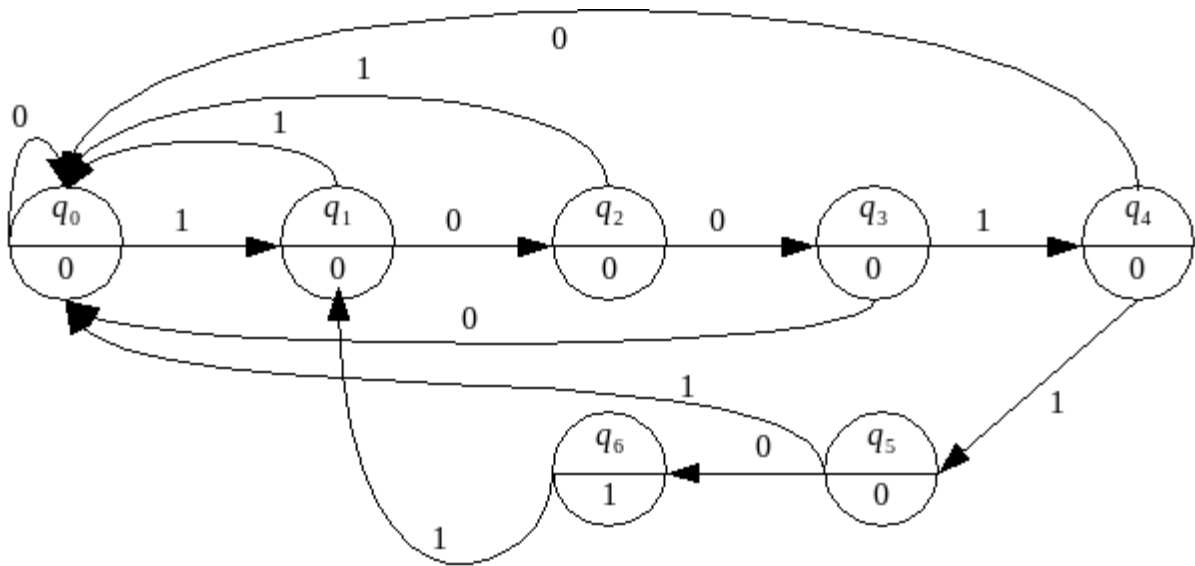


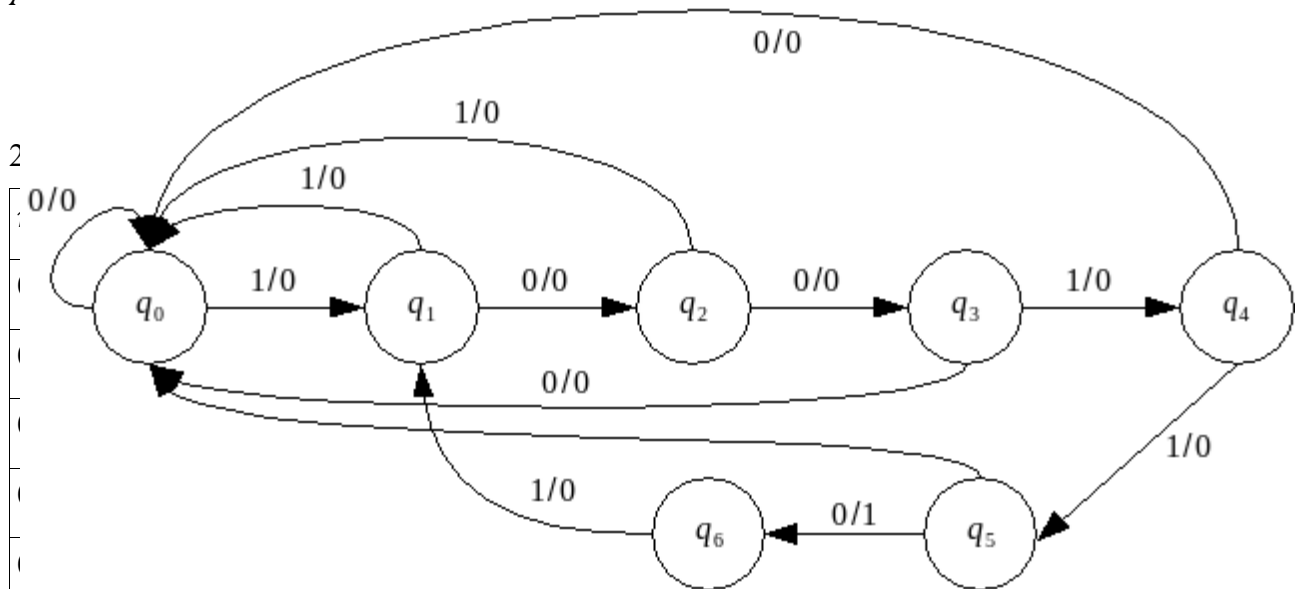
1. a) b)

