



Facultatea de Electronică,
Telecomunicații și
Tehnologia Informației

Proiect SCID

I2A

Vîtcă Diana-Nicoleta

Grupa 2127

Seria B

1. Rezolvarea pe hârtie

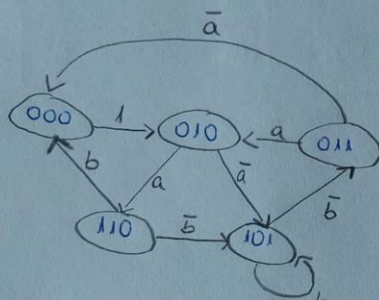
Uitea Diana
grupa 2127

Proiect I2A

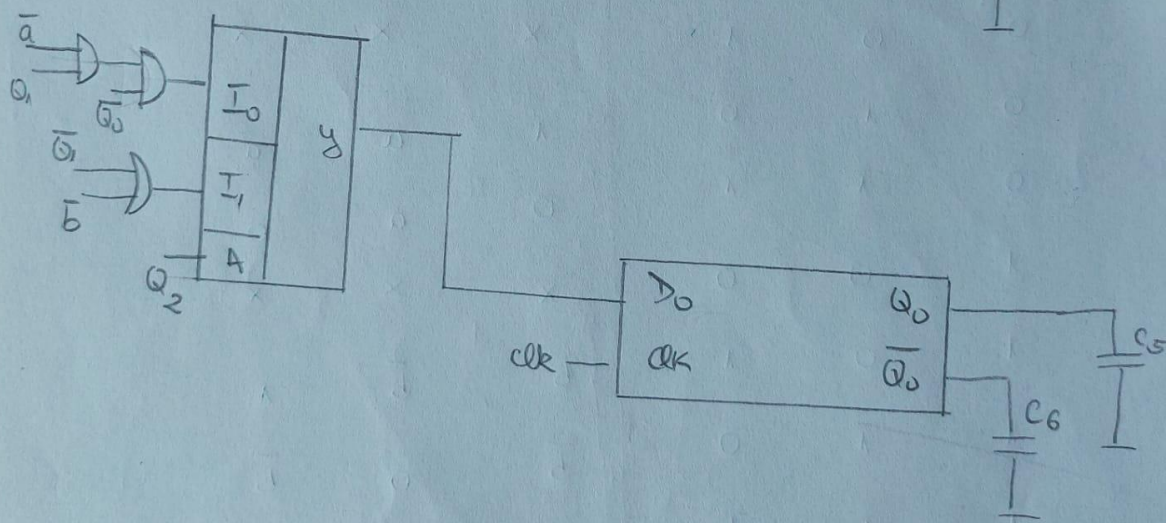
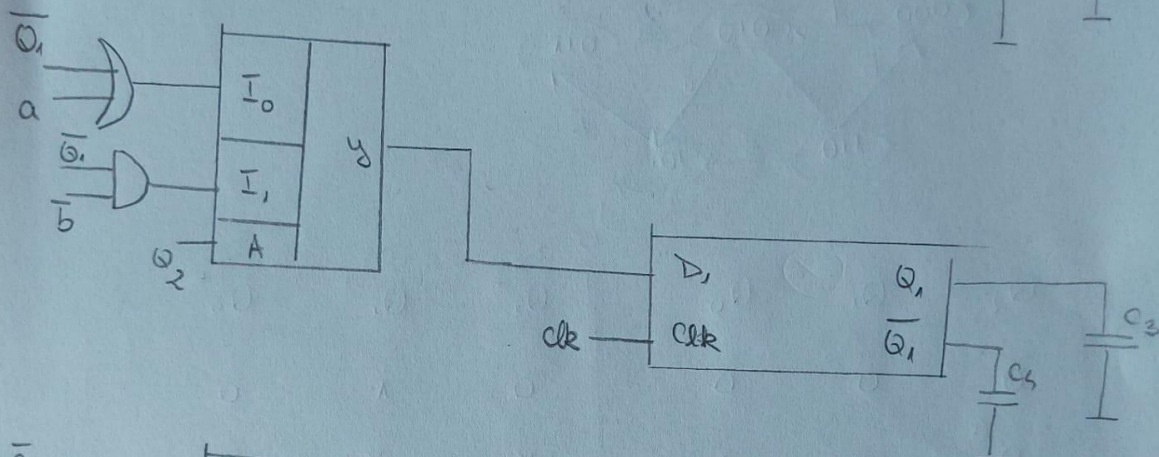
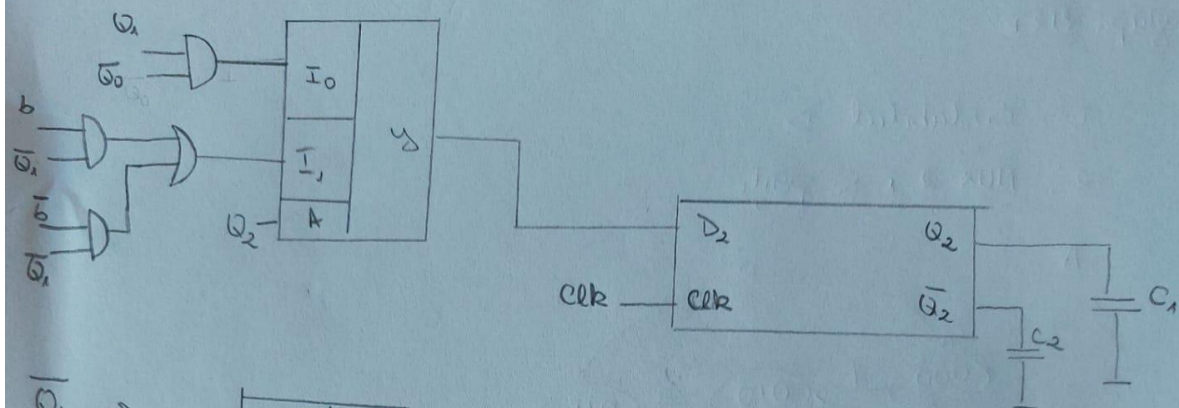
I - Bistabilul D

