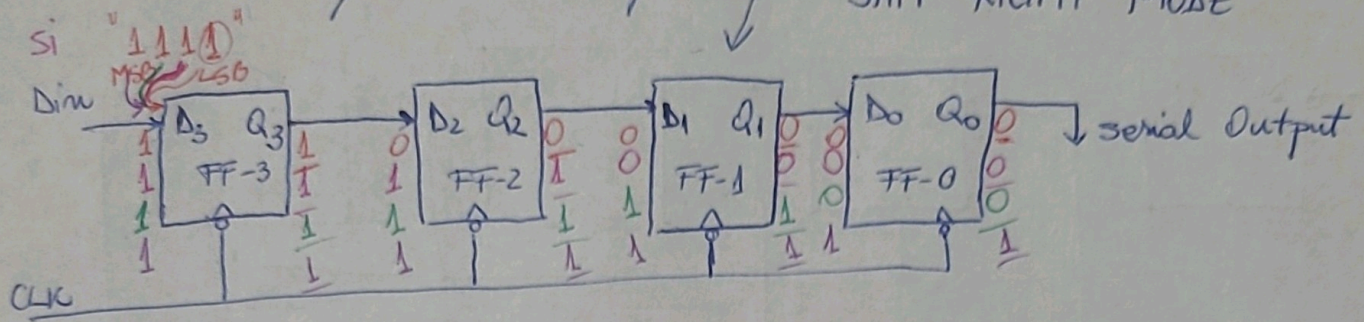


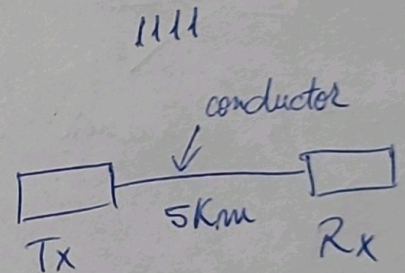
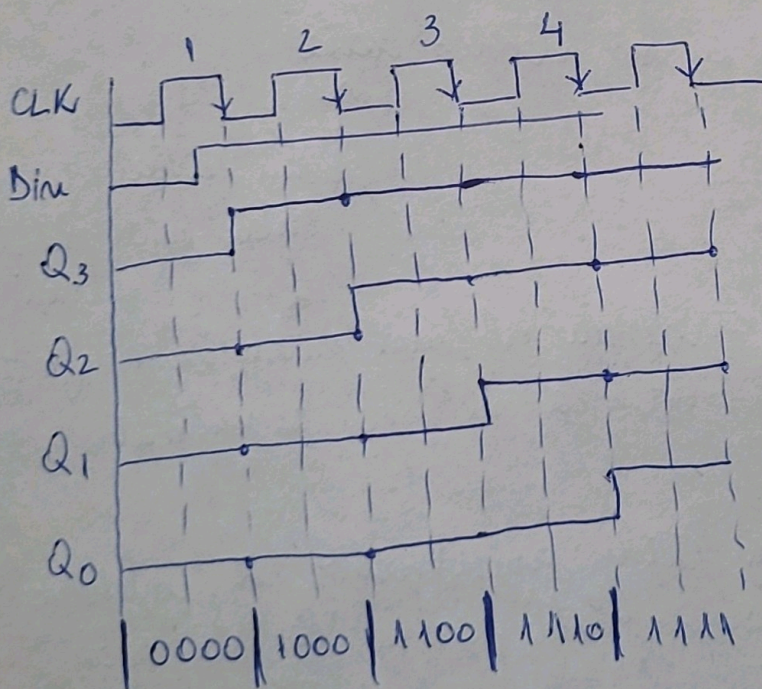
SHIFT REGISTER SISO

