**Anhanguera Educacional LTDA**

**Curso:** Ciência da Computação

**Matéria:** Linguagens Formais e Autômatos

**Aluna:** Cecília Junqueira Sartini **RA:** 8483182138

**Aluna:** Marcela Silva de Medeiros **RA:** 8208952889

**Aluno:** Matheus Fernando de Oliveira **RA:** 8823356100

**Respostas dos Pós-aulas 1, 2, 3, 4 e 5.**

**Professor:** Clayton Valdo

Jundiaí, 31 de Março de 2017.

**Lista1** – Revisão de Conjuntos

**A.**

1-) AꓴB = {0, 1, 2, 3}

2-) AꓵB = {2}

3-) A-B = {0,1}

4-) A' = {3, 4, 5, 6, 7, 8, 9, 10}

5-) 2A = {{ }, {1}, {2}, {0,1}, {0,2}, {1,2}}

6-) AxB = {(0,2), (0,3), (1,2), (1,3), (2,2), (2,3)}

7-) BꓴC ={2, 3, 4, 5}

8-) BꓵC = { }

9-) B-C = {2,3}

10-) B' = {0, 1, 4, 5, 6, 7, 8, 9, 10}

11-) 2B = {{ }, {2}, {3}, {0,2}, {0,3}, {2,3}}

12-) BxC = {(2,4), (2,5), (3,4), (3,5)}

13-) CꓴD = {2, 4, 5, 7, 8}

14-) CꓵD = {5}

15-) C-D = {4}

16-) C' = {0, 1, 2, 3, 6, 7, 8, 9, 10}

17-) 2C = {{ }, {4}, {5}, {0,4}, {0,5}, {4,5}}

18-) CxD = {(4,2), (4,5), (4,7), (4,8), (5,2), (5,5), (5,7), (5,8)}

19-) DꓴA = {0, 1, 2, 5, 7, 8}

20-) DꓵA = {2}

21-) D-A = {5, 7, 8}

22-) D' = {0, 1, 3, 4, 6, 9, 10}

23-) 2D = {{ }, {2}, {5}, {7}, {8}, {0,2}, {0,5}, {0,7}, {0,8}, {2,5}, {2,7}, {2,8}, {5,7}, {5,8}, {7,8}}

24-) DxA = {(2,0), (2,1), (2,2), (5,0), (5,1), (5,2), (7,0), (7,1), (7,2), (8,0), (8,1), (8,2)}

25-) A2 = AxA = {(0,0), (0,1), (0,2), (1,0), (1,1), (1,2), (2,0), (2,1), (2,2)}

26-) D2 = DxD = {(2,2), (2,5), (2,7), (2,8), (5,2), (5,5), (5,7), (5,8), (7,2), (7,5), (7,7), (7,8), (8,2), (8,5), (8,7), (8,8)}

27-) Aꓴ(BꓴC) = {0, 1, 2, 3, 4, 5}

28-) Aꓵ(BꓴC) = {2}

29-) Aꓵ(BꓵC) = { }

30-) Cꓴ(BꓴD) = BꓴD = {2, 3, 5, 7, 8} → Cꓴ(BꓴD) = {2, 3, 4, 5, 7, 8}

31-) Cꓵ(BꓴD) = {5}

32-) Cꓵ(BꓵD) = BꓵD = {2} → Cꓵ(BꓵD) = { }

33-) Dꓴ(AꓴC) = AꓴC = {0, 1, 2, 4, 5} → Dꓴ (AꓴC) = {0, 1, 2, 4, 5, 7, 8}

34-) Dꓵ(AꓴC) = {2,5}

35-) Dꓵ(AꓵC) = AꓵC = { } → Dꓵ(AꓵC) = { }

36-) Aꓴ(BꓴC)' = (BꓴC)' = {0, 1, 6, 7, 8, 9, 10} → Aꓴ(BꓴC)' = {0, 1, 2, 6, 7, 8, 9, 10}

37-) Dꓴ(AꓵC)' = (AꓵC)' = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10} → Dꓴ(AꓵC)' = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

38-) AxD' = {(0,0), (0,1), (0,3), (0,4), (0,6), (0,9), (0,10), (1,0), (1,1), (1,3), (1,4), (1,6), (1,9), (1,10), (2,0), (2,1), (2,3), (2,4), (2,6), (2,9), (2,10)}

39-) Dx(C')' = {(2,4), (2,5), (5,4), (5,5), (7,4), (7,5), (8,4), (8,5)}

40-) Bꓴ(B')' = {2,3}

**B.**

AxA = {(1,1), (1,2), (1,3), (1,5), (1,7), (2,1), (2,2), (2,3), (2,5), (2,7), (3,1), (3,2), (3,3), (3,5), (3,7), (5,1), (5,2), (5,3), (5,5), (5,7), (7,1), (7,2), (7,3),(7,5), (7,7)}

Gráfico = {(1,1), (2,3), (3,5), (5,1), (7,7) }

Resposta: d) (2,3) є R, (3,5) є R, (7,7) є R

**C.**

AxB = {(2,1), (2,3), (2,5), (2,7), (4,1), (4,3), (4,5), (4,7), (6,1), (6,3), (6,5), (6,7), (8,1), (8,3), (8,5), (8,7)}

Gráfico = {(2,1), (4,3), (6,5), (8,7)}

a) V

b) F

c) V

d) F

e) V

**D.**

AxB = {(1,1), (1,3), (1,4), (1,5), (2,1), (2,3), (2,4), (2,5), (3,1), (3,3), (3,4), (3,5)}

y = 2x1-1 = 1

y = 2x2-1 = 3

y = 2x3-1 = 5

Resposta: a)

**Lista 2** **–** ER

1

1. Todas as palavras de “a” geradas, tal que a^n, e n>=1
2. Todas as palavras de “a” geradas, tal que a^n, e n>=2
3. Todas as palavras de “012” geradas, tal que 0^n, 1^m , 2 e n,m>=0
4. Todas as palavras de “ab” geradas, tal que a^nb, e n>=0
5. Todas as palavras de “ab” geradas, tal que (a^nb^m)^o, e m, n, o>=0

2

1. {ab, aab, abb, aaab, abbb,...}
2. {aaab, aaaaaabb, aaaaaaaaabbb, aaaaaaaaaaaabbbb,...}
3. (ab, aabb, aaabbb, aaaabbb,...}
4. {aaab, aaabb, aaabbb, aaabbbb,...}
5. {aa, bb, aaaa, bbbb,...}

3

As alternativas verdadeiras são: b (Uma vez que uma intersecção deve-se haver pertencentes nos ambos conjuntos, e união ou em um ou em outro. Logo, como em ambos há “a” e “b”, a afirmação é verdadeira.). E c (Para uma intersecção deve-se haver pertencentes em ambos conjuntos, e como são elementos distintos, não há intersecção, ou seja, é vazia.).

4

1. F
2. F
3. F
4. F
5. F

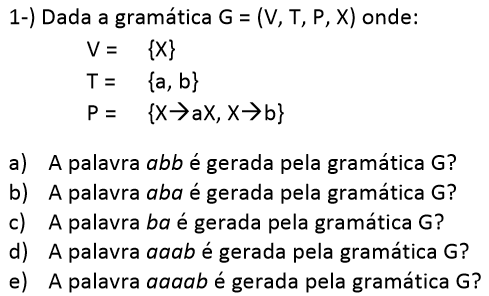
5

a^n, n/2=mod<>0

6

(01)\*

**Lista 3** **-** GR



**Resposta**

**a) abb**

X->aX->ab..

Não é gerada

**b) aba**

X->aX->ab

Não é gerada

c) ba

X->b

Não é gerada

**d)aaab**

X-> aX->aaX->aaaX->aaab

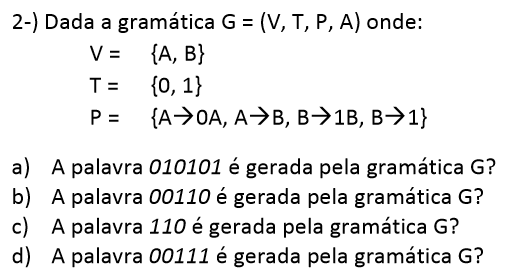
X^4->

é Gerada

**e)aaab**

X->aX->aaX->aaaX->aaaaX->aaaab

X^5-> aaaab



**Resposta:**

**a)010101**

A->0A->0B->01B..

Não é gerada

**b)0011**

A->0A->00A->00B->001B->0011

Não é gerada

**c)110**

A->B->1B->11B->...

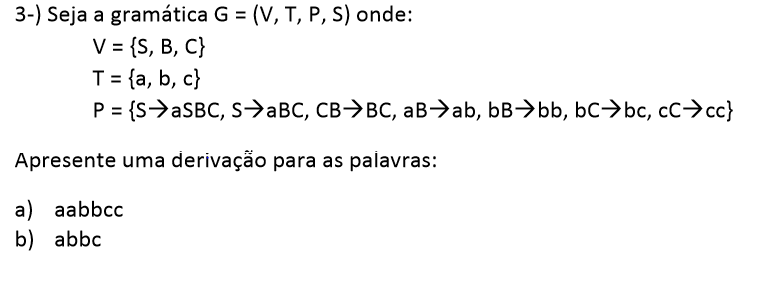
Não é gerada

**d)00111**

A->0A->00A->00B->001B->0011B->00111

S^6->00111

É gerada



Resposta:

3-

a)aabbcc

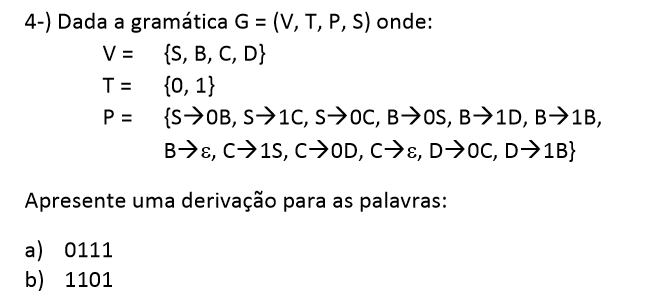
S->aSBC->aaBCBC->aaBBCC->aabBCC->aabbCC->aabbcc

S^6->aabbcc

b)abbc

S->aBC->abC->abbc

S^3->aabbc



**a)0111**

S->0B->01B011B->0111B->0111£

S^5->0111

**b)1101**

B->1B->11B->110S->1101C->1101£

S^5->1101

**c)01110**

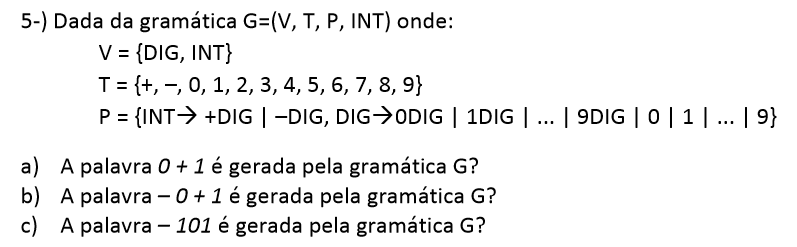
S->0B->01B->011B->0111D->01110C->0110£

S^6->01110

**d)10011**

S->1C->10D->100C->1001S->10011C->10011£

S-^6>10011



**a)0+1**

Não é gerado

DIG->0DIG->...