Automat $A = (\{q_0, q_1, q_2, q_3, q_4, q_5, q_6\}, \{0,1\}, \{0,1\}, \delta, \lambda, q_0)$

δ, λ :



λ



0	0	1	0	1	0	1	1	0
0	0	1	1	0	0	1	1	1
0	0	1	1	1	1	0	0	0
0	1	0	0	0	1	0	0	1

0	1	0	0	1	1	0	1	0
0	1	0	1	0	1	0	1	1
0	1	0	1	1	1	1	0	0
0	1	1	0	0	1	1	0	1
0	1	1	0	1	1	1	1	0
0	1	1	1	0	1	1	1	1
0	1	1	1	1	0	0	0	0
1	0	0	0	0	0	0	0	1
1	0	0	0	1	0	0	1	1
1	0	0	1	0	0	0	1	0
1	0	0	1	1	0	1	1	0
1	0	1	0	0	0	1	1	1
1	0	1	0	1	0	1	0	1
1	0	1	1	0	0	1	0	0
1	0	1	1	1	1	1	0	0
1	1	0	0	0	1	1	0	1
1	1	0	0	1	1	1	1	1
1	1	0	1	0	1	1	1	0
1	1	0	1	1	1	0	1	0
1	1	1	0	0	1	0	1	1
1	1	1	0	1	1	0	0	1
1	1	1	1	0	1	0	0	0
1	1	1	1	1	0	0	0	0

16 Zustände S_0 bis S_{15}

Zustandsübergangstabelle

Zustand	m=0	m= 1
S_0	S_1	S_1
S_1	S_2	S_3
S_2	S_3	S_6

S_3	S_4	S_2
S_4	S_5	S_{12}
S_5	S_6	S_4
S_6	S_7	S_7
S_7	S_8	S_5
S_8	S_9	S_0
S_9	S_{10}	S_8
S_{10}	S_{11}	S_{11}
S_{11}	S_{12}	S_9
S_{12}	S_{13}	S_{13}
S_{13}	S_{14}	S_{15}
S_{14}	S_{15}	S_{10}
S_{15}	S_0	S_{14}

b)

$$f_{x'_3}(m, x_3, x_2, x_1, x_0) = x_3\bar{x}_2 \vee x_3\bar{x}_1 \vee x_3\bar{x}_0 \vee x_3x_2x_0 \vee \bar{x}_3x_2x_1x_0$$

$$f_{x'_2}(m, x_3, x_2, x_1, x_0) = m\bar{x}_3x_2 \vee \bar{m}x_2\bar{x}_1 \vee \bar{x}_3x_2\bar{x}_0 \vee \bar{m}x_2\bar{x}_0 \vee \bar{x}_3x_2\bar{x}_1 \vee m\bar{x}_3x_1x_0 \vee mx_3\bar{x}_2\bar{x}_0 \vee mx_3\bar{x}_2\bar{x}_1 \vee \bar{x}_3\bar{x}_2x_1x_0 \vee \bar{m}\bar{x}_2x_1x_0$$

$$f_{x'_1}(m, x_3, x_2, x_1, x_0) = m\bar{x}_2x_0 \vee m\bar{x}_2x_1 \vee \bar{m}\bar{x}_1x_0 \vee \bar{m}\bar{x}_1x_0 \vee \bar{x}_2\bar{x}_1x_0 \vee \bar{x}_2x_1\bar{x}_0 \vee mx_2\bar{x}_1\bar{x}_0 \vee \bar{m}\bar{x}_2x_1\bar{x}_0 \vee \bar{m}\bar{x}_3\bar{x}_1x_0$$

$$f_{x'_0}(m, x_3, x_2, x_1, x_0) = \bar{m}\bar{x}_0 \vee \bar{x}_1\bar{x}_0 \vee mx_1$$

c)