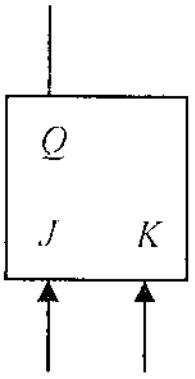
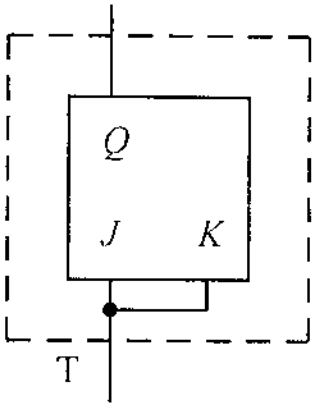
a.)



J	K	Q'	
0	0	Q	←
0	1	0	*
1	0	1	*
1	1	$\overline{Q}$	←

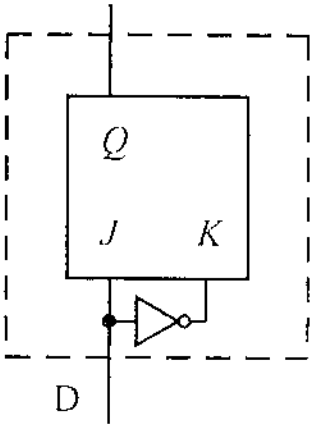
b.) T=J=K



T	Q'	
0	Q	←
1	$\overline{Q}$	←

c.) D=J

$K=\overline{J}$

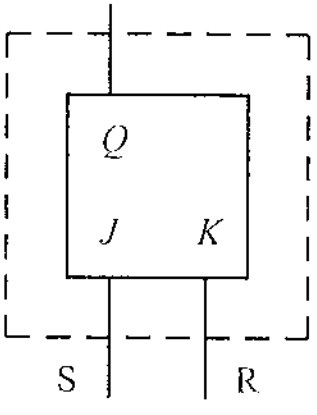


D	Q'	
0	0	*
1	1	*

d.) S=J

R=K

S·R=0



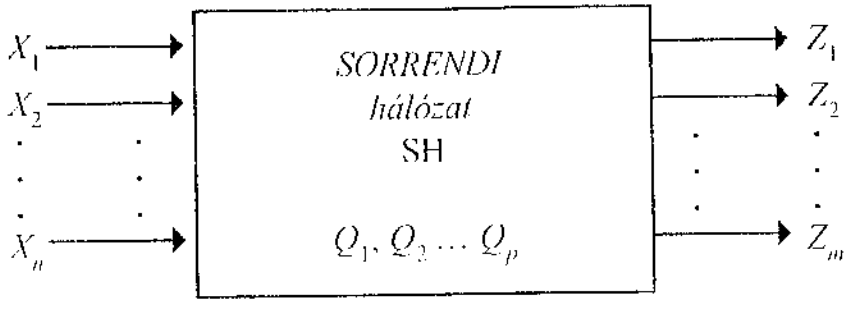
S	R	Q'
0	0	Q
0	1	0
1	0	1
1	1	–

Tárolóelemek származtatása J-K távolóelemből

Kimeneti függvényrendszer:

Kombinációs hálózat

$$\left.\begin{aligned} Y_1 &= F_1(X_1, X_2, \ldots X_n) \\ Y_2 &= F_2(X_1, X_2, \ldots X_n) \\ &\vdots \quad \vdots \\ Y_m &= F_m(X_1, X_2, \ldots X_n) \end{aligned}\right\} \boldsymbol{Y} = f_K(\boldsymbol{X})$$



Belső állapotokat kifejező függvényrendszer:

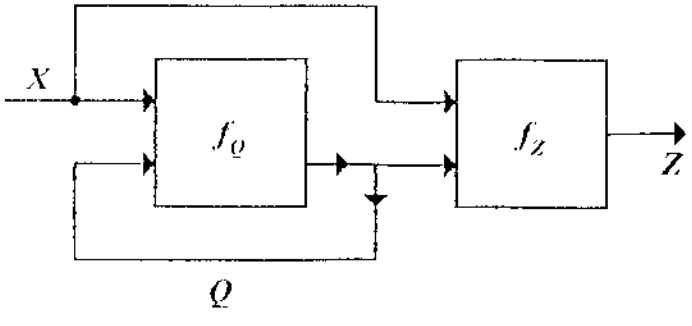
$$\left.\begin{aligned} Q'_1 &= F_{Q1}(X_1, X_2, \ldots X_n; Q_1, Q_2, \ldots Q_p) \\ Q'_2 &= F_{Q2}(X_1, X_2, \ldots X_n; Q_1, Q_2, \ldots Q_p) \\ &\vdots \quad \vdots \\ Q'_p &= F_{Qp}(X_1, X_2, \ldots X_n; Q_1, Q_2, \ldots Q_p) \end{aligned}\right\} \boldsymbol{Q'} = f_Q(\boldsymbol{X}, \boldsymbol{Q})$$

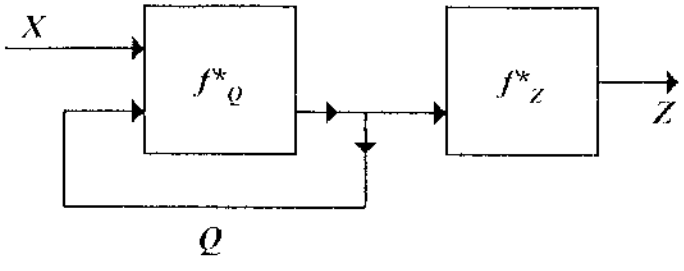
Sorrendi hálózat

Kimeneti függvényrendszer:

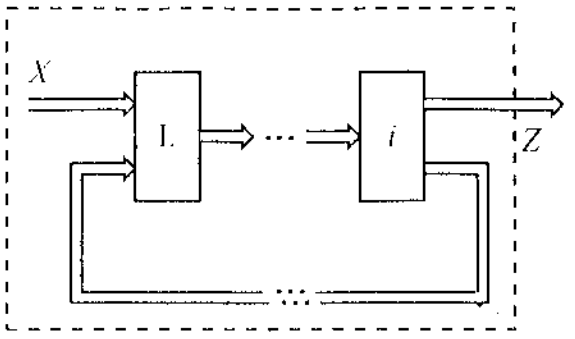
$$\left.\begin{aligned} Z_1 &= F_{Z1}(X_1, X_2, \ldots X_n; Q_1, Q_2, \ldots Q_p) \\ Z_2 &= F_{Z2}(X_1, X_2, \ldots X_n; Q_1, Q_2, \ldots Q_p) \\ &\vdots \quad \vdots \\ Z_m &= F_{Zm}(X_1, X_2, \ldots X_n; Q_1, Q_2, \ldots Q_p) \end{aligned}\right\} \boldsymbol{Z} = f_Z(\boldsymbol{X}, \boldsymbol{Q})$$

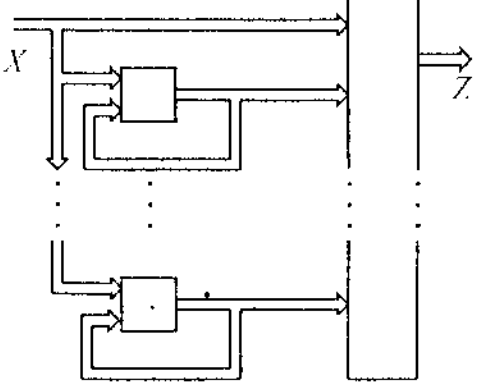
$$\left.\begin{aligned} Z_1 &= F^*_{Z1}(Q_1, Q_2, \ldots Q_r) \\ Z_2 &= F^*_{Z2}(Q_1, Q_2, \ldots Q_r) \\ &\vdots \quad \vdots \\ Z_m &= F^*_{Zm}(Q_1, Q_2, \ldots Q_r) \end{aligned}\right\} \boldsymbol{Z} = f^*_Z(\boldsymbol{Q})$$