**b)-0+1**

INT->-DIG->-0DIG->...

Não é gerado

**c)-101**

INT->-DIG->-1DIG->-10DIG-> -101

É gerado

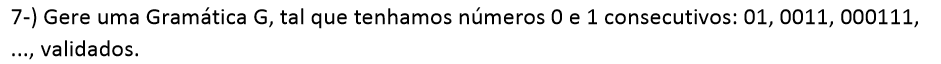


G={V,T,P,S]

V={S,D}

T={0,2,4,6,8,£}

P={S->D,S->DS, D-> 0|1|2|4|6|8|£}

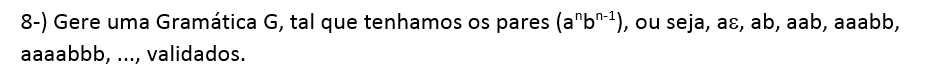


G={V,T,P,S]

V={S,D}

T={0,1}

P={S->0D,S->1D, D->1D, D->0D,D->£}

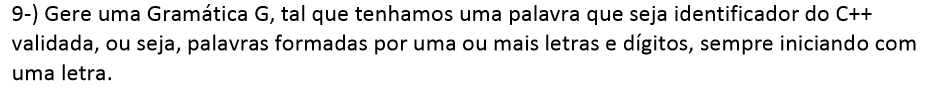


G={V,T,P,S]

V={S,B}

T={a,b,£}

P={S->aB,B->1B,B->S,B->£}

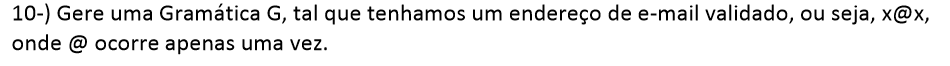


G={V,T,P,S]

V={D,B,S}

T={a,b,c,..,z,£,0,1,2,3,...,9}

P={S->DB, D->S,D->B,B->S,B->D,D->£,B->£,D-> a|b|c|...|y|z|£, B->0|1|2|4|5|6|7|8|9|£ }



G={V,T,P,S]

V={A,B,S,@}

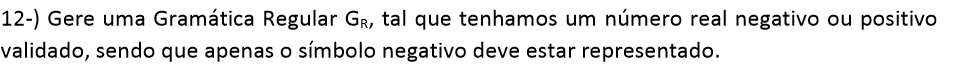
T={a,b,c,..,z,£,0,1,2,3,...,9}

P={S->AA, S->BA, A->B, B->A, A->@, @->@A |@B, A-> a|b|c|...|y|z|£,

B->0|1|2|4|5|6|7|8|9|£ }



1. GLC ;
2. 2- GR;
3. 3-GSC;
4. 4-GI;
5. 5-GR.



V={D,X}

T={-,0,1,2,3,4,5,6,7,8,9}

P={X->-D, D->0D, D->|1D|...|9D|0|1|...|9}

**Lista 4** **-** AFD

**1.**

1

a)

0

P1P2

|  |  |  |
| --- | --- | --- |
| P1 | X | P0 |
| P2 | X | 0,1 |
|  | P0 | P1 |

b)

a

|  |  |  |
| --- | --- | --- |
| q1 | + | a  q2  q0 |
| q2 | X | X |
|  | q0 | 1 |

c

c

a,c

q1

c)

a,b

|  |  |
| --- | --- |
| q1 |  |
|  | q0 |

q0q1

a,b

d)

a

|  |  |  |  |
| --- | --- | --- | --- |
| q1 | x |  | q0  q1q3 |
| q2 | + | x |
| q3 | x |  | x |
|  | q0 | q1 | q2  a  b |

q2

b

e)

b

a

|  |  |  |  |
| --- | --- | --- | --- |
| q1 | x |  | a  q1  q0 |
| q2 | + | x |
| q3 | x | + | x |
|  | q0 | q1 | q2  b  b |

q3

b

a

a

q2

f)

a

a,b

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 |  |  |  | b  012  34 |
| 2 |  |  |
| 3 | x | x | x |
| 4 | x | x | x |  |
|  | 0 | 1 | 2 | 3 |

g)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| q1 | + |  |  |  |
| q2 | + |  |
| q3 | x | x | x |
| q4 | x | x | x |  |
|  | q0 | q1 | q2 | q3 |

b

b

a

b

a

a

q0

q3q4

q1q2

h)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| q1 |  |  |  |  |  |
| q2 | X | x |
| q3 | X | x |  |
| q4 | X | x |  |  |
| q5 | + | + | x | x | x |
|  | q0 | q1 | q2 | q3 | q4 |

a

a

a,b

b

b

q0q1

q0

q2q3q4

i)

1

0

1

0

0

D

C

B

A

F

E

1

0

1

1

1

0,1

0

H

G

1

0

0

Não é possível a minimização, pois o D é inacessível.

j)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | + |  |  |  |  |
| 2 | + |  |
| 3 | + | + | + |
| 4 | + | + | + |  |
| 5 | x | x | X | x | x |
|  | 0 | 1 | 2 | 3 | 4 |