2. MUX 2:1 și porți

A.

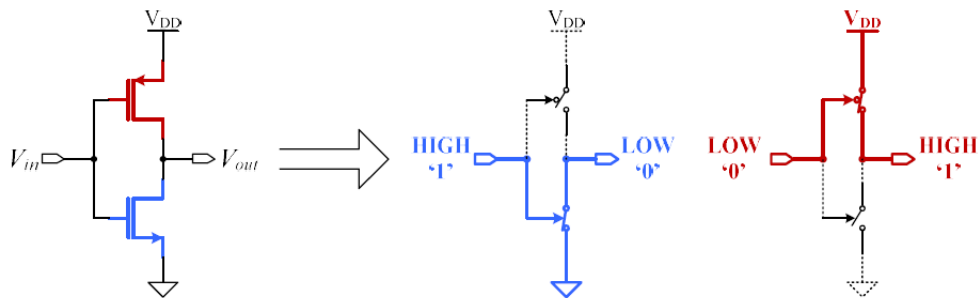


Q_2	Q_1	Q_0	D_2^+ Q_2^+	D_1^+ Q_1^+	D_0^+ Q_0^+
0	0	0	0	1	0
0	0	1	x	x	x
0	1	0	1	a	\bar{a}
0	1	1	0	a	0
1	0	0	x	x	x
1	0	1	b	\bar{b}	1
1	1	0	\bar{b}	0	\bar{b}
1	1	1	x	x	x



2. Implementarea inversorului CMOS

a) Schema electrică la nivel de tranzistor



ie

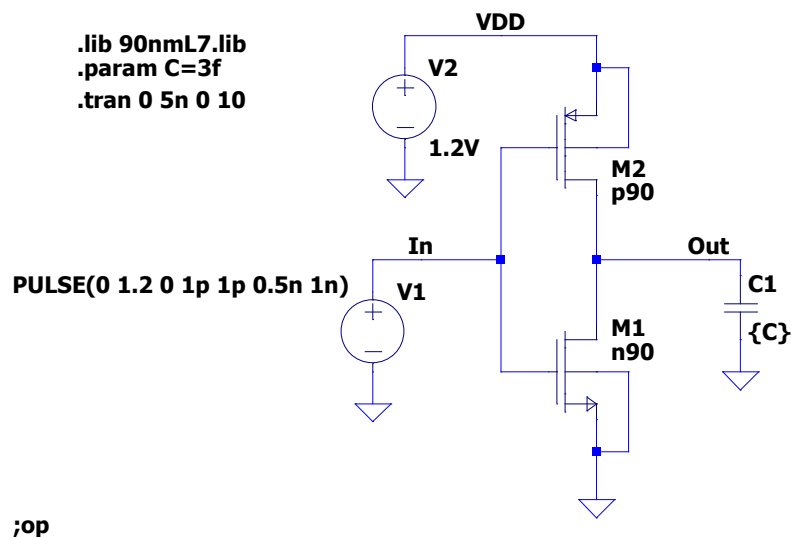
a	$f = \bar{a}$
0	1
1	0

Formalismul de reprezentare al nivelelor logice este

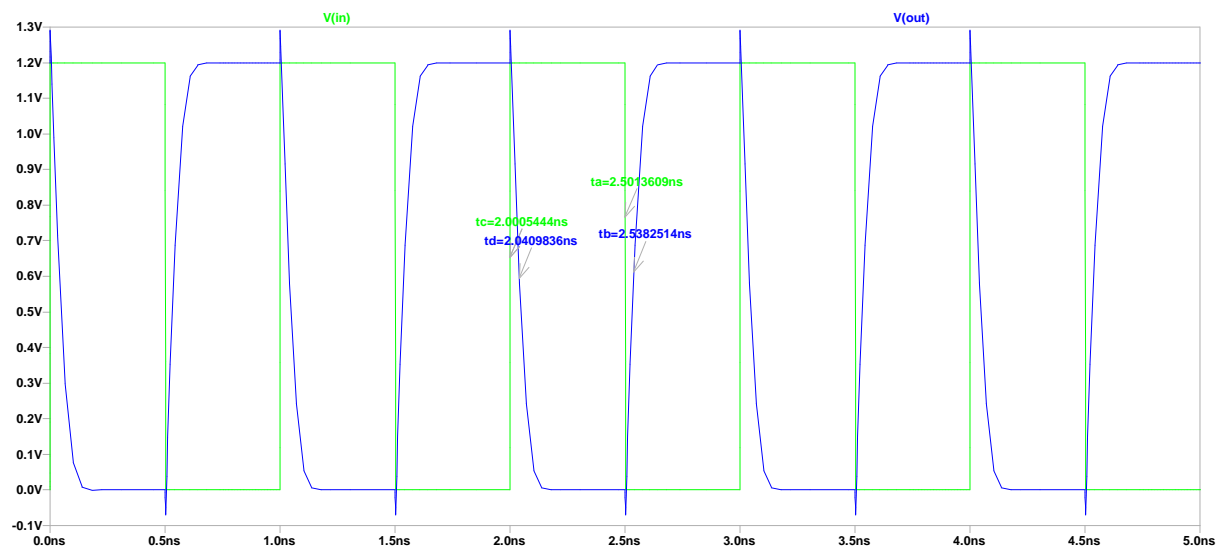
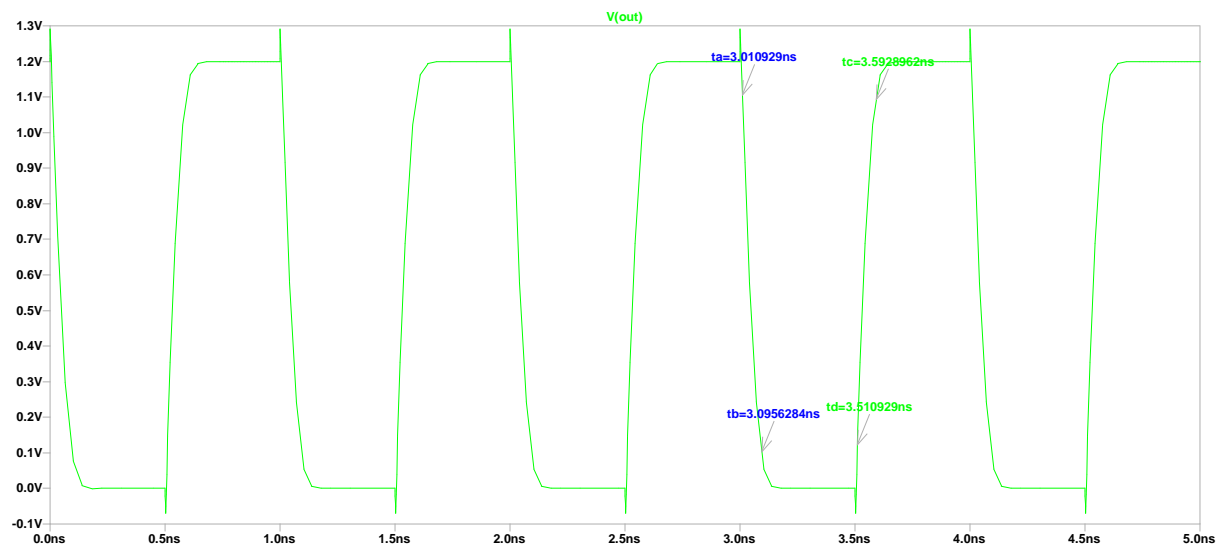
1 logic → nivel de tensiune **HIGH**, se obține printr-un scurt-circuit la **VDD**

0 logic → nivel de tensiune **LOW**, se obține printr-un scurt-circuit la **GND**

b) Circuitul de test cu verificarea funcționării

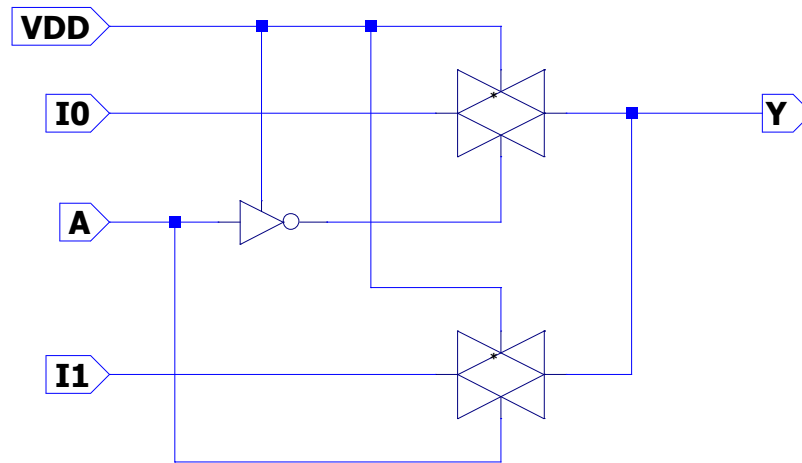


c) Măsurarea timpilor de tranziție și a timpului de propagare.