SISO → serial input serial output circuit sequential
SHIFT RIGHT MODE



CLK	Q ₃	Q ₂	Q ₁	Q ₀
Initial	0	0	0	0
↓	1	0	0	0
↓	1	1	0	0
↓	1	1	1	0
↓	1	1	1	1

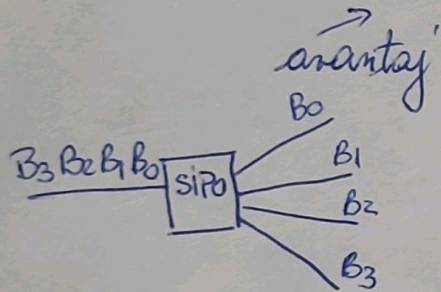
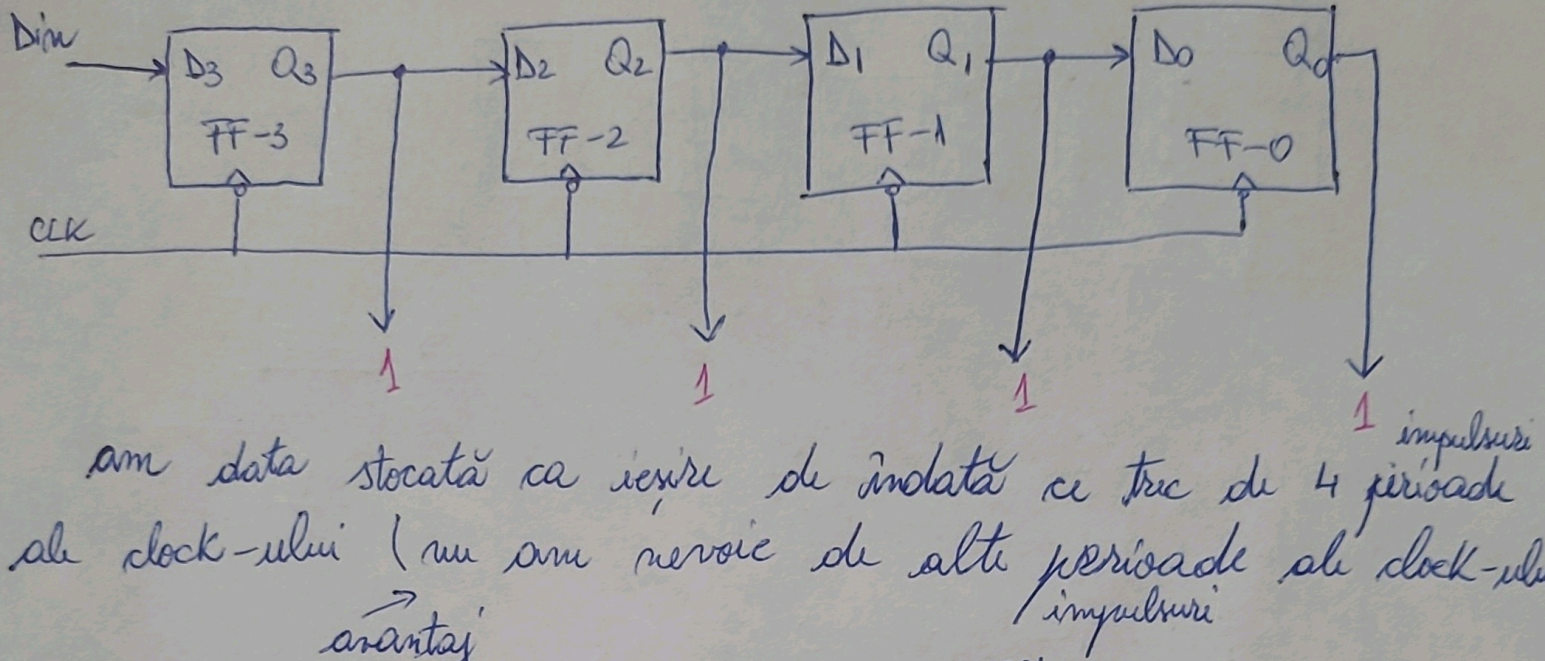
CLK	D	Q _{n+1}
0	x	Q _n
1	0	0
1	1	1



serial folosește un singur conductor, dacă voiam paralel folosim 4 cee ce era mai costisitor
serial folosește 5 km wire
paralel folosește 20 km wire

SHIFT REGISTER SIPO

SIPO \rightarrow serial input, parallel output



0001
0010
0101
1011

SIPO \rightarrow 4 impulsuri de clock ca să stochiez data
SIPO \rightarrow

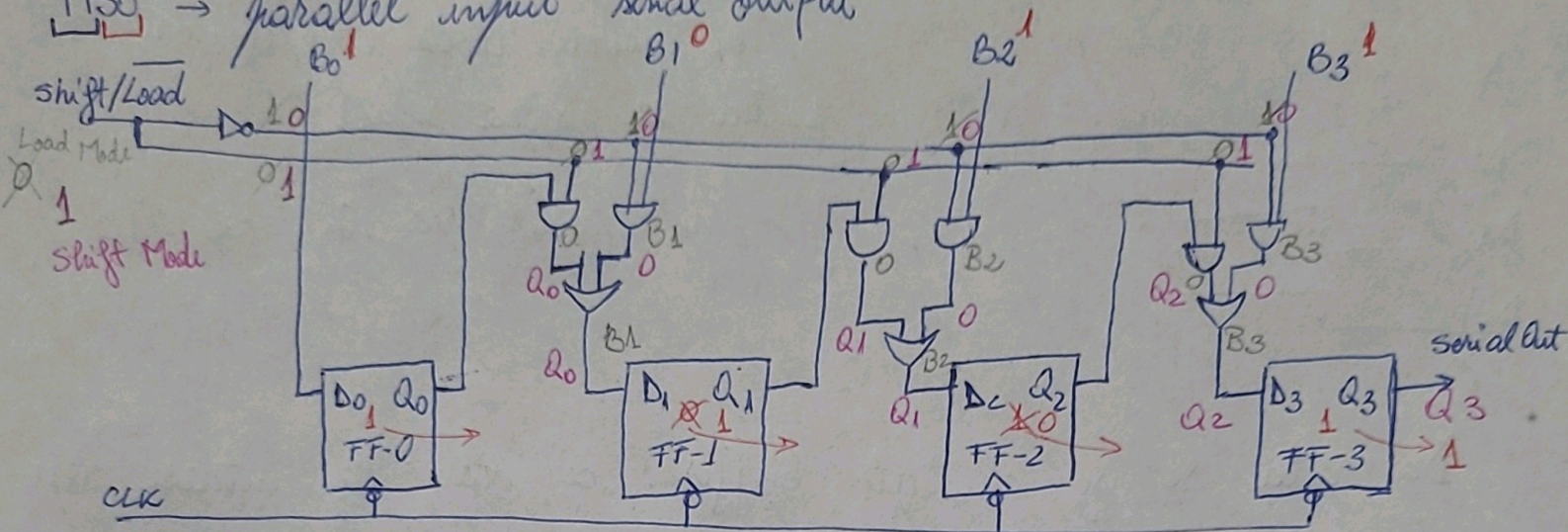
↑
pentru asta îți poate
trebui mai multe
impulsuri