a,b

a,b

a,b

a,b

5

34

12

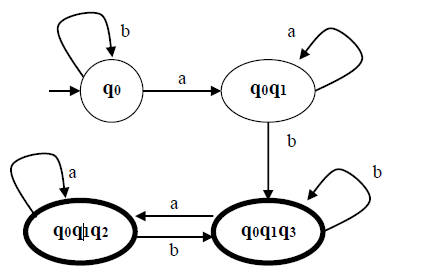
0

**Lista 5** **-** AFND

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *A-* | | | | | | | | | | | | |
| *δ'(<q0>,a )* | | *=* | | | *δ({q0},a)* | | | *=* | | | <q1> | |
| *δ'(<q0>,b)* | | *=* | | | *δ({q0},b)* | | | *=* | | | <q0q1> | |
| *δ'(<q1>,a)* | | *=* | | | *δ({q1},a)* | | | *=* | | | <q1> | |
| *δ'(<q1>,b)* | | *=* | | | *δ({q1},b)* | | | *=* | | | <q1> | |
| *δ'(<q0q1>,a)* | *=* | | *δ({q0},a)* | *U* | | *δ({q1},a)* | *=* | | {q1}*U*{q1} | *=* | | <q1> |
| *δ'(<q0q1>,b)* | *=* | | *δ({q0},b)* | *U* | | *δ({q1},b)* | *=* | | {q0q1}*U*{q1} | *=* | | <q0q1> |



|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **B-** | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ'(<q0>,a)*** | | | | | | ***=*** | | | | | ***δ({q0},a)*** | | | | | ***=*** | | | | | <q1q2> | | | |
| ***δ'(<q0>,b)*** | | | | | | ***=*** | | | | | ***δ({q0},b)*** | | | | | ***=*** | | | | | <q0> | | | |
| ***δ'(<q1q2>,a)*** | | | | ***=*** | | | ***δ({q1},a)*** | | ***U*** | | | ***δ({q2},a)*** | | | ***=*** | | | {q1}***U***{q2} | | ***=*** | | | <q1q2> | |
| ***δ'(<q1q2>,b)*** | | | | ***=*** | | | ***δ({q1},b)*** | | ***U*** | | | ***δ({q2},b)*** | | | ***=*** | | | {q1}***U***{q2} | | ***=*** | | | <q1q2> | |
| **Σ→** | | *{a,b}* | | | | | | | | | | | | | | | | | | | | | | |
| **Q→** | | *{<q0>, <q1q2>}* | | | | | | | | | | | | | | | | | | | | | | |
| **δ→** | | | | | | | | | | | | | | | | | | | | | | | | |
| **q0 →** | | *{<q0>}* | | | | | | | | | | | | | | | | | | | | | | |
| **F→** | | *{<q1>}* | | | | | | | | | | | | | | | | | | | | | | |
| ***C-*** | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ'(<q0>,a)*** | | | | | | ***=*** | | | | | ***δ({q0},a)*** | | | | | ***=*** | | | | | *<q0q1>* | | | |
| ***δ'(<q0>,b)*** | | | | | | ***=*** | | | | | ***δ({q0},b)*** | | | | | ***=*** | | | | | *<q0>* | | | |
| ***δ'(<q0q1>,a)*** | | | | ***=*** | | | ***δ({q0},a)*** | | ***U*** | | | ***δ({q1},a)*** | | | ***=*** | | | {q0q1}***U***{q1} | | ***=*** | | | *<q0q1>* | |
| ***δ'(<q0q1>,b)*** | | | | ***=*** | | | ***δ({q0},b)*** | | ***U*** | | | ***δ({q1},b)*** | | | ***=*** | | | {q0}U{q1q3} | | ***=*** | | | *<q0q1q3>* | |
| ***δ'(<q0q1q3>,a )*** | | | ***=*** | | ***δ({q0},a)*** | | | ***U*** | | ***δ({q1},a)*** | | | ***U*** | ***δ({q3},a)*** | | | ***=*** | | {q0q1}U{q1}U{q2} | | | ***=*** | | *<q0q1q2>* |
| ***δ'(<q0q1q3>,b )*** | | | ***=*** | | ***δ({q0},b)*** | | | ***U*** | | ***δ({q1},b)*** | | | ***U*** | ***δ({q3},b)*** | | | ***=*** | | {q0}U{q1q3}U{q3} | | | ***=*** | | *<q0q1q3>* |
| ***δ'(<q0q1q2>,a)*** | | | ***=*** | | ***δ({q0},a)*** | | | ***U*** | | ***δ({q1},a)*** | | | ***U*** | ***δ({q2},a)*** | | | ***=*** | | {q0q1}U{q1}U{q2} | | | ***=*** | | *<q0q1q2>* |
| ***δ'(<q0q1q2>,b)*** | | | ***=*** | | ***δ({q0},b)*** | | | ***U*** | | ***δ({q1},b)*** | | | ***U*** | ***δ({q2},b)*** | | | ***=*** | | {q0}U{q1q3}U{q3} | | | ***=*** | | *<q0q1q3>* |
| **Σ→** | *{a,b}* | | | | | | | | | | | | | | | | | | | | | | | |
| **Q→** | *{<q0>, <q0q1>, <q0q1q3>, <q0q1q2>}* | | | | | | | | | | | | | | | | | | | | | | | |
| **δ→** | | | | | | | | | | | | | | | | | | | | | | | | |
| **q0 →** | *{<q0>}* | | | | | | | | | | | | | | | | | | | | | | | |