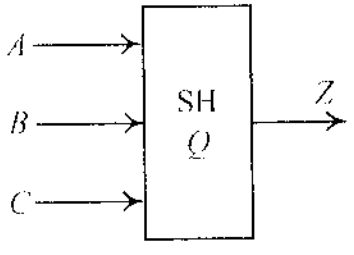
MEALY és MOORE modell



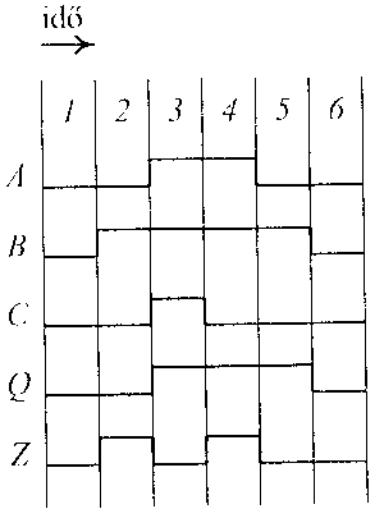


Megvalósítási alapesetek

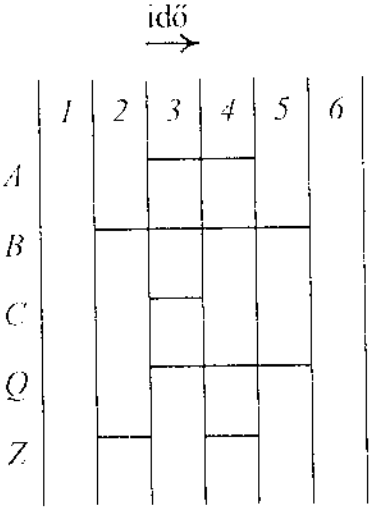
a.) visszacsatolt *b.) tárolóelemes*



a.)

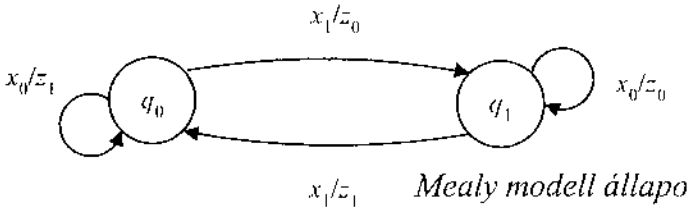


b.)

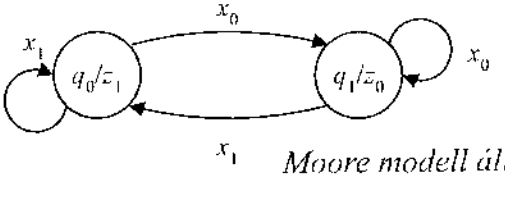


c.)

Példák idődiagram-változatokra



Mealy modell állapotgráfja



Moore modell állapotgráfja

q \ x	x_0	x_1	…	x_{N-1}
q_0	$\rho(x_0, q_0)$ / $\psi(x_0, q_0)$	$\rho(x_1, q_0)$ / $\psi(x_1, q_0)$	…	$\rho(x_{N-1}, q_0)$ / $\psi(x_{N-1}, q_0)$
q_1	$\rho(x_0, q_1)$ / $\psi(x_0, q_1)$	$\rho(x_1, q_1)$ / $\psi(x_1, q_1)$	…	$\rho(x_{N-1}, q_1)$ / $\psi(x_{N-1}, q_1)$
…	…	…	…	…
q_{p-1}	$\rho(x_0, q_{p-1})$ / $\psi(x_0, q_{p-1})$	$\rho(x_1, q_{p-1})$ / $\psi(x_1, q_{p-1})$	…	$\rho(x_{N-1}, q_{p-1})$ / $\psi(x_{N-1}, q_{p-1})$

