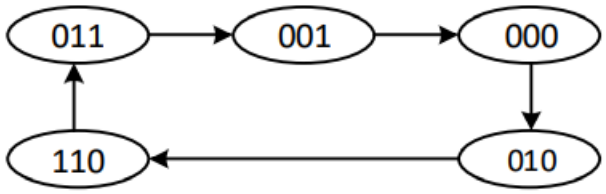
Adriana-Vasilica Stecalovici
Grupa: 2123, semigrupa 2
Seria A

Proiect CID

Să se proiecteze automatul de tranziții (a) folosind un numărător pe 4 biți descris de tabelul de adevăr (n) și un multiplexor (m).

Automat de tranziții

1.



Tabel de adevăr pentru numărătoare

A

r	clk	ld	en	Action
1	x	x	x	**Reset**
0	↓	1	x	**Load**
0	↓	0	1	**Count**
otherwise				**Wait**

Multiplexor

I. Numai MUX 2:1

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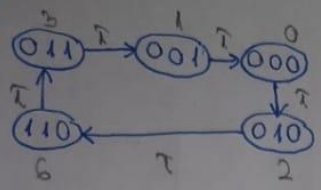
1.



A.

r	clk	ld	en	Action
1	X	X	X	Reset
0	↑	1	X	Load
0	↑	0	1	Count
otherwise				Wait

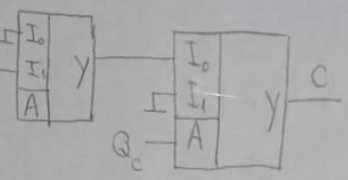
1. Schema MUX 2:1

numărător cu descreștere

Q_D	Q_C	Q_B	Q_A	actiune	Ld	En	DCBA
0	0	0	0	↑	1	X	0 0 1 0
0	0	0	1	↑	1	X	0 0 0 0
0	0	1	0	↑	1	X	0 1 1 0
0	0	1	1	↑	1	X	0 0 0 1
0	1	0	0	–	X	X	X X X X
0	1	0	1	–	X	X	X X X X
0	1	1	0	↑	1	X	0 0 1 1
0	1	1	1	–	X	X	X X X X

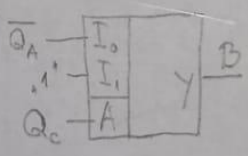
Pentru C

Q_C	Q_B	Q_A	C	
0	0	0	0	„0"
0	0	1	0	
0	1	0	1	$\overline{Q}_A$
0	1	1	0	
1	0	0	X	„0"
1	0	1	X	
1	1	0	0	
1	1	1	X	



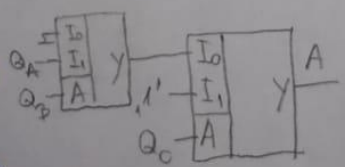
Pentru B:

Q_C	Q_B	Q_A	B	
0	0	0	1	$\overline{Q}_A$
0	0	1	0	
0	1	0	1	
0	1	1	0	
1	0	0	X	„1"
1	0	1	X	
1	1	0	1	
1	1	1	X	



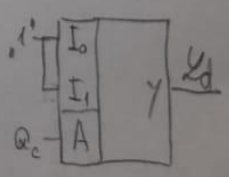
Pentru A:

Q_C	Q_B	Q_A	A	
0	0	0	0	„0"
0	0	1	0	
0	1	0	0	Q_A
0	1	1	1	
1	0	0	X	„1"
1	0	1	X	
1	1	0	1	
1	1	1	X	



Pentru Ld

Q_C	Q_B	Q_A	Ld	
0	0	0	1	„1"
0	0	1	1	
0	1	0	1	
0	1	1	1	
1	0	0	X	„1"
1	0	1	X	
1	1	0	1	
1	1	1	X	



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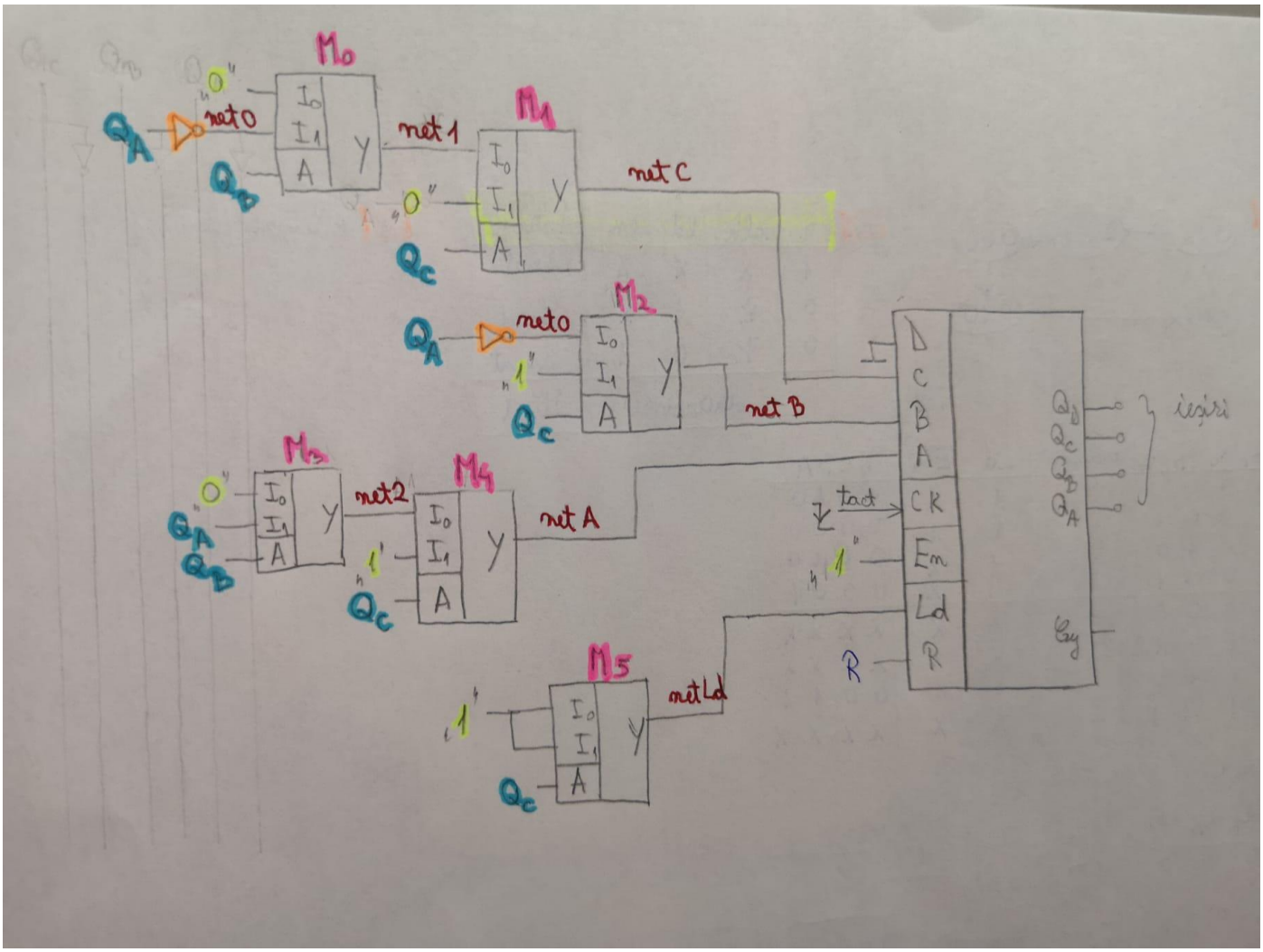