SIPO, SIPO \rightarrow Bitwise : de la cel mai puțin semnificativ
bit la cel mai semnificativ bit

PIPO : introduc cel mai puțin semnificativ bit, introduc
următorul bit semnificativ până la cel mai
semnificativ bit (sunt introduși în paralel și
ies tot în paralel)

SHIFT REGISTER PISO

PISO \rightarrow parallel input serial output



- 1) Load Mode - Pi
- 2) Shift Mode - So

Exemple 1011

IN $\downarrow\downarrow\downarrow\downarrow$
1011
OUT $\rightarrow\rightarrow\rightarrow\rightarrow$
1011

$$0 + B_1 = B_1$$

$$Q_0 \cdot 1 = Q_0$$

~~SHIFT REGISTER SIPO~~

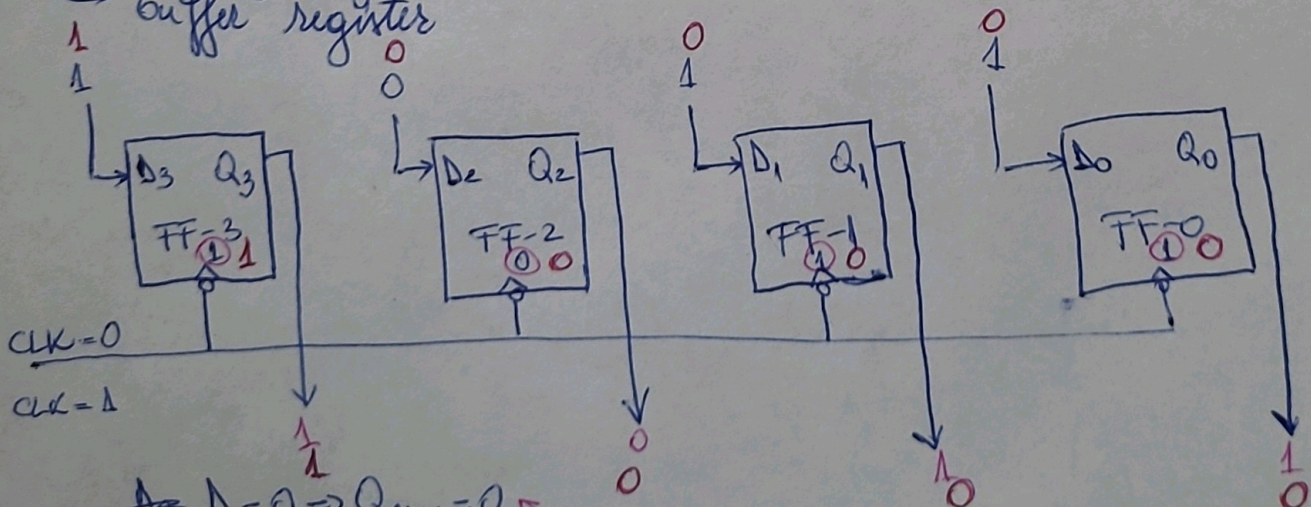
~~SIPO \rightarrow serial input, parallel output~~

SHIFT REGISTER PIPO

PIPO \rightarrow parallel input parallel output

\hookrightarrow storage register

\hookrightarrow buffer register

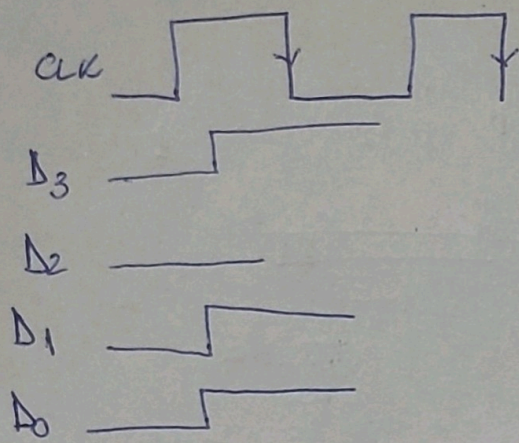


$$D = 0 \Rightarrow Q_{m+1} = 0$$

$$D = 1 \Rightarrow Q_{m+1} = 1$$

$$CLK = 0 \Rightarrow Q_{m+1} = Q_m$$

$$D = X$$



Am nevoie doar de un impuls
pentru a stoca data

Mai rapid ca în SISO, SIPO

De asta se și numește buffer: ce dau la intrare, iese
la ieșire