|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***D-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ'(<q0>,a)*** | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | | ***δ({q0},a)*** | | | ***=*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | *<q0>* | | | | | | | | | | | | |
| ***δ'(<q0>,b)*** | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | | | | | | ***δ({q0},b)*** | | | | | | | | | | | | | | | | | | | | | | | | | *<q0q1>* | | | | | | | | | | | | | | | | | |
| ***δ'(<q0q1>,a)*** | | | | | | | | | ***=*** | | | | | | | | | | ***δ({q0},a)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ({q1},a)*** | | | | | | | | | | ***=*** | | | | | | | | | | | {q0}U{q0q1q2} | | | | | | | | | | | ***=*** | | | | | | | | *<q0q1q2>* | | | | | | |
| ***δ'(<q0q1>,b)*** | | | | | | | | | ***=*** | | | | | | | | | | ***δ({0},b)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ({q1},b)*** | | | | | | | | | | ***=*** | | | | | | | | | | | {q0q1}U{q1} | | | | | | | | | | | ***=*** | | | | | | | | *<q0q1>* | | | | | | |
| ***δ'(<q0q1q2>,a)*** | | | | | ***=*** | | | | | | | | | ***δ({q0},a)*** | | | | | | | | ***U*** | | | ***δ({q1},a)*** | | | | | | | | | | | | | | | | | ***U*** | | | | | | | ***δ({q2},a)*** | | | | | | | | ***=*** | | | | | | | | | | | {q0}U{q0q1q2}U{q2} | | | | | | | | | ***=*** | | | | | *<q0q1q2>* | | | | | |
| ***δ'(<q0q1q2>,b)*** | | | | | ***=*** | | | | | | | | | ***δ({q0},b)*** | | | | | | | | ***U*** | | | ***δ({q1},b)*** | | | | | | | | | | | | | | | | | ***U*** | | | | | | | ***δ({q2},b)*** | | | | | | | | ***=*** | | | | | | | | | | | {q0q1}U{q1}U{q1q2} | | | | | | | | | ***=*** | | | | | *<q0q1q2>* | | | | | |
| **Σ→** | *{a,b}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Q→** | *{<q0>, <q0q1>, <q0q1q2>* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **δ→** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **q0 →** | *{<q0>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **F→** | *{<q0>, <q0q1>, <q0q1q2>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***E-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ'(<A>,0)*** | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | ***δ({A},0)*** | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | *<BC>* | | | | | | | | | | | |
| ***δ'(<A>,1)*** | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | ***δ({A},1)*** | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | *<BC>* | | | | | | | | | | | |
| ***δ'(<BC>,0)*** | | | | | | | ***=*** | | | | | | | | | | ***δ({B},0)*** | | | | | | | | | | | ***U*** | | | | | | | | | | ***δ({C},0)*** | | | | | | | | | | ***=*** | | | | | | | | | | | | {C}UØ | | | | | | | | | | | ***=*** | | | | | | | | *<C>* | | | | | | |
| ***δ'(<BC>,1)*** | | | | | | | ***=*** | | | | | | | | | | ***δ({B},1)*** | | | | | | | | | | | ***U*** | | | | | | | | | | ***δ({C},1)*** | | | | | | | | | | ***=*** | | | | | | | | | | | | {C}UØ | | | | | | | | | | | ***=*** | | | | | | | | *<C>* | | | | | | |
| ***δ'(<C>,0)*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***Ø*** | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ'(<C>,1)*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***Ø*** | | | | | | | | | | | | | | | | | | | | | | | | | |
| |  |  | | --- | --- | | **Σ→** | *{0,1}* | | **Q→** | *{<BC>}* | | **δ→** | | | **q0 →** | *{<A>}* | | **F→** | *{<BC>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***F-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ'(<A>,0)*** | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | ***δ({A},0)*** | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | *<BC>* | | | | | | | | | | | |
| ***δ'(<A>,1)*** | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | ***δ({A},1)*** | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | *<BC>* | | | | | | | | | | | |
| ***δ'(<BC>,0)*** | | | | | | | ***=*** | | | | | | | | | | ***δ({B},0)*** | | | | | | | | | | | ***U*** | | | | | | | | | | ***δ({C},0)*** | | | | | | | | | | ***=*** | | | | | | | | | | | | {AC}U{AB} | | | | | | | | | | | ***=*** | | | | | | | | *<ABC>* | | | | | | |
| ***δ'(<BC>,1)*** | | | | | | | ***=*** | | | | | | | | | | ***δ({B},1)*** | | | | | | | | | | | ***U*** | | | | | | | | | | ***δ({C},1)*** | | | | | | | | | | ***=*** | | | | | | | | | | | | {AC}U{AB} | | | | | | | | | | | ***=*** | | | | | | | | *<ABC>* | | | | | | |
| ***δ'(<ABC>,0)*** | | | | ***=*** | | | | | | | | | ***δ({A},0)*** | | | ***U*** | | | | | | | | | | | | | | | ***δ({B},0)*** | | | | | | | | | | ***U*** | | | | | ***δ({C},0)*** | | | | | | | | | | ***=*** | | | | | | | | | {BC}U{AC}U{AB} | | | | | | | | | | ***=*** | | | | | | *<ABC>* | | | | |
| ***δ'(<ABC>,1)*** | | | | ***=*** | | | | | | | | | ***δ({A},1)*** | | | ***U*** | | | | | | | | | | | | | | | ***δ({B},1)*** | | | | | | | | | | ***U*** | | | | | ***δ({C},1)*** | | | | | | | | | | ***=*** | | | | | | | | | {BC}U{AC}U{AB} | | | | | | | | | | ***=*** | | | | | | *<ABC>* | | | | |
