|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | State Code  y8y7y6y5y4y3y2y1y0 | Next State | | Output |
| w = 0 | w = 1 |
| Y8Y7Y6Y5Y4Y3Y2Y1Y0 | Y8Y7Y6Y5Y4Y3Y2Y1Y0 |
| A | 0 0000 0001 | 0 0000 0010(B) | 0 0010 0000(F) | 0 |
| B | 0 0000 0010 | 0 0000 0100(C) | 0 0010 0000(F) | 0 |
| C | 0 0000 0100 | 0 0000 1000(D) | 0 0010 0000(F) | 0 |
| D | 0 0000 1000 | 0 0001 0000(E) | 0 0010 0000(F) | 0 |
| E | 0 0001 0000 | 0 0001 0000(E) | 0 0010 0000(F) | 1 |
| F | 0 0010 0000 | 0 0000 0010(B) | 0 0100 0000(G) | 0 |
| G | 0 0100 0000 | 0 0000 0010(B) | 0 1000 0000(H) | 0 |
| H | 0 1000 0000 | 0 0000 0010(B) | 1 0000 0000(I) | 0 |
| I | 1 0000 0000 | 0 0000 0010(B) | 1 0000 0000(I) | 1 |

Y1 = w’(y0 + y5 + y6 + y7 + y8)

Y2 = w’(y1)

Y3 = w’(y2)

Y4 = w’(y3 + y4)

Y5 = w(y0 + y1 + y2 + y3 + y4)

Y6 = w(y5)

Y7 = w(y6)

Y8 = w(y7 + y8)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | State Code  y8y7y6y5y4y3y2y1y0 | Next State | | Output |
| w = 0 | w = 1 |
| Y8Y7Y6Y5Y4Y3Y2Y1Y0 | Y8Y7Y6Y5Y4Y3Y2Y1Y0 |
| A | 0 0000 0000 | 0 0000 0011(B) | 0 0010 0001(F) | 0 |
| B | 0 0000 0011 | 0 0000 0101(C) | 0 0010 0001(F) | 0 |
| C | 0 0000 0101 | 0 0000 1001(D) | 0 0010 0001(F) | 0 |
| D | 0 0000 1001 | 0 0001 0001(E) | 0 0010 0001(F) | 0 |
| E | 0 0001 0001 | 0 0001 0001(E) | 0 0010 0001(F) | 1 |
| F | 0 0010 0001 | 0 0000 0011(B) | 0 0100 0001(G) | 0 |
| G | 0 0100 0001 | 0 0000 0011(B) | 0 1000 0001(H) | 0 |
| H | 0 1000 0001 | 0 0000 0011(B) | 1 0000 0001(I) | 0 |
| I | 1 0000 0001 | 0 0000 0011(B) | 1 0000 0001(I) | 1 |

Y1 = w’(y0’ +y5 + y6 + y7 + y8)

Y2 = w’(y1)

Y3 = w’(y2)

Y4 = w’(y3 + y4)

Y5 = w(y0’ + y1 + y2 + y3 + y4)

Y6 = w(y5)

Y7 = w(y6)

Y8 = w(y7 + y8)