a.) Mealy - modell Huffman táblája

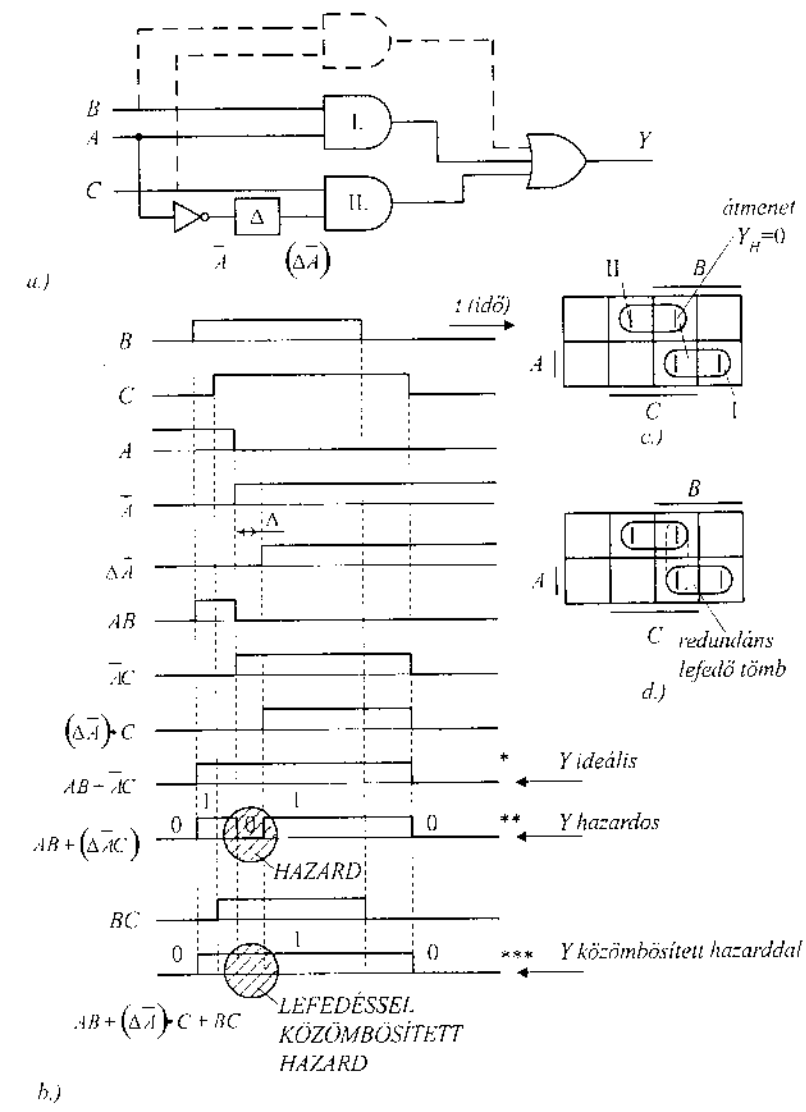
Huffman táblák

q \ x	x_0	x_1	…	x_{N-1}	$z=\psi(q)$
q_0	$\rho(x_0, q_0)$	$\rho(x_1, q_0)$	…	$\rho(x_{N-1}, q_0)$	$\psi(q_0)$
q_1	$\rho(x_0, q_1)$	$\rho(x_1, q_1)$	…	$\rho(x_{N-1}, q_1)$	$\psi(q_1)$
…	…	…	…	…	…
q_{p-1}	$\rho(x_0, q_{p-1})$	$\rho(x_1, q_{p-1})$	…	$\rho(x_{N-1}, q_{p-1})$	$\psi(q_{p-1})$