| **Σ→** | | *{0,1}* | | | | | | | | | | | | | | | | | | | | | | | | |
| **Q→** | | *{<BC>}* | | | | | | | | | | | | | | | | | | | | | | | | |
| **δ→** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **q0 →** | | *{<A>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **F→** | | *{<BC>, <ABC>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | ***G-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***δ' (<q0>,a)*** | | | | | | | | | ***=*** | | | | | | | | | | | | ***δ ({0},a)*** | | | | | | | | | | | ***=*** | | | | | | | | | | | *<q0q1q2>* | | | | | | | | | | | ***δ' (<q0>,b)*** | | | | | | | | | ***=*** | | | | | | | | | | | | ***δ ({0},b)*** | | | | | | | | | | | ***=*** | | | | | | | | | | | *<q1q2>* | | | | | | | | | | | ***δ' (<q1q2>,a)*** | | | | | ***=*** | | | | | | ***δ ({q1},a)*** | | | | | | ***U*** | | | | | | ***δ ({q2},a)*** | | | | | | | | ***=*** | | | | | {q1}U{q2} | | | | | ***=*** | | | | | | *<q1q2>* | | | | | | | ***δ' (<q1q2>,b)*** | | | | | ***=*** | | | | | | ***δ ({a1},b)*** | | | | | | ***U*** | | | | | | ***δ ({q2},b)*** | | | | | | | | ***=*** | | | | | {q1}U{q3} | | | | | ***=*** | | | | | | *<q1q3>* | | | | | | | ***δ' (<q1q3 >,a)*** | | | | | ***=*** | | | | | | ***δ ({q1},a)*** | | | | | | ***U*** | | | | | | ***δ ({q3},a)*** | | | | | | | | ***=*** | | | | | {q1}U{q1q3} | | | | | ***=*** | | | | | | *<q1q3>* | | | | | | | ***δ' (<q1q3>,b)*** | | | | | ***=*** | | | | | | ***δ ({q1},b)*** | | | | | | ***U*** | | | | | | ***δ ({q3},b)*** | | | | | | | | ***=*** | | | | | {q1}U{q3} | | | | | ***=*** | | | | | | *<q1q3>* | | | | | | | ***δ' (<q0q1q2>,a)*** | | | ***=*** | | | | | ***δ ({q0},a)*** | | | | | | | ***U*** | | | | ***δ ({q1},a )*** | | | | | | ***U*** | | | | | ***δ ({q2},a)*** | | | ***=*** | | | | | {q0q1q2}U{q1}U{q2} | | | | | | ***=*** | | | | *<q0q1q2>* | | | | | | ***δ' (<q0q1q2>,b)*** | | | ***=*** | | | | | ***δ ({q0},b)*** | | | | | | | ***U*** | | | | ***δ ({q1},b)*** | | | | | | ***U*** | | | | | ***δ ({q2},b)*** | | | ***=*** | | | | | {q1q2}U{q1}U{q3} | | | | | | ***=*** | | | | *<q1q2q3>* | | | | | | ***δ' (<q1q2q3>,a)*** | | | ***=*** | | | | | ***δ ({q1},a)*** | | | | | | | ***U*** | | | | ***δ ({q2},a)*** | | | | | | ***U*** | | | | | ***δ ({q3},a)*** | | | ***=*** | | | | | {q1}U{q2}U{q1q3} | | | | | | ***=*** | | | | *<q1q2q3>* | | | | | | ***δ' (<q1q2q3>,b)*** | | | ***=*** | | | | | ***δ ({q1},b)*** | | | | | | | ***U*** | | | | ***δ ({q2},b)*** | | | | | | ***U*** | | | | | ***δ ({q3},b)*** | | | ***=*** | | | | | {q1}U{q3}U{q3} | | | | | | ***=*** | | | | *<q1q3>* | | | | | | **Σ→** | | *{a,b}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **Q→** | | *{<q0>,<q1q2>, <q1q3>, <q0q1q2>, <q1q2q3>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **δ→** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **q0 →** | | *{<q0>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **F→** | | *{<q1q2>, <q1q3>, <q0q1q2>, <q1q2q3>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***H-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ***δ' (<0>,a)*** | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | ***δ ({0},a)*** | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | *<01>* | | | | | | | | ***δ' (<0>,b)*** | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | ***δ ({0},b)*** | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | *<0>* | | | | | | | | ***δ' (<01>,a)*** | | | | | | | ***=*** | | | | | | | ***δ ({0},a)*** | | | | | | | ***U*** | | | | | | | ***δ ({1},a)*** | | | | | | | | ***=*** | | | | | | | {01}U{1} | | | | | | | | ***=*** | | | | | <01> | | | | ***δ' (<01>,b)*** | | | | | | | ***=*** | | | | | | | ***δ ({0},b)*** | | | | | | | ***U*** | | | | | | | ***δ ({1},b)*** | | | | | | | | ***=*** | | | | | | | {0}U{2} | | | | | | | | ***=*** | | | | | <02> | | | | ***δ' (<02>,a)*** | | | | | | | ***=*** | | | | | | | ***δ ({0},a)*** | | | | | | | ***U*** | | | | | | | ***δ ({2},a)*** | | | | | | | | ***=*** | | | | | | | {01}U{2} | | | | | | | | ***=*** | | | | | <012> | | | | ***δ' (<02>,b)*** | | | | | | | ***=*** | | | | | | | ***δ ({0},b)*** | | | | | | | ***U*** | | | | | | | ***δ ({2},b)*** | | | | | | | | ***=*** | | | | | | | {0}U{3} | | | | | | | | ***=*** | | | | | <03> | | | | ***δ' (<03>,a)*** | | | | | | | ***=*** | | | | | | | ***δ ({0},a)*** | | | | | | | ***U*** | | | | | | | ***δ ({3},a)*** | | | | | | | | ***=*** | | | | | | | {01}U{3} | | | | | | | | ***=*** | | | | | <013> | | | | ***δ' (<03>,b)*** | | | | | | | ***=*** | | | | | | | ***δ ({0},b)*** | | | | | | | ***U*** | | | | | | | ***δ ({3},b)*** | | | | | | | | ***=*** | | | | | | | {0}U{3} | | | | | | | | ***=*** | | | | | <03> | | | | ***δ' (<012>,a)*** | | | | | ***=*** | | | | | | ***δ ({0},a)*** | | | | | | ***U*** | | | | | | ***δ ({1},a)*** | | | | | | ***U*** | | | | | | ***δ ({2},a)*** | | | | | | ***=*** | | | | | | {01}U{1}U{2} | | | | | | ***=*** | | | | *<012>* | | | ***δ' (<012>,b)*** | | | | | ***=*** | | | | | | ***δ ({0},b)*** | | | | | | ***U*** | | | | | | ***δ ({1},b)*** | | | | | | ***U*** | | | | | | ***δ ({2},b)*** | | | | | | ***=*** | | | | | | {0}U{2}U{3} | | | | | | ***=*** | | | | *<023>* | | | ***δ' (<013>,a)*** | | | | | ***=*** | | | | | | ***δ ({0},a)*** | | | | | | ***U*** | | | | | | ***δ ({1},a)*** | | | | | | ***U*** | | | | | | ***δ ({3},a)*** | | | | | | ***=*** | | | | | | {01}U{1}U{3} | | | | | | ***=*** | | | | *<013>* | | | ***δ' (<013>,b)*** | | | | | ***=*** | | | | | | ***δ ({0},b)*** | | | | | | ***U*** | | | | | | ***δ ({1},b)*** | | | | | | ***U*** | | | | | | ***δ ({3},b)*** | | | | | | ***=*** | | | | | | {0}U{2}U{3} | | | | | | ***=*** | | | | *<023>* | | | ***δ' (<023>,a)*** | | | | | ***=*** | | | | | | ***δ ({0},a)*** | | | | | | ***U*** | | | | | | ***δ ({2},a)*** | | | | | | ***U*** | | | | | | ***δ ({3},a)*** | | | | | | ***=*** | | | | | | {01}U{2}U{3} | | | | | | ***=*** | | | | *<0123>* | | | ***δ' (<023>,b)*** | | | | | ***=*** | | | | | | ***δ ({0},b)*** | | | | | | ***U*** | | | | | | ***δ ({2},b)*** | | | | | | ***U*** | | | | | | ***δ ({3},b)*** | | | | | | ***=*** | | | | | | {0}U{3}U{3} | | | | | | ***=*** | | | | *<03>* | | | ***δ' (<0123>,a)*** | | | ***=*** | | | | | ***δ ({0},a)*** | | | | | | | ***U*** | | | | δ({1},a) | | | | | | ***U*** | | | | | ***δ ({2},a)*** | | | | ***U*** | | | | | | ***δ ({3},a)*** | | | | | | ***=*** | | | | {01}U{1}U{2}U{3} | | | | | ***=*** | | | *<0123>* | | ***δ' (<0123>,b)*** | | | ***=*** | | | | | ***δ ({0},b)*** | | | | | | | ***U*** | | | | δ({1},b) | | | | | | ***U*** | | | | | ***δ ({2},b)*** | | | | ***U*** | | | | | | ***δ ({3},b)*** | | | | | | ***=*** | | | | {0}U{2}U{3}U{3} | | | | | ***=*** | | | *<023>* | | **Σ→** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |   ***H-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ' (<0>,a)*** | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | | | | | | ***δ ({0},a)*** | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | *<01>* | | | | | | | |
| ***δ' (<0>,b)*** | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | | | | | | ***δ ({0},b)*** | | | | | | | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | | | | | *<0>* | | | | | | | |
| ***δ' (<01>,a)*** | | | | | | | | | | ***=*** | | | | ***δ ({0},a)*** | | | | | | | | | | | | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({1},a)*** | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | {01}U{1} | | | | | | | | ***=*** | | | | | | <01> | | |
| ***δ' (<01>,b)*** | | | | | | | | | | ***=*** | | | | ***δ ({0},b)*** | | | | | | | | | | | | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({1},b)*** | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | {0}U{2} | | | | | | | | ***=*** | | | | | | <02> | | |
| ***δ' (<02>,a)*** | | | | | | | | | | ***=*** | | | | ***δ ({0},a)*** | | | | | | | | | | | | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({2},a)*** | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | {01}U{2} | | | | | | | | ***=*** | | | | | | <012> | | |
| ***δ' (<02>,b)*** | | | | | | | | | | ***=*** | | | | ***δ ({0},b)*** | | | | | | | | | | | | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({2},b)*** | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | {0}U{3} | | | | | | | | ***=*** | | | | | | <03> | | |
| ***δ' (<03>,a)*** | | | | | | | | | | ***=*** | | | | ***δ ({0},a)*** | | | | | | | | | | | | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({3},a)*** | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | {01}U{3} | | | | | | | | ***=*** | | | | | | <013> | | |
| ***δ' (<03>,b)*** | | | | | | | | | | ***=*** | | | | ***δ ({0},b)*** | | | | | | | | | | | | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({3},b)*** | | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | {0}U{3} | | | | | | | | ***=*** | | | | | | <03> | | |
| ***δ' (<012>,a)*** | | | | | | | | ***=*** | | | | | | | | | | ***δ ({0},a)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({1},a)*** | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({2},a)*** | | | | | | | | | | | ***=*** | | | | | | | | {01}U{1}U{2} | | | | | | | ***=*** | | | | *<012>* | |
| ***δ' (<012>,b)*** | | | | | | | | ***=*** | | | | | | | | | | ***δ ({0},b)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({1},b)*** | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({2},b)*** | | | | | | | | | | | ***=*** | | | | | | | | {0}U{2}U{3} | | | | | | | ***=*** | | | | *<023>* | |
| ***δ' (<013>,a)*** | | | | | | | | ***=*** | | | | | | | | | | ***δ ({0},a)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({1},a)*** | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({3},a)*** | | | | | | | | | | | ***=*** | | | | | | | | {01}U{1}U{3} | | | | | | | ***=*** | | | | *<013>* | |
