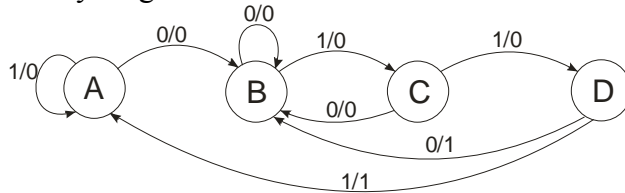


# Vybrané příklady dekodérů posloupností. Zapojení je pomocí hradel NAND.

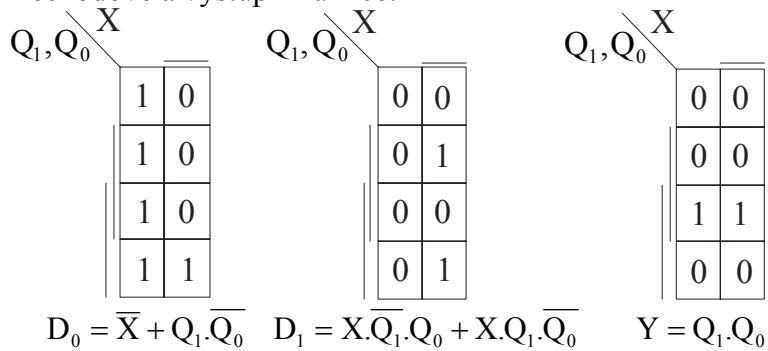
## Posloupnost – 011

Stavový diagram:



	Q <sub>1</sub>	Q <sub>0</sub>	X=0	X=1	X=0	X=1
A	0	0	B,0	A,0	01,0	00,0
B	0	1	B,0	C,0	01,0	10,0
C	1	0	B,0	D,0	01,0	11,0
D	1	1	B,1	A,1	01,1	00,1

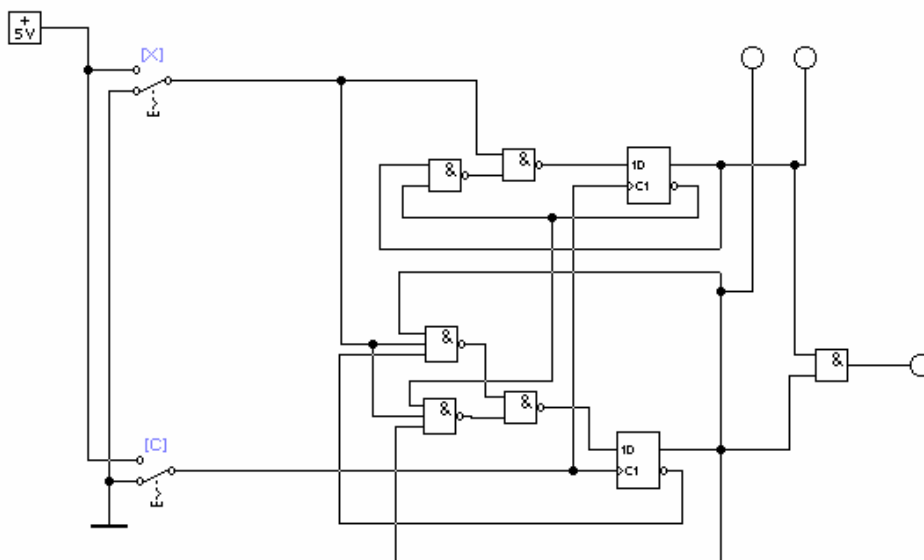
Přechodové a výstupní funkce:



$$D_0 = \overline{\overline{\overline{\bar{X} + Q_1 \cdot \bar{Q}_0}}} = \overline{\overline{\overline{X \cdot Q_1 \cdot Q_0}}}$$

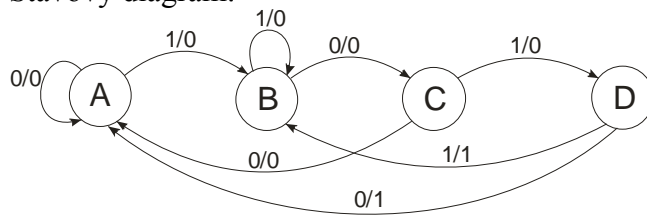
$$D_1 = \overline{\overline{\overline{X \cdot \bar{Q}_1 \cdot Q_0 + X \cdot Q_1 \cdot \bar{Q}_0}}} = \overline{\overline{\overline{X \cdot \bar{Q}_1 \cdot Q_0} \cdot \overline{\overline{\overline{X \cdot Q_1 \cdot \bar{Q}_0}}}}}$$

Schéma zapojení:



# Posloupnost – 101

Stavový diagram:



	Q <sub>1</sub>	Q <sub>0</sub>	X=0	X=1	X=0	X=1
A	0	0	A,0	B,0	00,0	01,0
B	0	1	C,0	B,0	10,0	01,0
C	1	0	A,0	D,0	00,0	11,0
D	1	1	A,1	B,1	00,1	01,1

Přechodová a výstupní funkce:

Q <sub>1</sub> , Q <sub>0</sub>	X
0	1
0	1
0	1
0	1

Q <sub>1</sub> , Q <sub>0</sub>	X
0	0
1	0
0	0
0	1

Q <sub>1</sub> , Q <sub>0</sub>	X
0	0
0	0
1	1
0	0

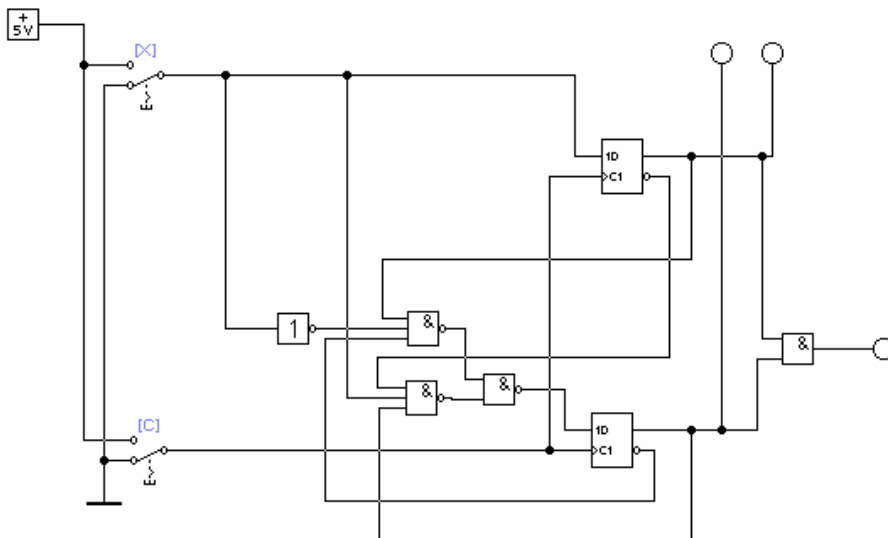
$D_0 = X$

$D_1 = \overline{X} \cdot \overline{Q_1} \cdot Q_0 + X \cdot Q_1 \cdot \overline{Q_0}$

$Y = Q_1 \cdot Q_0$

$D_1 = \overline{\overline{\overline{\overline{\overline{X \cdot Q_1 \cdot Q_0} + X \cdot Q_1 \cdot \overline{Q_0}}}}} = \overline{\overline{\overline{\overline{\overline{X \cdot Q_1 \cdot Q_0 \cdot X \cdot Q_1 \cdot \overline{Q_0}}}}}}$

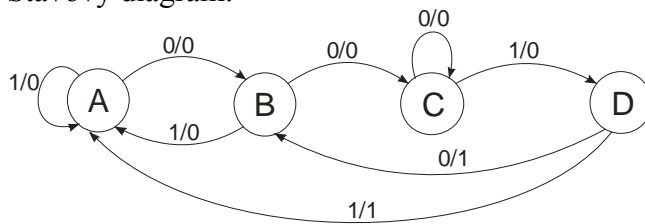
Schéma zapojení:





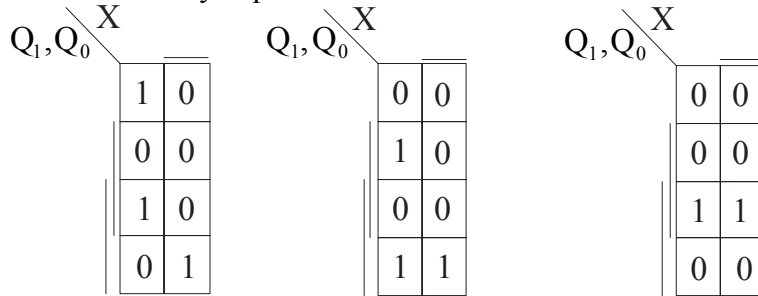
# Posloupnost – 001

Stavový diagram:



	Q <sub>1</sub>	Q <sub>0</sub>	X=0	X=1	X=0	X=1
A	0	0	B,0	A,0	01,0	00,0
B	0	1	C,0	A,0	10,0	00,0
C	1	0	C,0	D,0	10,0	11,0
D	1	1	B,1	A,1	01,1	00,1

Přechodové a výstupní funkce:



$$D_0 = \overline{X} \cdot \overline{Q_1} \cdot \overline{Q_0} + \overline{X} \cdot Q_1 \cdot Q_0 + X \cdot Q_1 \cdot \overline{Q_0}$$

$$D_1 = \overline{X} \cdot \overline{Q_1} \cdot Q_0 + Q_1 \cdot \overline{Q_0}$$

$$Y = Q_1 \cdot Q_0$$

$$D_0 = \overline{\overline{\overline{X \cdot \overline{Q_1} \cdot \overline{Q_0}} + \overline{\overline{\overline{X \cdot Q_1 \cdot Q_0}} + \overline{\overline{\overline{X \cdot Q_1 \cdot \overline{Q_0}}}}}}}$$

$$D_1 = \overline{\overline{\overline{X \cdot \overline{Q_1} \cdot Q_0} + \overline{\overline{\overline{Q_1 \cdot \overline{Q_0}}}}}}$$

Schéma zapojení:

