Минимизация автомата Мили

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 | X13 | X14 | X15 |
| p1 | X8 | X1 | X13 | X3 | X10 | X1 | X11 | X7 | X2 | X11 | X2 | X7 | X3 | X15 | X13 |
| p2 | X5 | X6 | X9 | X4 | X9 | X12 | X10 | X13 | X10 | X14 | X7 | X15 | X9 | X14 | X4 |

Табл 1 – таблица переходов автомата Мили

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 | X13 | X14 | X15 |
| p1 | λ1 | λ1 | λ2 | λ2 | λ1 | λ2 | λ1 | λ1 | λ2 | λ2 | λ1 | λ2 | λ1 | λ2 | λ2 |
| p2 | λ2 | λ1 | λ2 | λ1 | λ1 | λ2 | λ1 | λ2 | λ1 | λ2 | λ2 | λ1 | λ1 | λ1 | λ2 |

Табл 2 – таблица выходов автомата Мили

π1= {X1, X8, X11} B1,

{X2, X5, X7, X13} B2,

{X3, X6, X10, X15} B3,

{X4, X9, X12, X14) B4

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X8 | X11 | X2 | X5 | X7 | X13 | X3 | X6 | X10 | X15 | X4 | X9 | X12 | X14 |
| p1 | B1 | B2 | B2 | B1 | B3 | B1 | B3 | B2 | B1 | B1 | B2 | B3 | B2 | B2 | B3 |
| p2 | B2 | B2 | B2 | B3 | B4 | B3 | B4 | B4 | B4 | B4 | B4 | B4 | B3 | B3 | B4 |

π2= {X1} C1,

{X8, X11} C2,

{X2, X7} C3,

{X5, X13} C4,

{X3, X15} C5,

{X6, X10} C6,

{X4, X14} C7,

{X9, X12} C8

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X8 | X11 | X2 | X7 | X5 | X13 | X3 | X15 | X6 | X10 | X4 | X14 | X9 | X12 |
| p1 | С1 | C3 | С3 | С1 | С2 | С6 | С5 | С4 | С4 | С1 | С2 | С5 | С5 | С3 | С3 |
| p2 | C4 | C4 | С3 | С6 | С6 | С8 | С8 | С8 | С7 | С8 | С7 | С7 | С7 | С6 | С5 |

π3= {X1} D1,

{X8} D2

{X11} D3,

{X2} D4

{X7} D5

{X5} D6

{X13} D7

{X3} D8

{X15} D9

{X6} D10

{X10} D11

{X4, X14} D12

{X9} D13

{X12} D14

Получили разбиение, для которого дальнейшее разбиение невозможно.

X’ = {x1, x2, x3, x4, x5, x6, x7, x8, x9, x10, x11,x12, x13, x15}

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 | X13 | X15 |
| p1 | X8 | X1 | X13 | X3 | X10 | X1 | X11 | X7 | X2 | X11 | X2 | X7 | X3 | X13 |
| p2 | X5 | X6 | X9 | X4 | X9 | X12 | X10 | X13 | X10 | X14 | X7 | X15 | X9 | X4 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 | X13 | X15 |
| p1 | λ1 | λ1 | λ2 | λ2 | λ1 | λ2 | λ1 | λ1 | λ2 | λ2 | λ1 | λ2 | λ1 | λ2 |
| p2 | λ2 | λ1 | λ2 | λ1 | λ1 | λ2 | λ1 | λ2 | λ1 | λ2 | λ2 | λ1 | λ1 | λ2 |

Минимизация автомата Мура

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | λ3 | λ3 | λ2 | λ2 | λ2 | λ1 | λ2 | λ3 | λ1 | λ1 | λ1 | λ1 |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 |
| p1 | X10 | X11 | X1 | X9 | X11 | X8 | X6 | X6 | X4 | X1 | X8 | X11 |
| p1 | X3 | X5 | X12 | X3 | X7 | X2 | X2 | X5 | X11 | X6 | X5 | X7 |

π0 = {x1, x2, x8} A1,

{x3, x4, x5, x7} A2,

{x6, x9, 10, x11, x12} A3

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | λ3 | λ3 | λ2 | λ2 | λ2 | λ1 | λ2 | λ3 | λ1 | λ1 | λ1 | λ1 |
|  | X1 | X2 | X8 | X3 | X4 | X5 | X7 | X6 | X9 | X10 | X11 | X12 |
| p1 | A3 | A3 | A3 | A1 | A3 | A3 | A3 | A1 | A2 | A1 | A1 | A3 |
| p1 | A2 | A2 | A2 | A3 | A2 | A2 | A1 | A1 | A3 | A3 | A2 | A3 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | λ3 | λ3 | λ2 | λ2 | λ2 | λ1 | λ2 | λ3 | λ1 | λ1 | λ1 | λ1 |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 | X10 | X11 | X12 |
| p1 | X10 | X11 | X3 | X9 | X11 | X8 | X6 | X6 | X4 | X1 | X8 | X11 |
| p1 | X3 | X5 | X12 | X3 | X7 | X2 | X2 | X5 | X11 | X6 | X5 | X7 |