| ***δ' (<013>,b)*** | | | | | | | | ***=*** | | | | | | | | | | ***δ ({0},b)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({1},b)*** | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({3},b)*** | | | | | | | | | | | ***=*** | | | | | | | | {0}U{2}U{3} | | | | | | | ***=*** | | | | *<023>* | |
| ***δ' (<023>,a)*** | | | | | | | | ***=*** | | | | | | | | | | ***δ ({0},a)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({2},a)*** | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({3},a)*** | | | | | | | | | | | ***=*** | | | | | | | | {01}U{2}U{3} | | | | | | | ***=*** | | | | *<0123>* | |
| ***δ' (<023>,b)*** | | | | | | | | ***=*** | | | | | | | | | | ***δ ({0},b)*** | | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({2},b)*** | | | | | | | | | | ***U*** | | | | | | | | | | | ***δ ({3},b)*** | | | | | | | | | | | ***=*** | | | | | | | | {0}U{3}U{3} | | | | | | | ***=*** | | | | *<03>* | |
| ***δ' (<0123>,a)*** | | | | | | ***=*** | | | | | | | | | ***δ ({0},a)*** | | | | | | | | ***U*** | | | | | | | | | δ({1},a) | | | | | | | | | | | ***U*** | | | | | | | | | ***δ ({2},a)*** | | | | | | | ***U*** | | | | | | | | | | ***δ ({3},a)*** | | | | | | | | | ***=*** | | | | | {01}U{1}U{2}U{3} | | | | | | ***=*** | | | *<0123>* |
| ***δ' (<0123>,b)*** | | | | | | ***=*** | | | | | | | | | ***δ ({0},b)*** | | | | | | | | ***U*** | | | | | | | | | δ({1},b) | | | | | | | | | | | ***U*** | | | | | | | | | ***δ ({2},b)*** | | | | | | | ***U*** | | | | | | | | | | ***δ ({3},b)*** | | | | | | | | | ***=*** | | | | | {0}U{2}U{3}U{3} | | | | | | ***=*** | | | *<023>* |
| **Σ→** | | | *{a,b}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Q→** | | | *{<0>, <01>,<02>,<03>,<012>,<013>,<023>,<0123>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **δ→** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **q0 →** | | | *{<q0>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **F→** | | | *{<03>,<012>,<013>,<023>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***I-*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ***δ' (<q0>,a)*** | | | | | | | | | | | ***=*** | | | | | | | | | | | | | ***δ ({q0},a)*** | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | <q0> | | | | | | | | | | | | |
| ***δ' (<q0>,b)*** | | | | | | | | | | | ***=*** | | | | | | | | | | | | | ***δ ({q0},b)*** | | | | | | | | | | | | | | | ***=*** | | | | | | | | | | | | | | | <q1q4> | | | | | | | | | | | | |
| ***δ' (<q1q4>,a)*** | | | ***=*** | | | | | | | | | ***δ ({q1},a)*** | | | | | | | | ***U*** | | | | | | ***δ ({q4},a)*** | | | | | | | | | ***=*** | | | | | | | | | {q1}U{q4} | | | | | | | | | ***=*** | | | | | <q1q4> | | | | | | | |
| ***δ' (<q1q4>,b)*** | | | ***=*** | | | | | | | | | ***δ ({q1},b)*** | | | | | | | | ***U*** | | | | | | ***δ ({q4},b)*** | | | | | | | | | ***=*** | | | | | | | | | {q2}U{q4} | | | | | | | | | ***=*** | | | | | <q2q4> | | | | | | | |
| ***δ' (<q2q4>,a)*** | | | ***=*** | | | | | | | | | ***δ ({q2},a)*** | | | | | | | | ***U*** | | | | | | ***δ ({q4},a)*** | | | | | | | | | ***=*** | | | | | | | | | {q2}U{q4} | | | | | | | | | ***=*** | | | | | <q2q4> | | | | | | | |
| ***δ' (<q2q4>,b)*** | | | ***=*** | | | | | | | | | ***δ ({q2},b)*** | | | | | | | | ***U*** | | | | | | ***δ ({q4},b)*** | | | | | | | | | ***=*** | | | | | | | | | {q3}U{q4} | | | | | | | | | ***=*** | | | | | <q3q4> | | | | | | | |
| ***δ' (<q3q4>,a)*** | | | ***=*** | | | | | | | | | ***δ ({q3},a)*** | | | | | | | | ***U*** | | | | | | ***δ ({q4},a)*** | | | | | | | | | ***=*** | | | | | | | | | {q3}U{q4} | | | | | | | | | ***=*** | | | | | <q3q4> | | | | | | | |
| ***δ' (<q3q4>,b)*** | | | ***=*** | | | | | | | | | ***δ ({q3},b)*** | | | | | | | | ***U*** | | | | | | ***δ ({q4},b)*** | | | | | | | | | ***=*** | | | | | | | | | {q5}U{q4} | | | | | | | | | ***=*** | | | | | <q4q5> | | | | | | | |
| ***δ' (<q4q5>,a)*** | | | ***=*** | | | | | | | | | ***δ ({q4},a)*** | | | | | | | | ***U*** | | | | | | ***δ ({q5},a)*** | | | | | | | | | ***=*** | | | | | | | | | {q4}U{q5} | | | | | | | | | ***=*** | | | | | <q4q5> | | | | | | | |
| ***δ' (<q4q5>,b)*** | | | ***=*** | | | | | | | | | ***δ ({q4},b)*** | | | | | | | | ***U*** | | | | | | ***δ ({q5},b)*** | | | | | | | | | ***=*** | | | | | | | | | {q4}U{q4q5} | | | | | | | | | ***=*** | | | | | <q4q5> | | | | | | | |
| **Σ→** | | | *{a,b}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Q→** | | | *{<q0>, <q1q4>, <q2q4>, <q3q4>, <q4q5>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **δ→** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **q0 →** | | | *{<q0>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **F→** | | | *{<q1q4>, <q2q4>, <q3q4>, <q4q5>}* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