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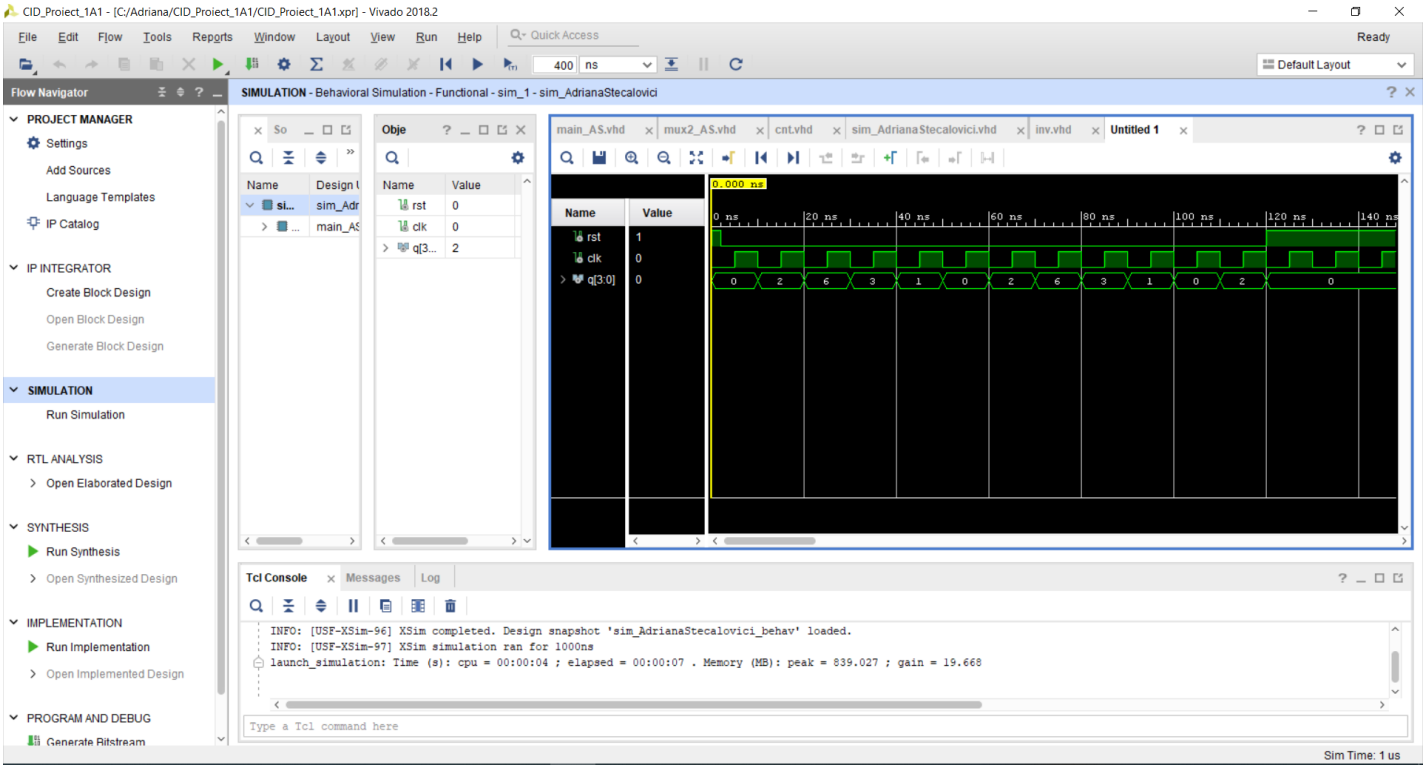
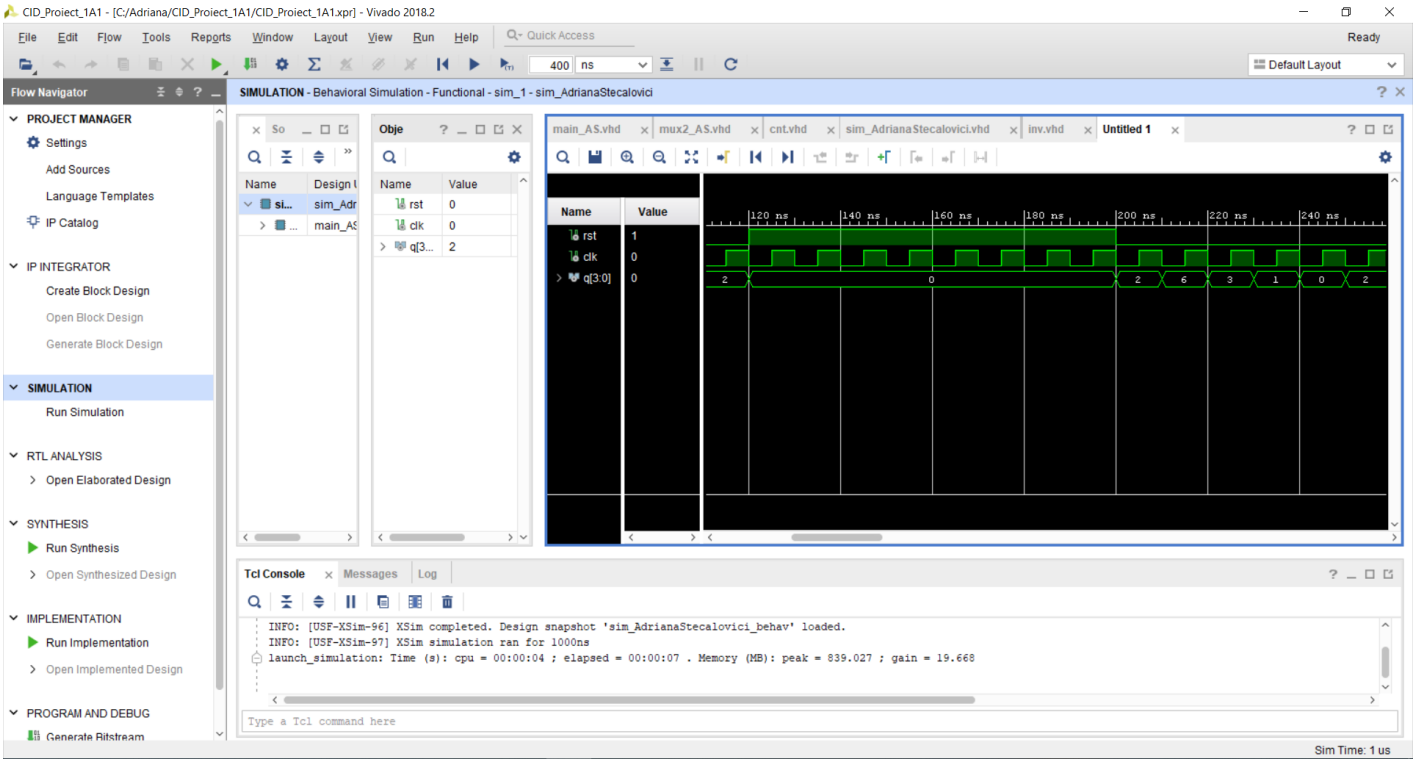
➢ Simularea:





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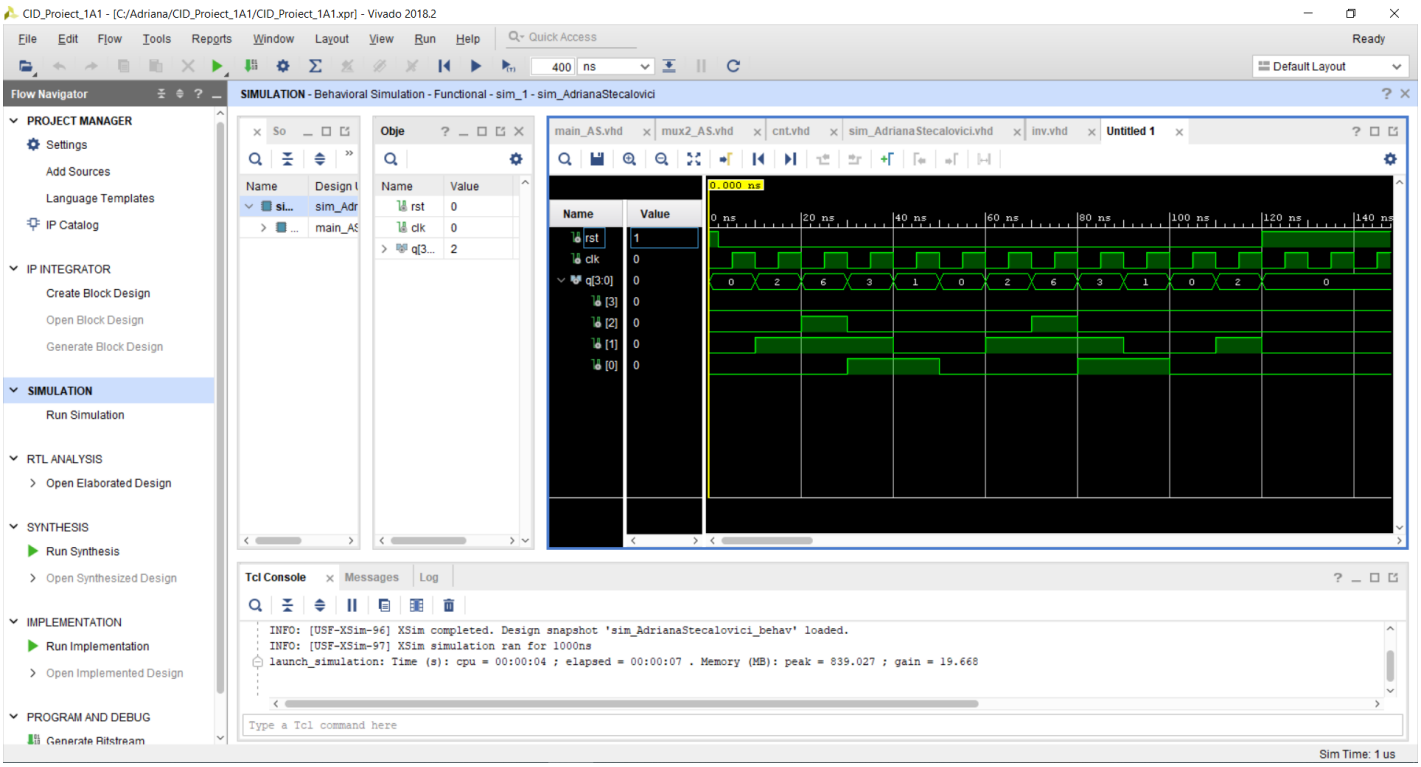
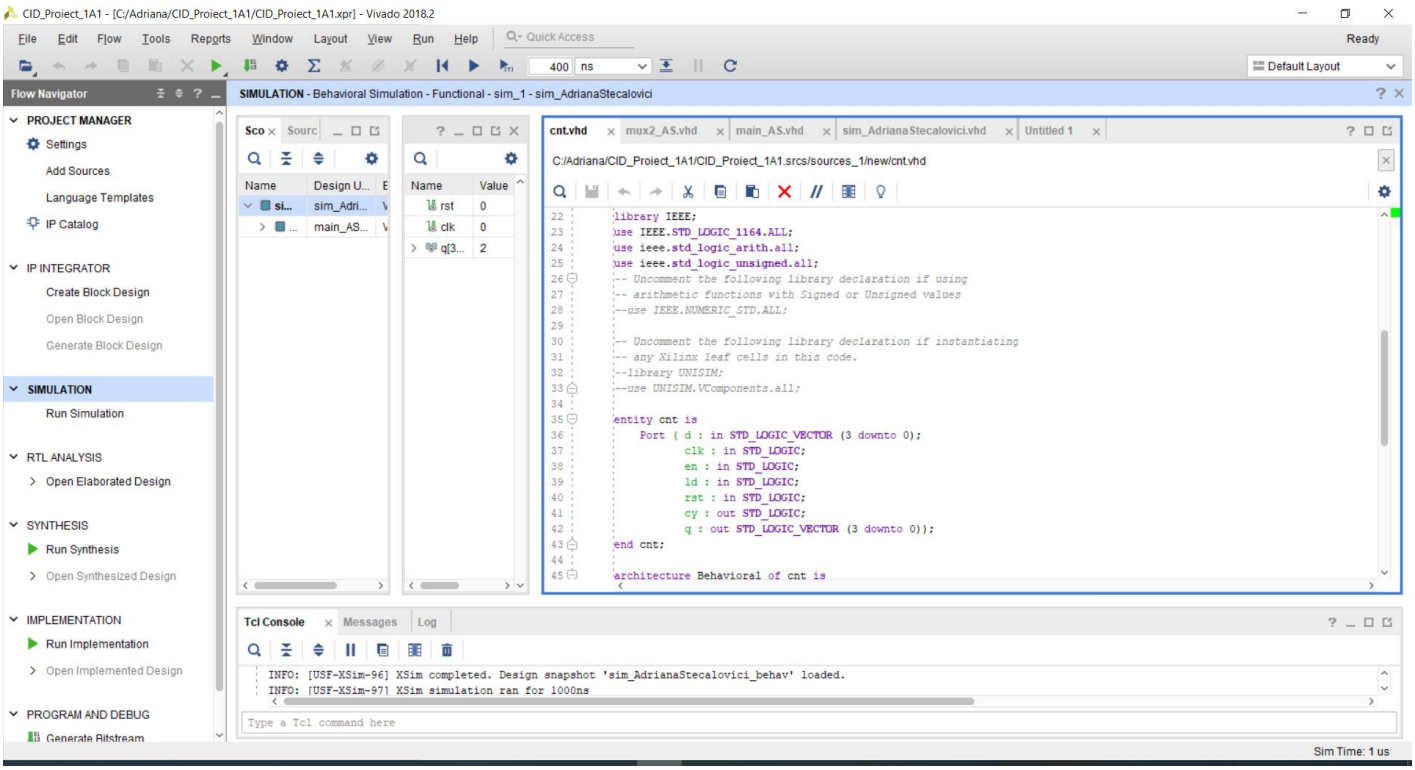


