

Examen

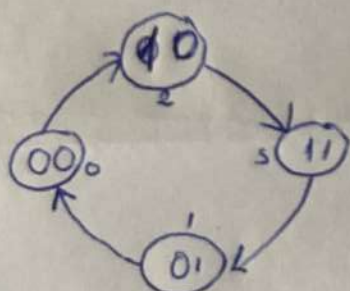
Exercitiul 1

R	J	K	C	Q	
0	0	0	1	1	
0	1	0	1	1	Memorize
0	1	0	0	1	Memorize
1	0	1	0	0	Reset
1	0	1	1	0	Reset
1	1	0	1	0	Reset
0	0	1	1	0	Memorize
0	0	0	0	0	Memorize
0	1	1	1	0	J=0 K=0 => Memorize
0	0	1	0	0	Memorize
0	0	0	0	0	Memorize
0	0	0	1	0	Memorize J=0 K=0

Q = 111 000 0000, 000

Exercitiul 2

2 → 3 → 1 → 0 → 2



Q ₁	Q ₀	Q ₁ '	Q ₀ '	J ₁	K ₁	J ₀	K ₀
0	0	1	0	1	x	0	x
0	1	0	0	0	x	x	1
1	0	1	1	x	0	1	x
1	1	0	1	x	1	x	0

Q _m	Q _{m+1}	J	K
0	0	0	x
0	1	1	x
1	0	x	1
1	1	x	0

a)

J ₁	Q ₁	Q ₁ '	Q ₁
Q ₀	1	x	
Q ₀	0	x	

⇒ J₁ = Q₀

K ₁	Q ₁	Q ₁ '	Q ₁
Q ₀	x	0	
Q ₀	x	1	

K₁ = Q₀

J_0
 Q_1
 Q_0

	\bar{Q}_1	Q_1
\bar{Q}_0	0	1
Q_0	x	x

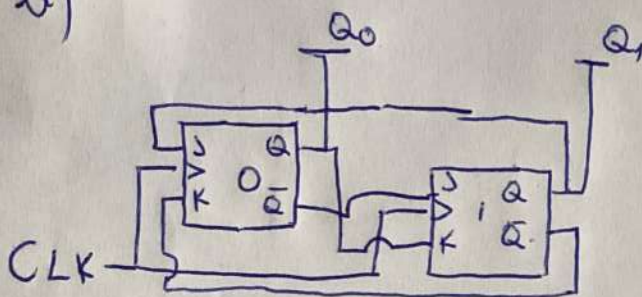
$$J_0 = Q_1$$

K_0
 Q_1
 Q_0

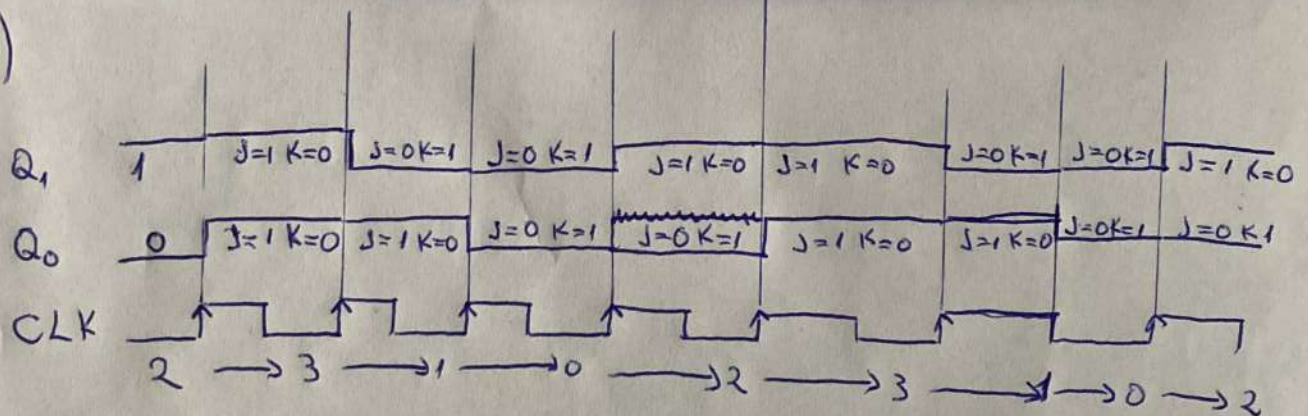
	\bar{Q}_1	Q_1
\bar{Q}_0	x	x
Q_0	1	0

$$K_0 = \bar{Q}_1$$

b)



c)