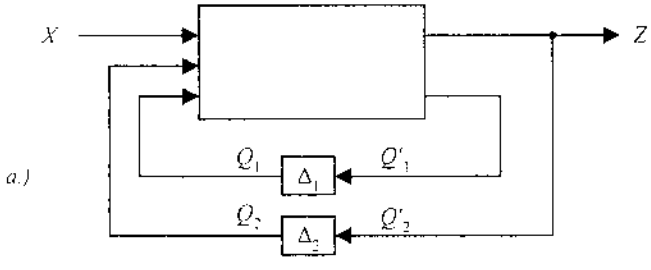
b.) Moore - modell Huffman táblája

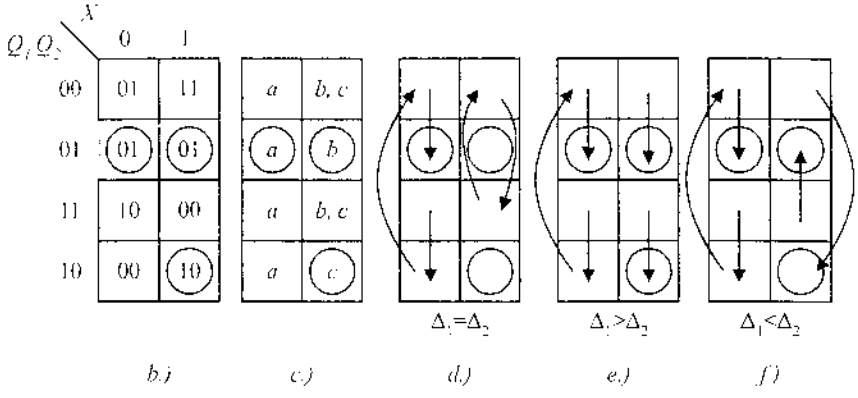
stabil , ha $Q' = Q$

instabil , ha $Q' \neq Q$

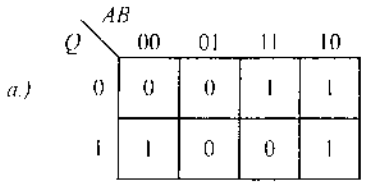


Sztatikus hazard keletkezése és kiküszöbölése

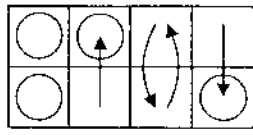




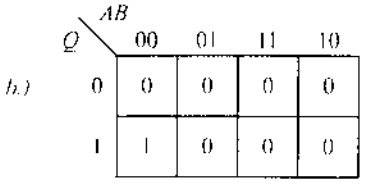
Versenyfutási és gerjedési esetek



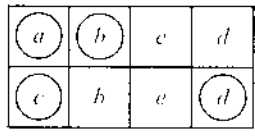
Q' *Gerjesztési tábla*



Átmeneti tábla

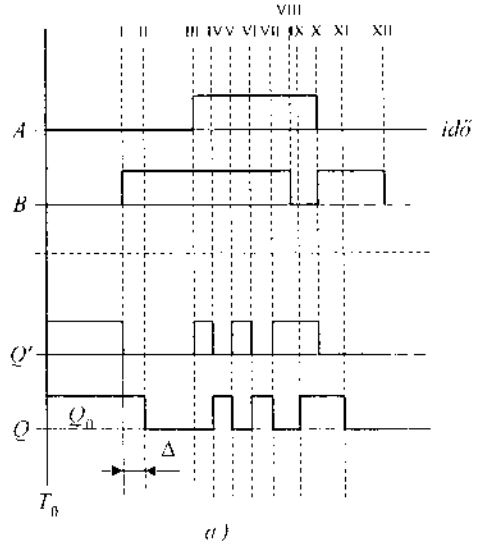


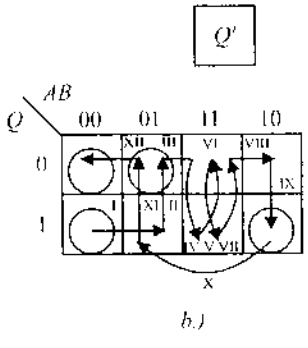
Z *Kimeneti tábla*



Állapot tábla

Jellemző táblák





Vizsgálati ciklus idődiagramon és V -K táblán