➢ Sursa cnt:



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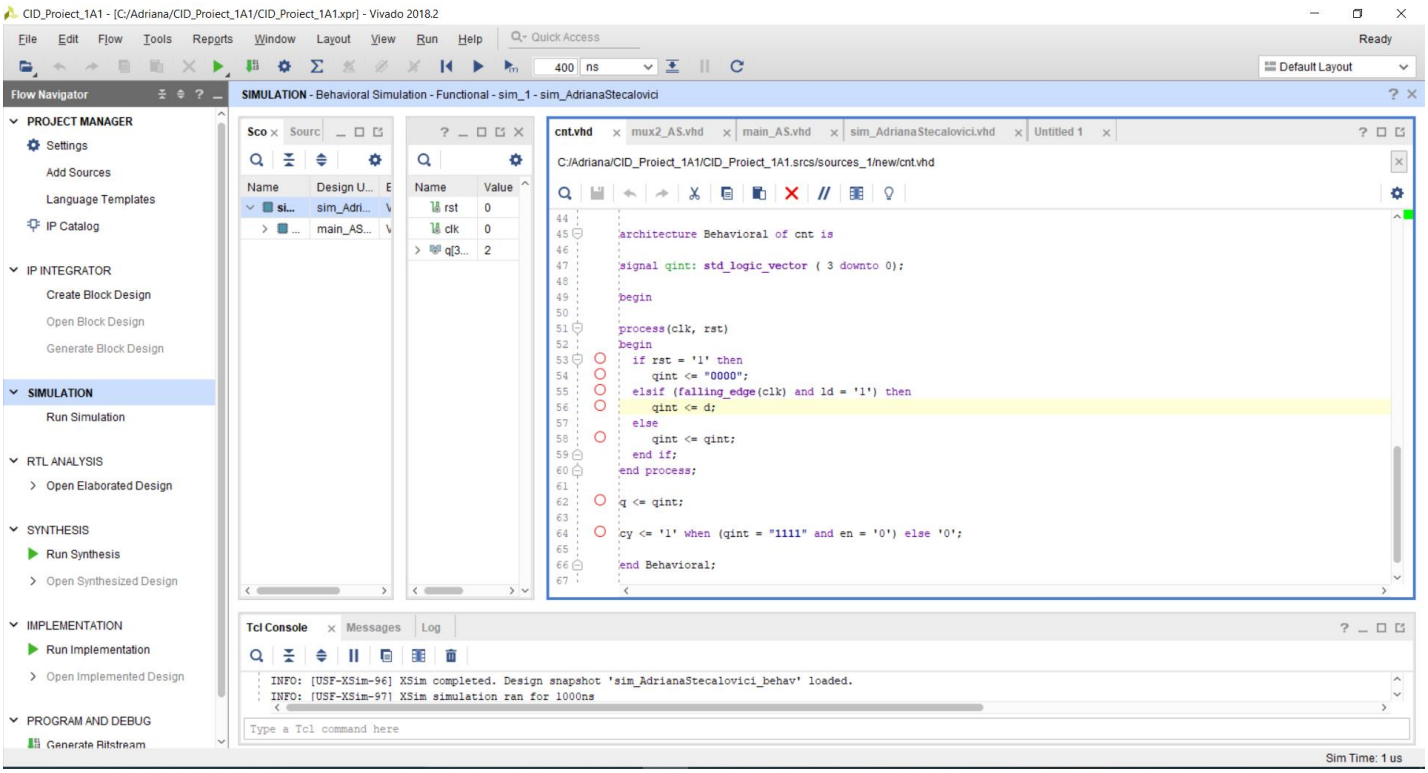
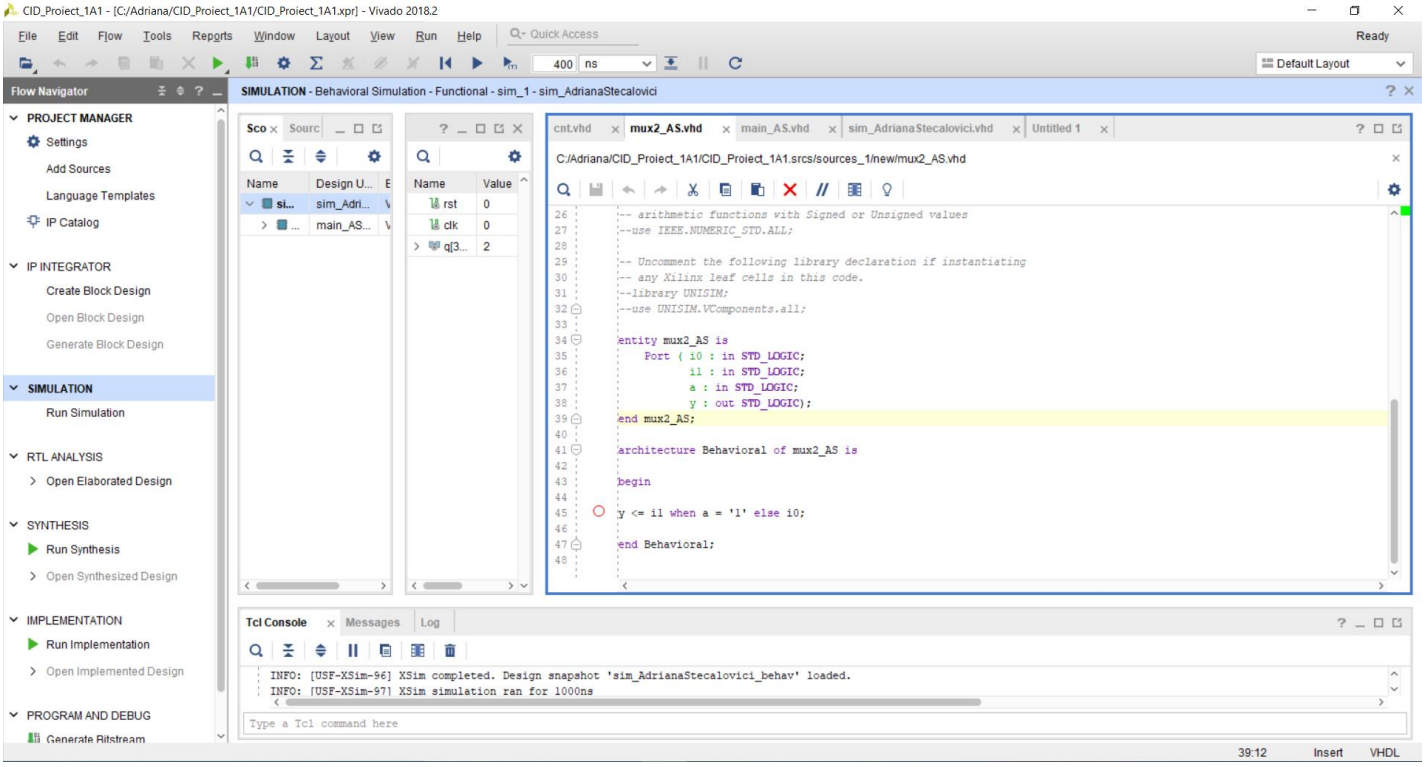