$$J_1 = \bar{Q}_0$$

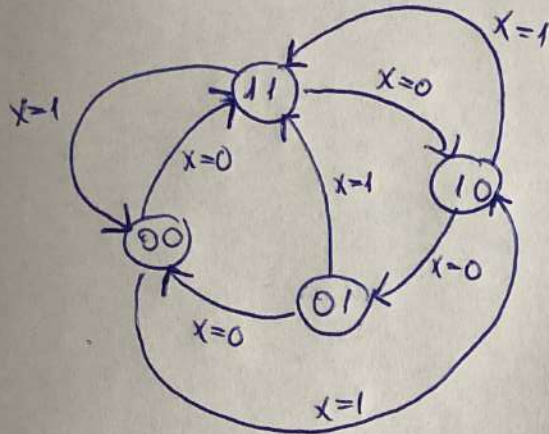
$$K_1 = Q_0$$

$$J_0 = Q_1$$

$$K_0 = \bar{Q}_1$$

Exercitium 3

- a) $x=0$ $3 \rightarrow 2 \rightarrow 1 \rightarrow 0 \rightarrow 3$
 $x=1$ $1 \rightarrow 3$; $2 \rightarrow 3 \rightarrow 0 \rightarrow 2$



x	Q ₁	Q ₀	Q ₁ '	Q ₀ '	D ₁	D ₀
0	0	0	1	1	1	1
0	0	1	0	0	0	0
0	1	0	0	1	0	0
0	1	1	1	0	1	1
1	0	0	1	1	1	1
1	0	1	1	1	1	1
1	1	0	1	1	1	1
1	1	1	0	0	0	0

x	Q ₁	Q ₀	Q ₁ '	Q ₀ '	D ₁	D ₀
0	0	0	1	1	1	1
0	0	1	0	0	0	0
0	1	0	0	1	0	1
0	1	1	1	0	1	0
1	0	0	1	1	1	0
1	0	1	1	1	1	1
1	1	0	1	1	1	1
1	1	1	0	0	0	0

D_1

x, Q_1	Q_0		
0	0	1	1
0	1	0	1

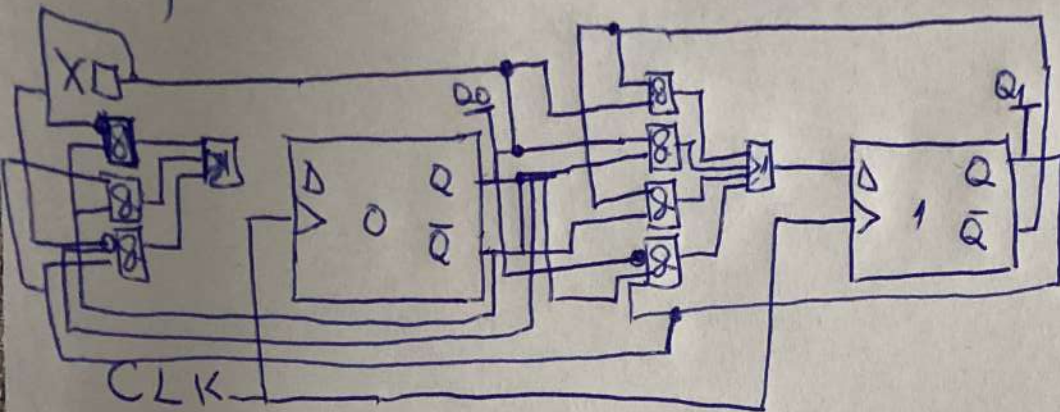
$$D_1 = \bar{x}\bar{Q}_1 + x\bar{Q}_0 + \bar{Q}_1\bar{Q}_0 + \bar{x}Q_1Q_0$$

D_0

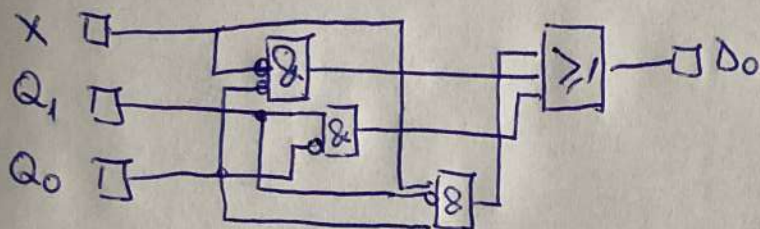
x, Q_1	Q_0		
0	0	1	1
0	1	0	1

$$D_0 = \bar{x}\bar{Q}_0 + Q_1\bar{Q}_0 + x\bar{Q}_1Q_0$$

b)



Part D_0



Part D_1

