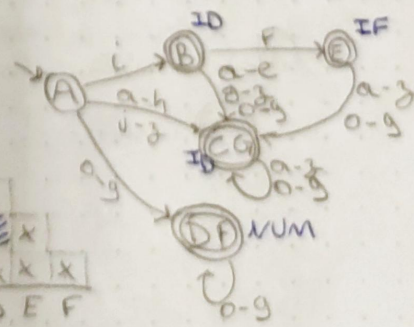


LISTA 4 - EXERCICIO 1 - LETRA - a

149 = A 10 11 13 = D-NUM 6 7 8 = G-ID
 2568 = B-ID 3 6 7 8 = E-IF
 568 = C-ID 1 12 13 = F-WM

	i	F	a-h	i-j	a-e	g-g	a-z	o-g
A	B	.	C	C	-	-	-	D
B	/	E	-	-	G	G	-	G
C	-	-	-	-	-	-	G	G
D	-	-	-	-	-	-	-	F
E	-	-	-	-	-	-	G	G
F	-	-	-	-	-	-	-	F
G	-	-	-	-	-	-	G	G

B	x						
C	x	x					
D	x	x	x				
E	x	x	x	x			
F	x	x	x		x		
G	x			x	x	x	
	A	B	C	D	E	F	



LISTA-4-EXERCICIO-1-LETRA-B

	a	b
1	2	4
2	3	-
3	2	-
4	5	-
5	4	-

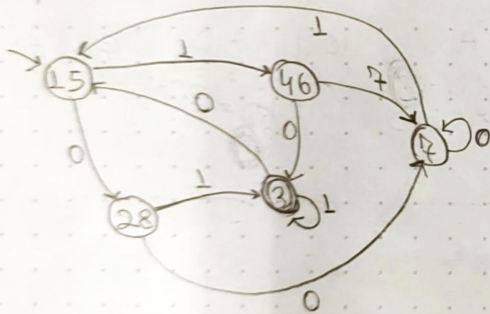
2	x			
3	x	x		
4	x	x	x	
5	x	x	x	x
	1	2	3	4

NÃO É POSSÍVEL MINIMIZAR
POIS 2 e 4 SÃO EQUIVALENTES, PORÉM
A TRANS[2,a] ≠ TRANS[4,a]

LISTA-4-EXERCICIO-1-LETRA-C

	0	1
1	2	6
2	7	3
3	1	3
4	5	7
5	8	6
6	3	7
7	4	5
8	2	3

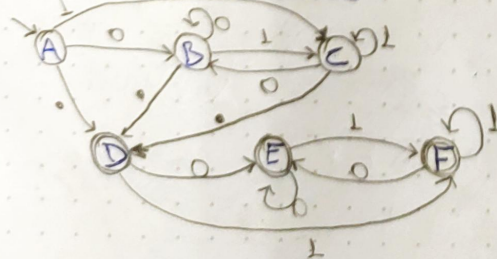
2	x			
3	x	x		
4	x	x	x	
5		x	x	x
6	x	x	x	x
7	x	x	x	x
8	x		x	x
	1	2	3	4



LISTA-4-EXERCICIO-2-LETRA-A

Vou apenas desenhar o DFA, pois a tabela verdade do NFA-E está resolvido na LISTA-3-EXERCICIO-2-LETRA-E

DFA já renomeado:

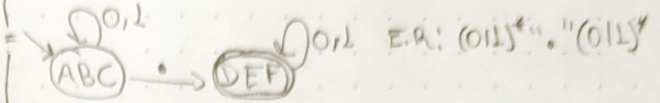


Agora vou remover os estados equivalentes

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	0	1	.
A	B	C	D
B	B	C	D
C	B	C	D
D	E	F	-
E	E	F	-
F	E	F	-

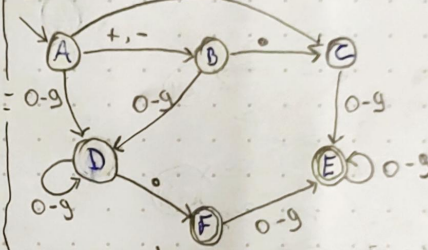
B	x			
C	x	x		
D	x	x	x	
E	x	x	x	x
F	x	x	x	x
	A	B	C	D



LISTA-4-EXERCICIO-2-LETRA-B

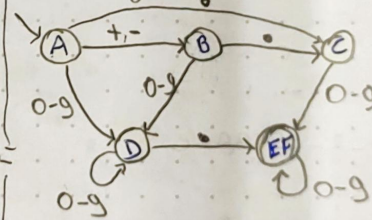
	+	-	.	0-9
A- q0q1	q1✓	q1✓	q2✓	q1q4✓
B- q1	-	-	q2✓	q1q4✓
C- q2	-	-	-	q3q5✓
D- q1q4	-	-	q2q3q5	q1q4✓
E- q3q5	-	-	-	q3q5✓
F- q2q3q5	-	-	-	q3q5✓

DFA:



B	x			
C	x	x		
D	x	x	x	
E	x	x	x	x
F	x	x	x	x
	A	B	C	D

Minimizado:



E.R.: $[(+|-) \cdot (019)^+ | (+|-)(0-9)^+ \cdot (019)^*] \cdot (0-9)^+ | (0-9)^+ \cdot (0-9)^+$

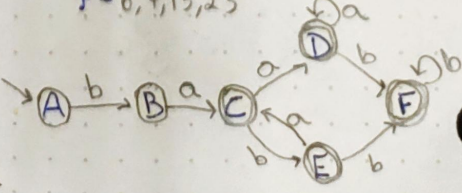
LISTA-4-EXERCICIO-3

Automato A

	a	b
A	-	B
B	C	-
C	D	E
D	D	F
E	C	F
F	-	F

- A- 0, 16, 17, 18
- B- 1, 2, 19, 20
- C- 0, 3, 4, 6, 8, 10, 11, 12, 13, 14, 15, 17, 18, 21, 22, 23
- D- 4, 5, 6, 8, 9, 11, 12, 13, 15, 23
- E- 1, 2, 6, 7, 13, 19, 20, 23
- F- 6, 7, 13, 23

B	x			
C	x	x		
D	x	x	x	
E	x	x	x	x
F	x	x	x	x
	A	B	C	D



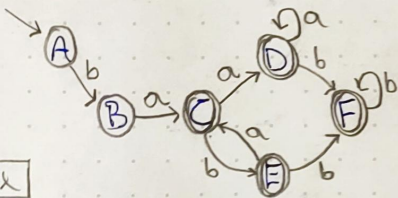
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LISTA-4-EXERCICIO-3

Automato B

	a	b
A	-	B
B	C	-
C	D	E
D	D	F
E	C	F
F	-	F

A-0,4,10,11
 B-1,2,5,12,13,14
 *C-0,3,4,6,7,8,11,13,14,15,16
 *D-6,7,8,13,14,15,16,17
 *E-1,2,5,6,8,9,12,13,14,17
 F-9,8,17



	i	f	a-3	0-9	.	/	ln	blank
*N	-	-	-	-	-	-	-	-
*O	-	-	-	-	-	-	-	0

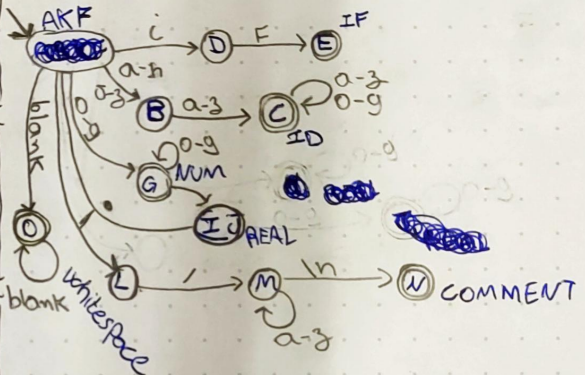
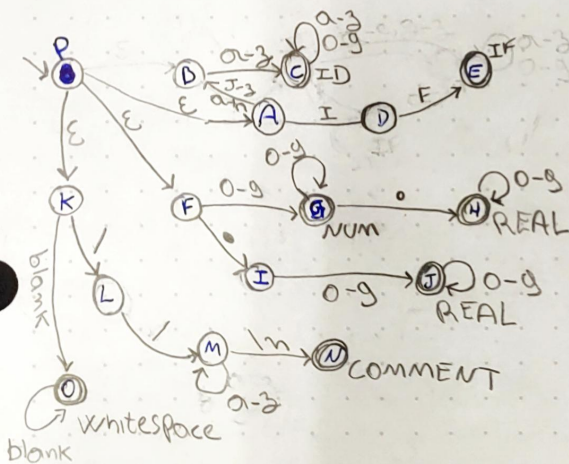
C	x							
D	x	x						
E	x	x	x					
G	x	x	x	x				
H	x	x	x	x	x			
I	x	x	x	x	x	x		
J	x	x	x	x	x	x	x	
L	x	x	x	x	x	x	x	x
M	x	x	x	x	x	x	x	x
O	x	x	x	x	x	x	x	x

ABKFC D E G H I J L M N

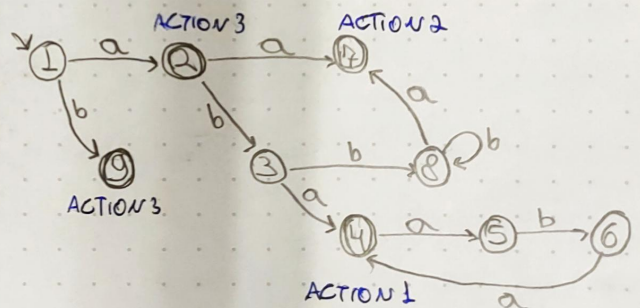
Os automatos A e B são equivalentes e aceitam a seguinte E.R.:

$ba(a|b)^*$

LISTA-4-EXERCICIO-4-LETRA-a



LISTA-5-EXERCICIO-3



LISTA-4-EXERCICIO-4-LETRA-b

	i	f	a-3	0-9	.	/	ln	blank
AKF	x	x	x	x	x	x	x	x
B	x	x	x	x	x	x	x	x
C	x	x	x	x	x	x	x	x
D	x	x	x	x	x	x	x	x
E	x	x	x	x	x	x	x	x
F	x	x	x	x	x	x	x	x
G	x	x	x	x	x	x	x	x
H	x	x	x	x	x	x	x	x
I	x	x	x	x	x	x	x	x
J	x	x	x	x	x	x	x	x
K	x	x	x	x	x	x	x	x
L	x	x	x	x	x	x	x	x
M	x	x	x	x	x	x	x	x

codeia: abaabbabab

1 \xrightarrow{a} 2 \xrightarrow{b} 3 \xrightarrow{a} 4
 b "aba" que é ACTION 1
 1 \xrightarrow{a} 2 \xrightarrow{b} 3 \xrightarrow{b} 8 \xrightarrow{a} 7
 b "abba" que é ACTION 2
 1 \xrightarrow{b} 9: "b" ACTION 3
 1 \xrightarrow{a} 2: "a" ACTION 3