➢ Sursa mux2_AS:



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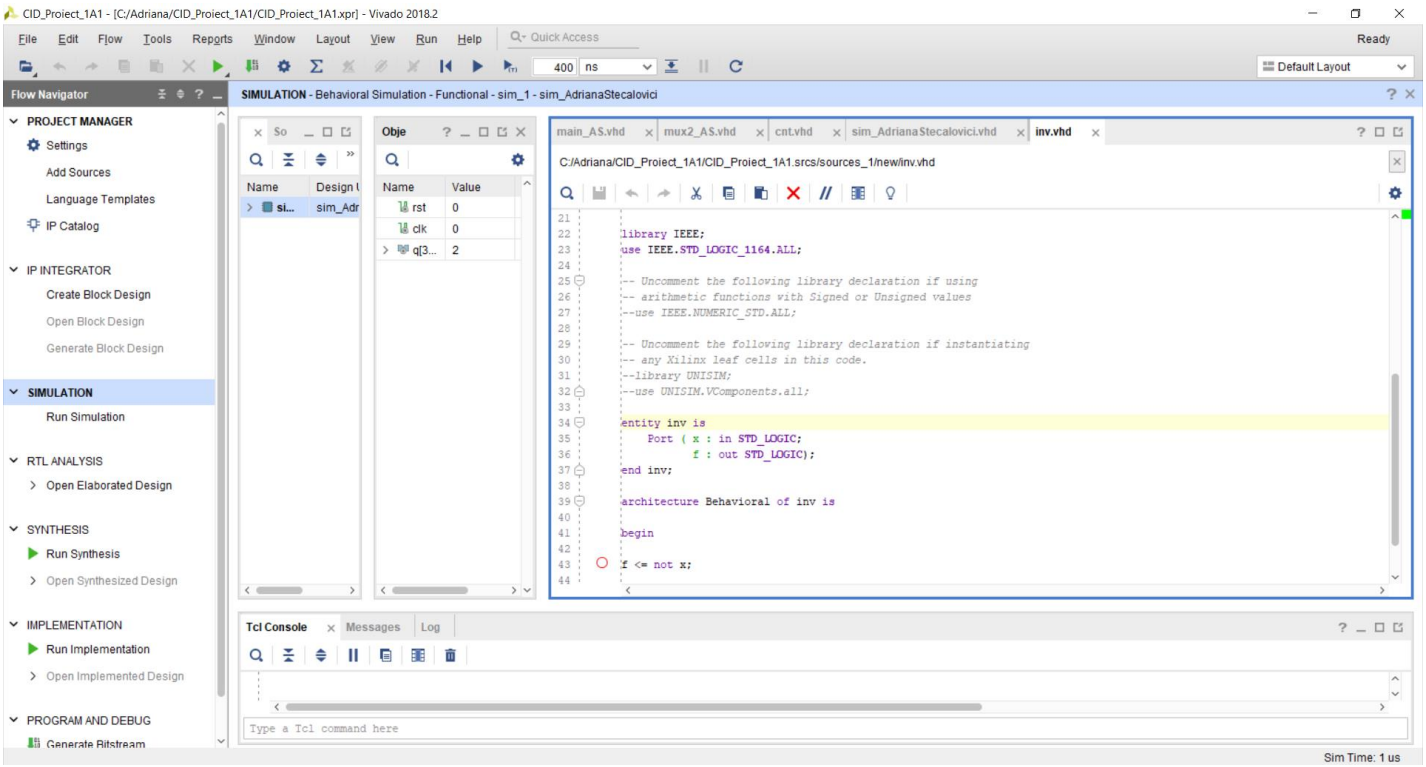
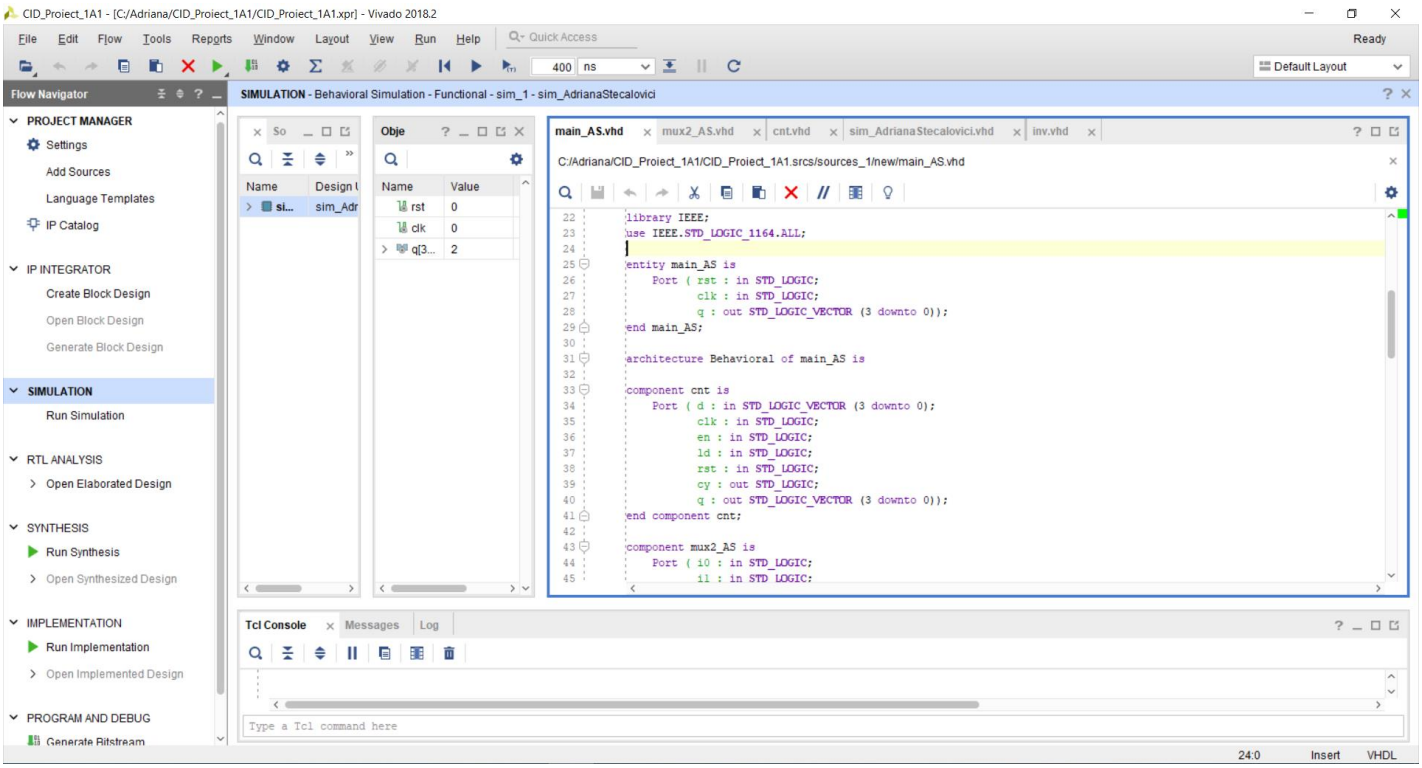
- **Sursa inv:**