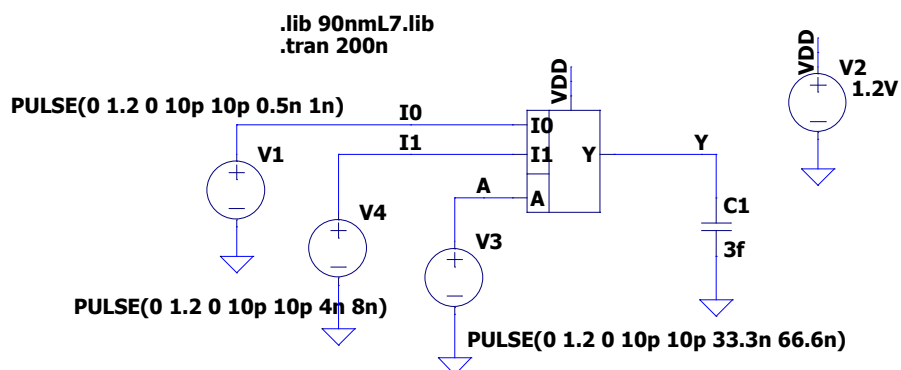


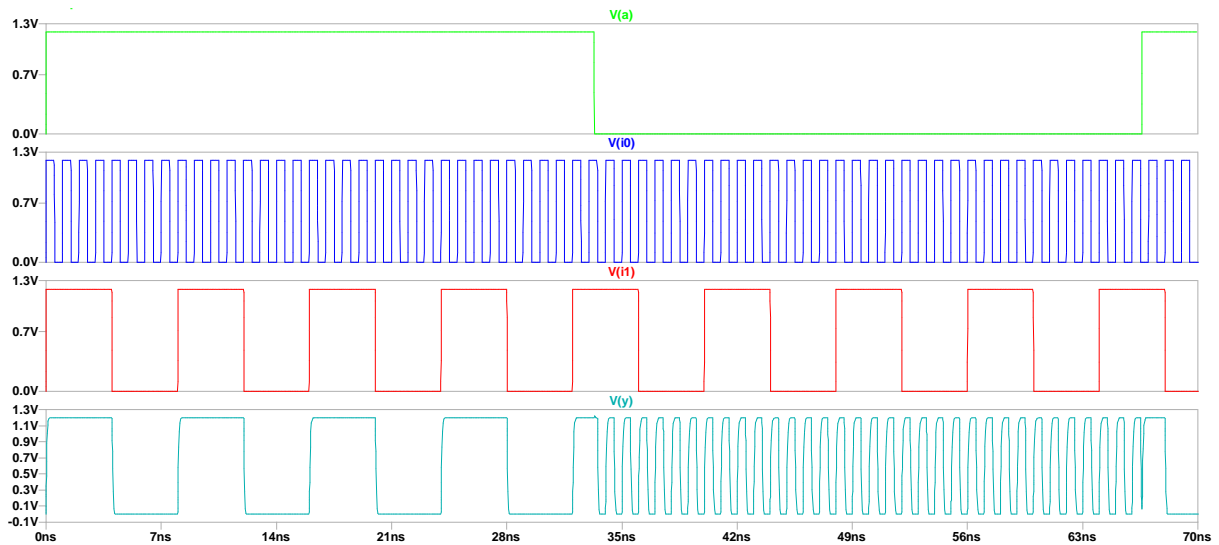
3.Circuit combinational

a) Schemă electrică mux21.asc



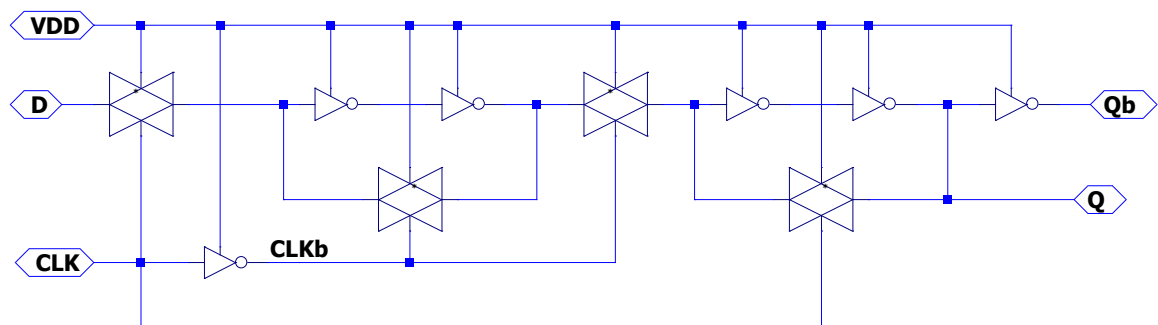
b) Circuitul de test cu verificarea funcționării test_mux21.asc



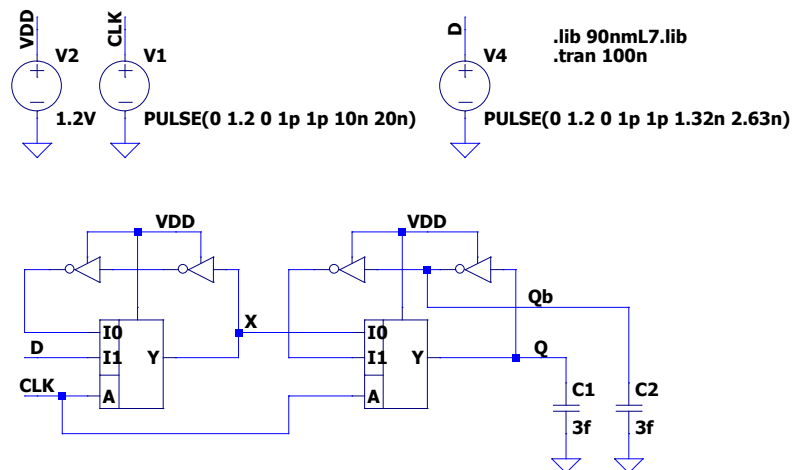


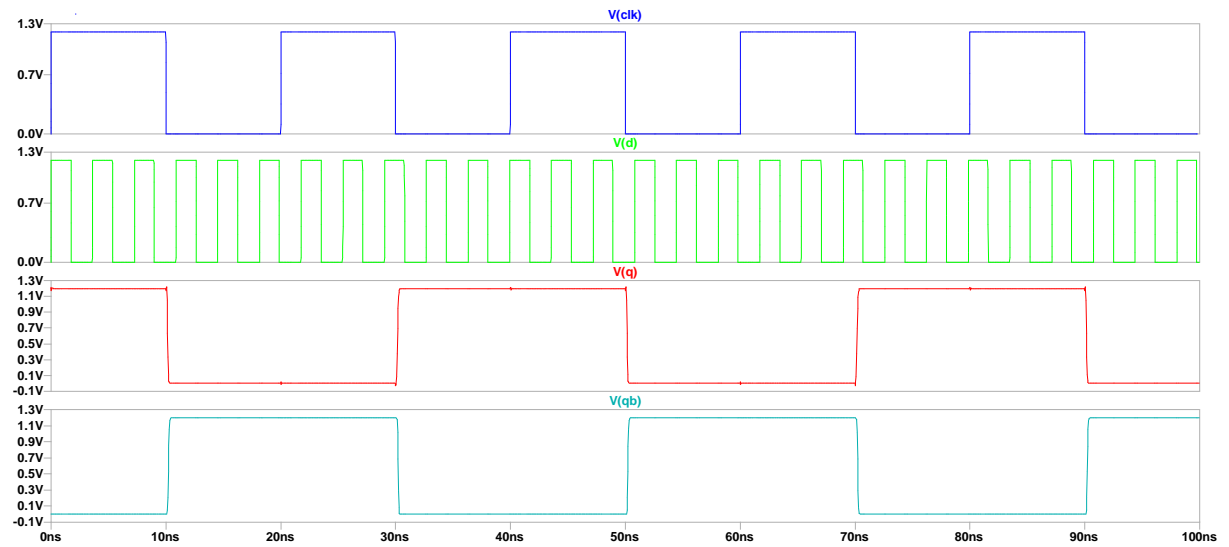
4.Circuitul secvential

a) Schemă electrică dff.asc



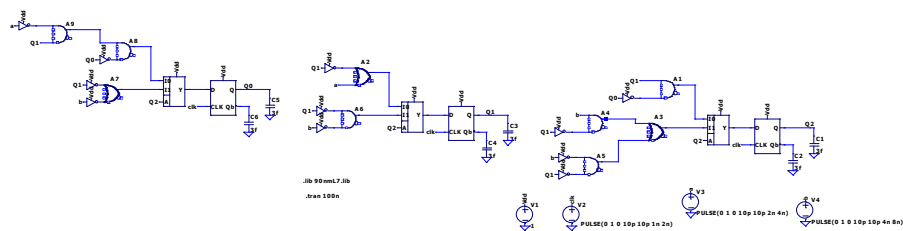
b) Circuitul de test cu verificarea funcționării test_dff.asc





5. Implementarea finală

a) Schema finală a automatului implementare_finala.asc



c) Verificarea funcționalității circuitului