- **Sursa main_AS:**



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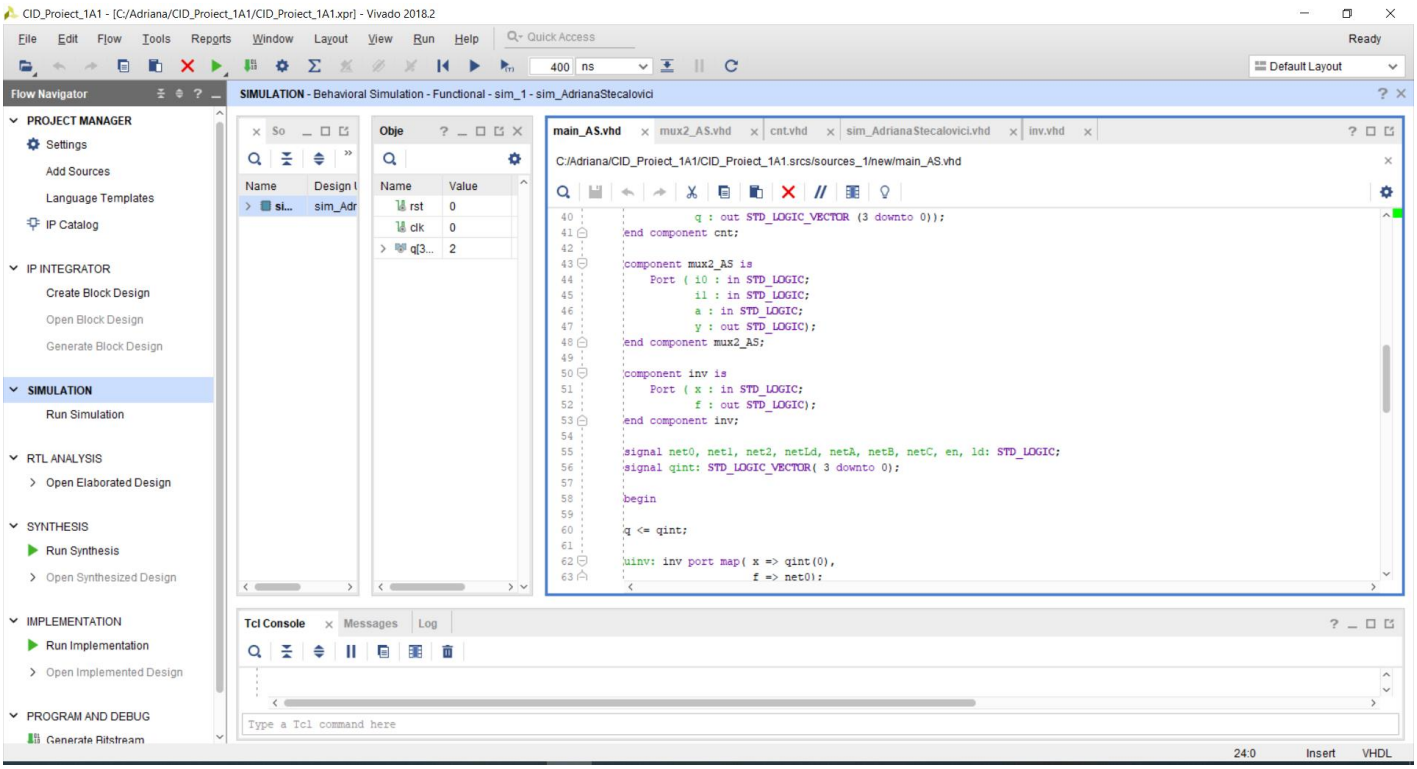

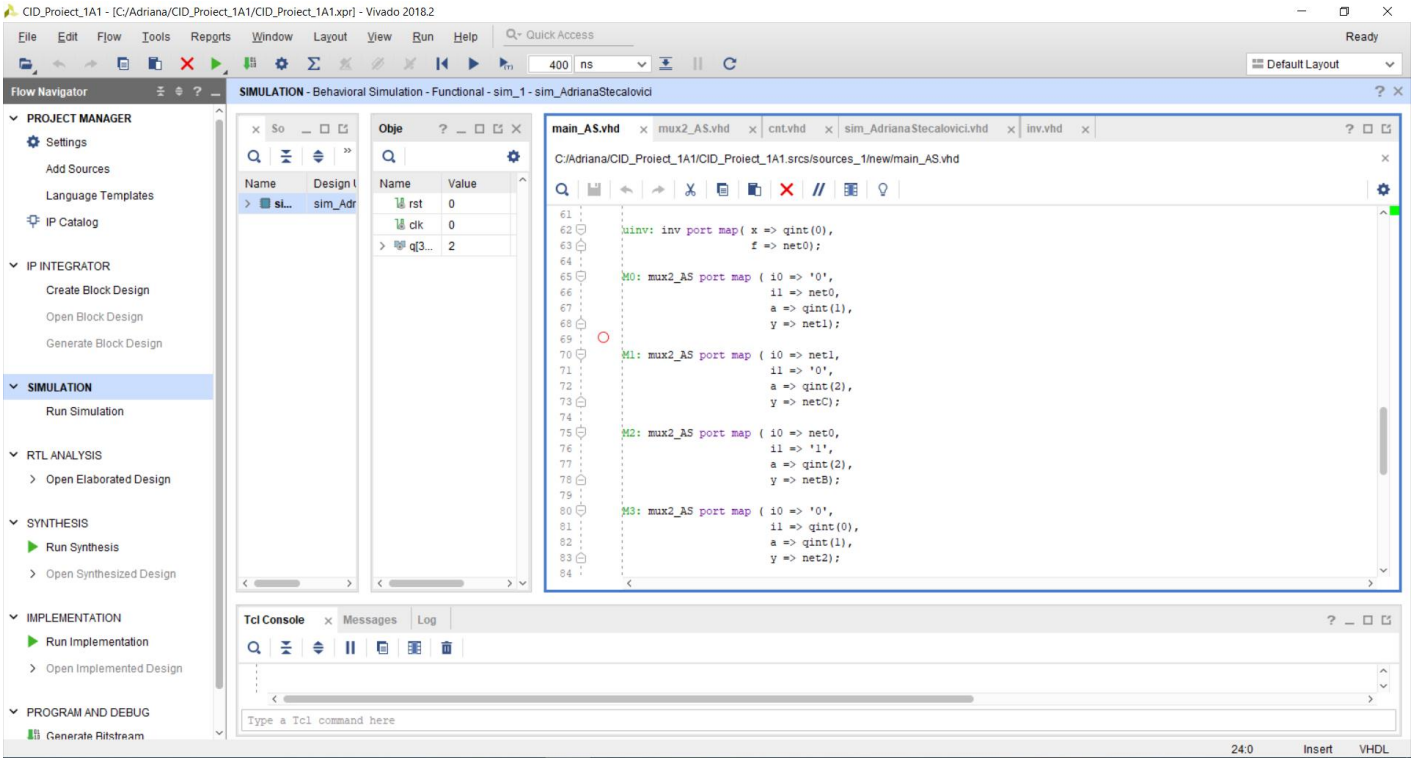

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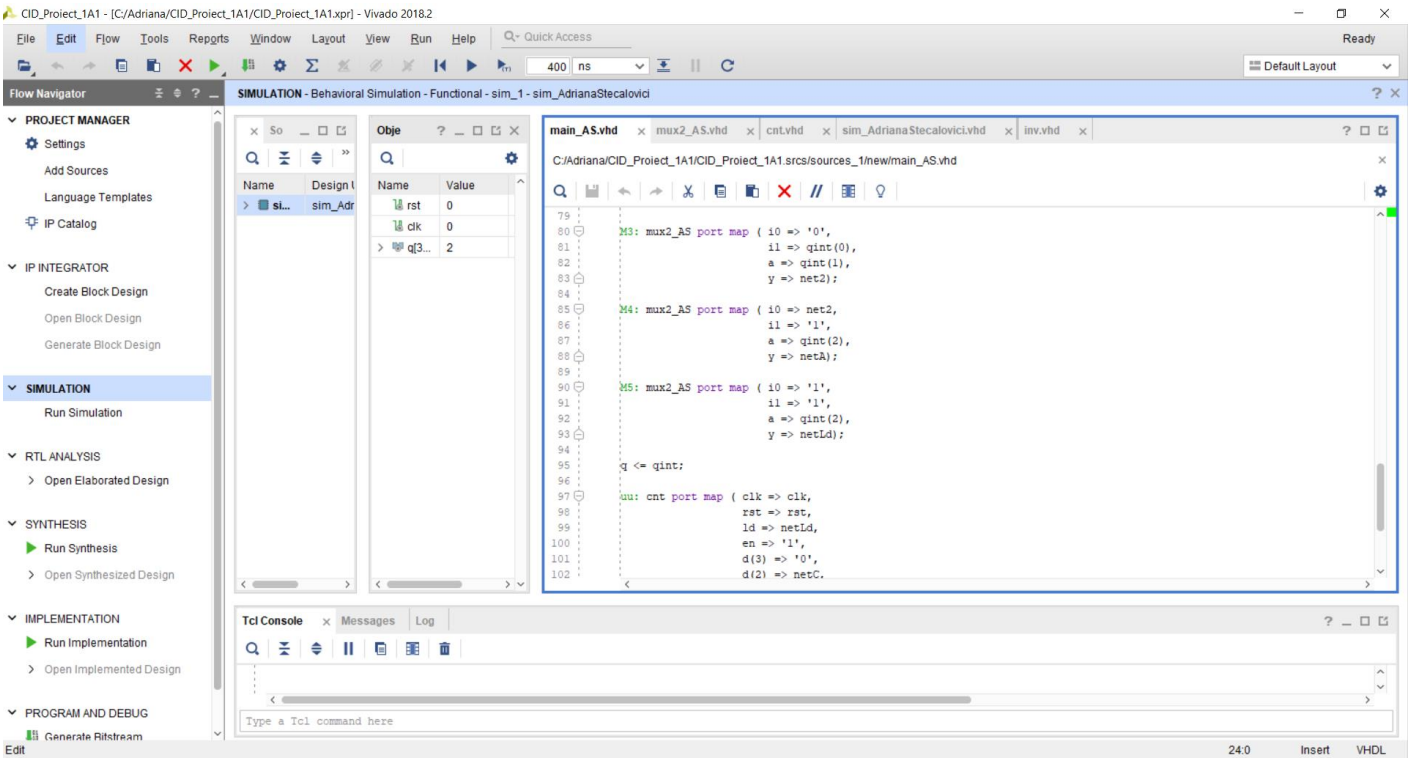

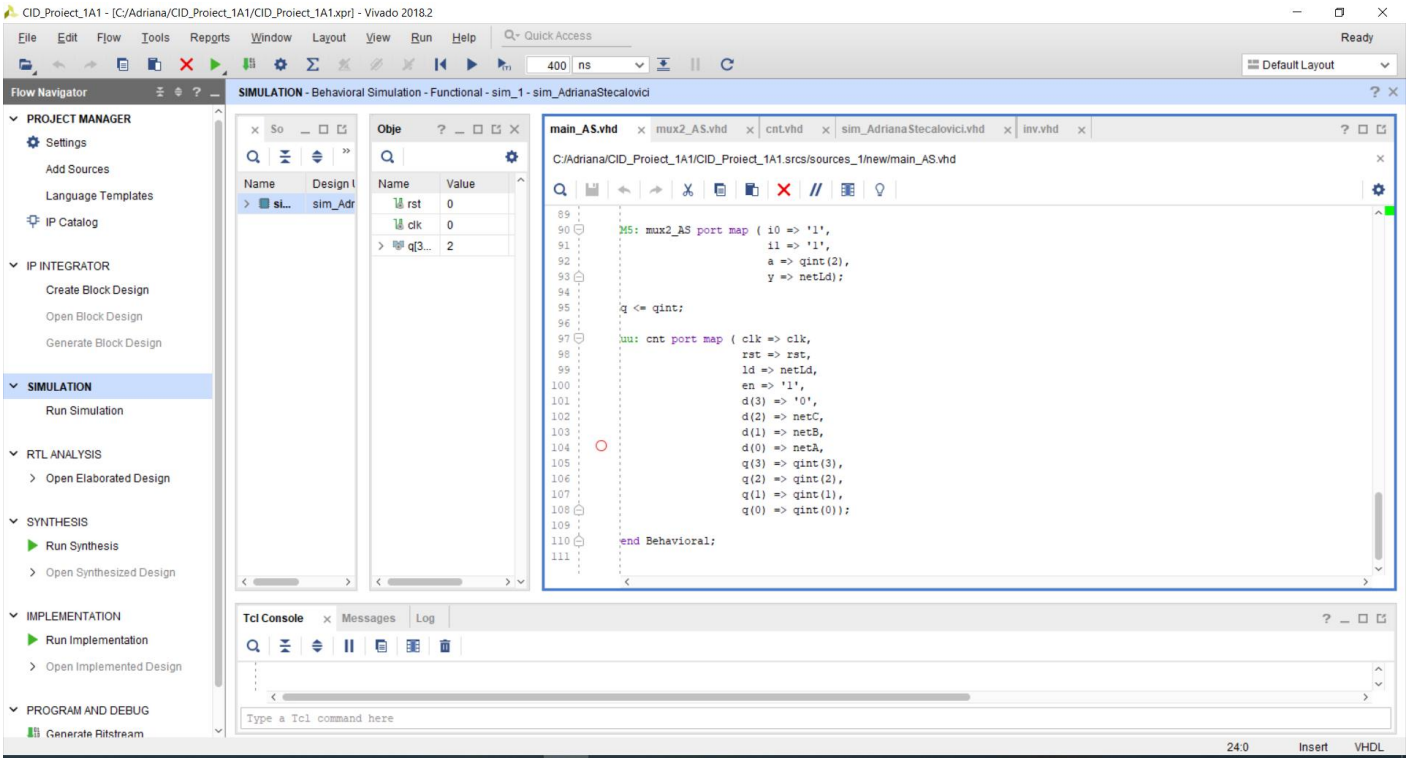

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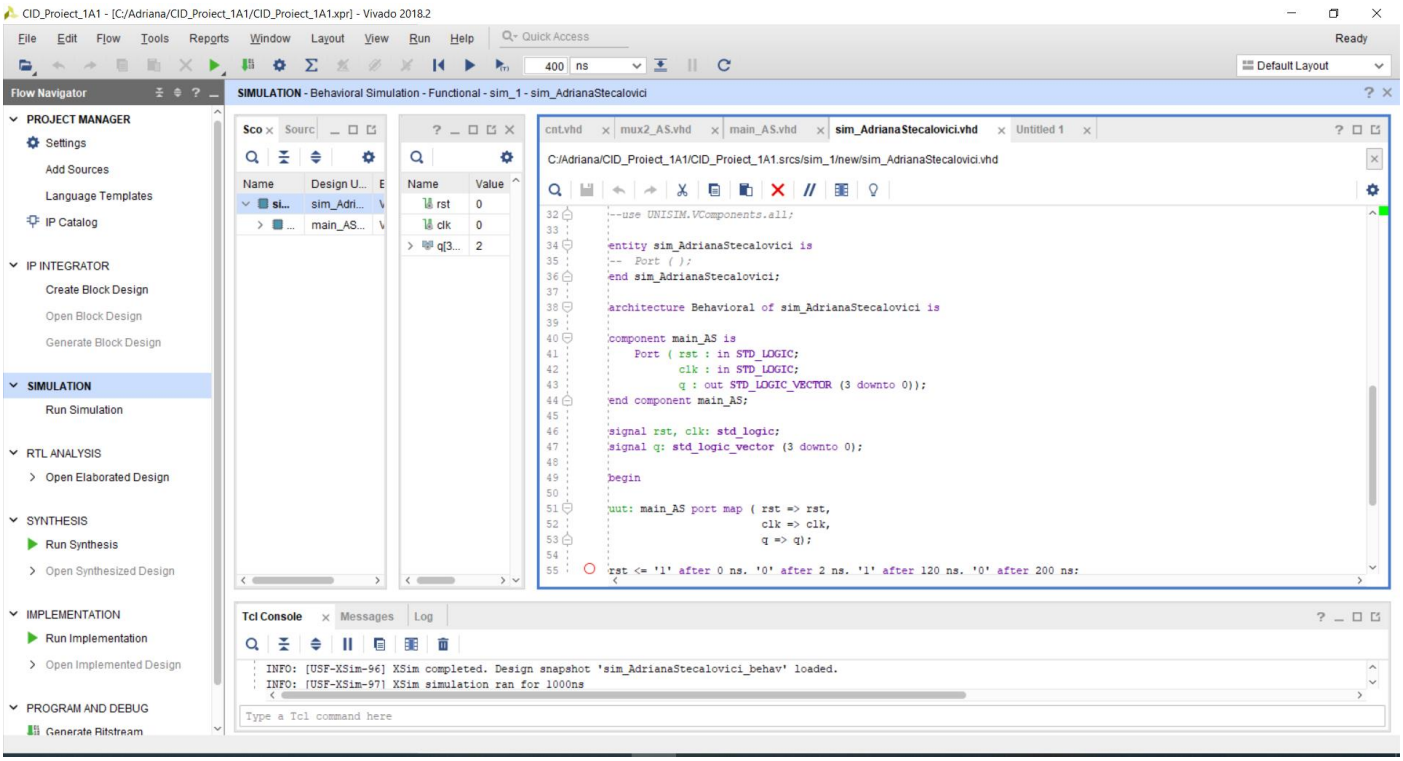
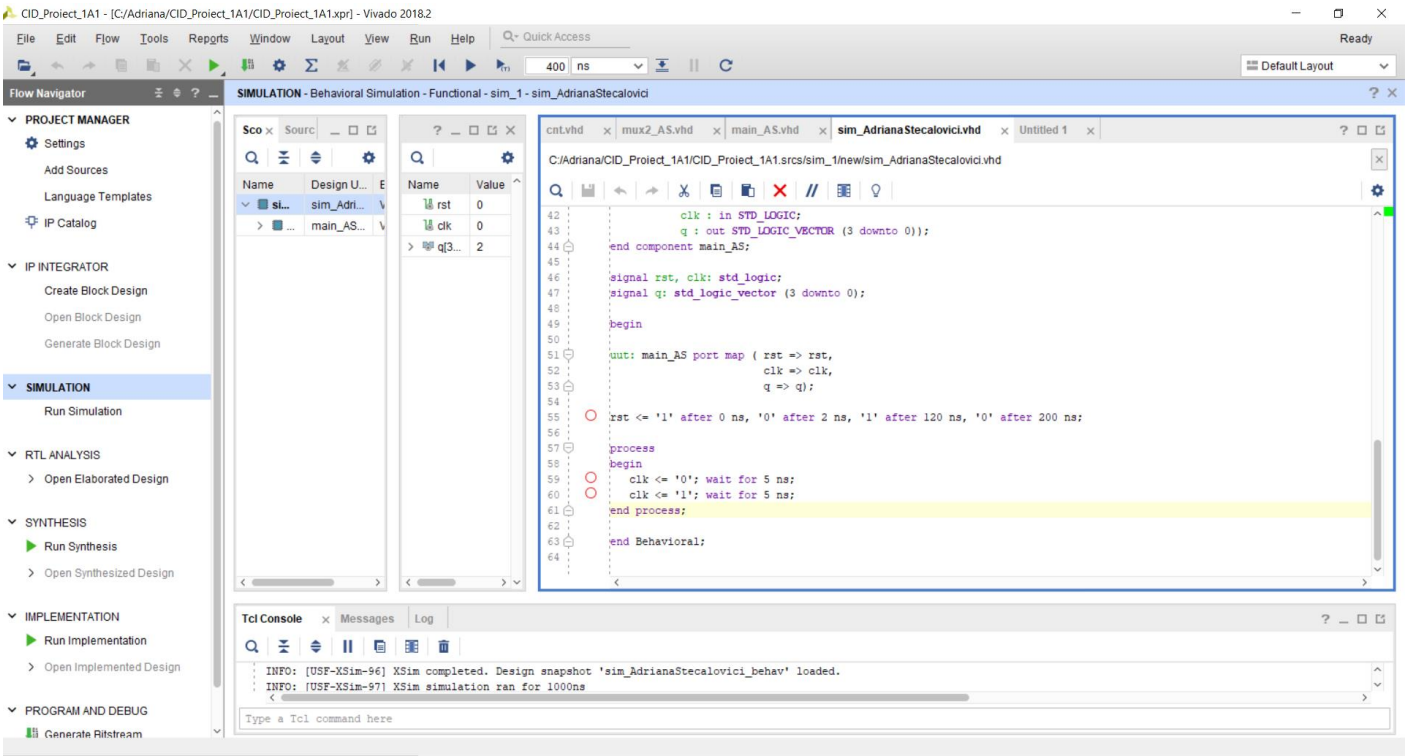
- **Sursa sim_AdrianaStecalovici:**





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➢ Schema electrică: