

Lab 6 Report

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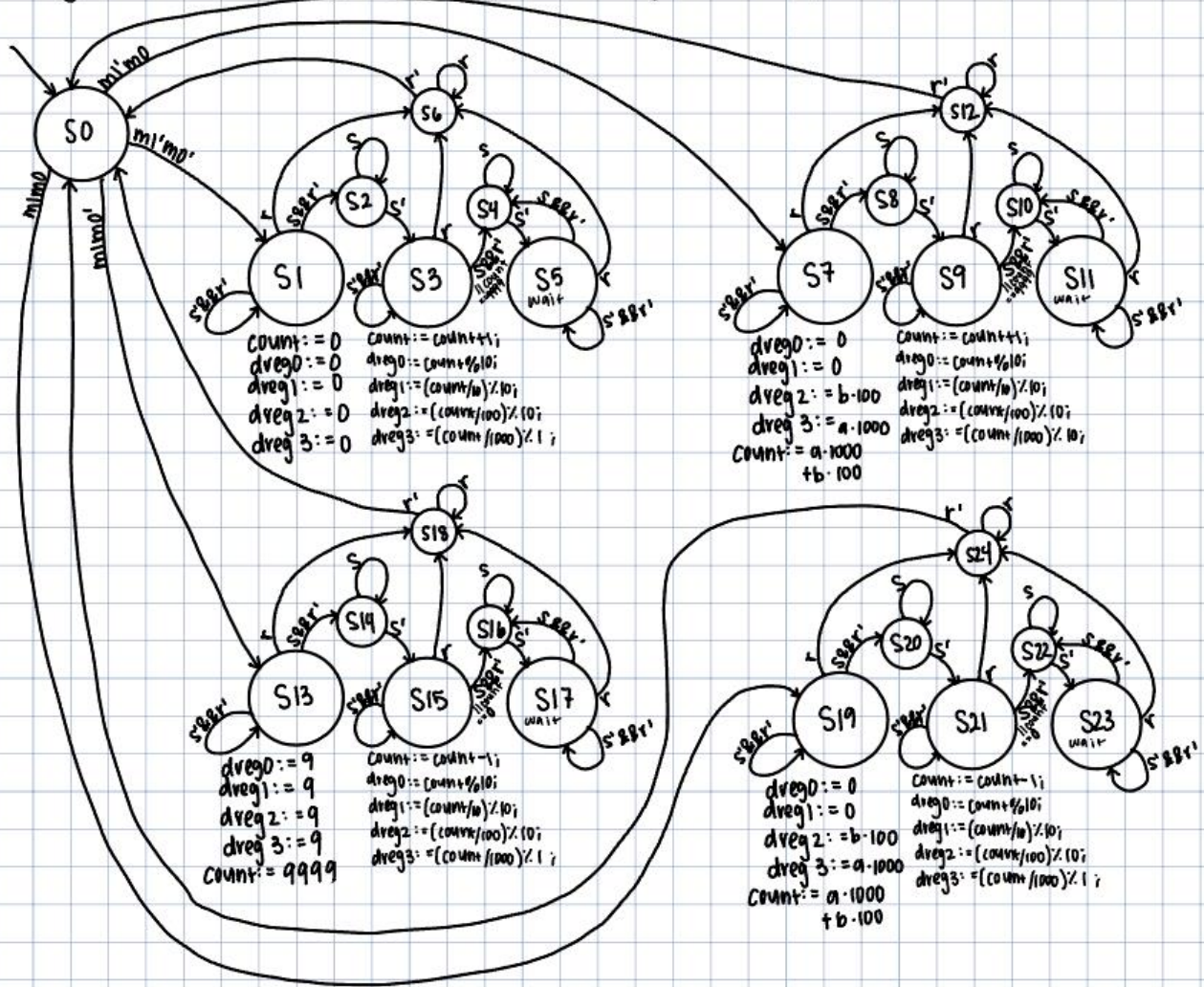
Section: 17015

HLSM –

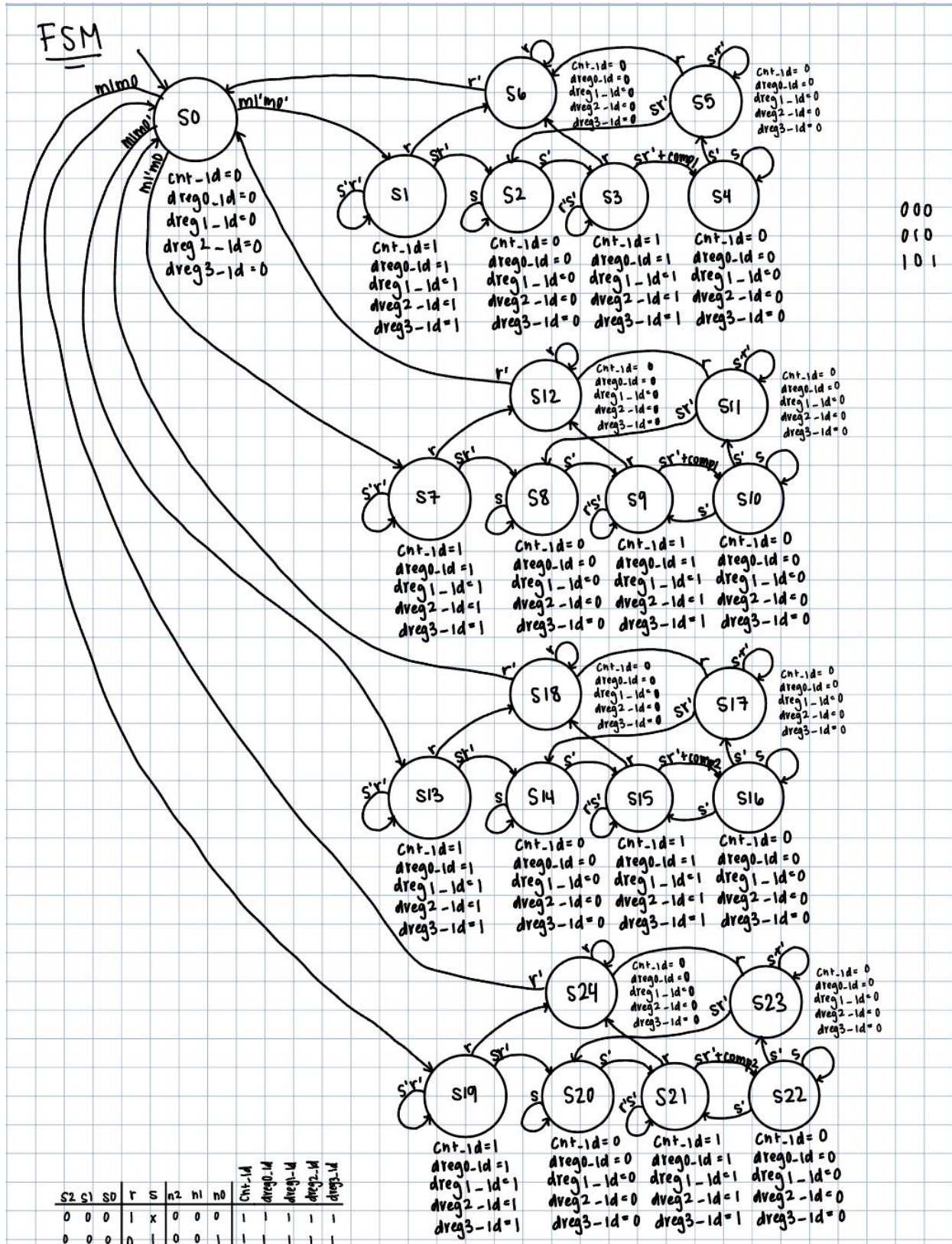
inputs: r (bit), s (bit), m (2-bits), a (4 bits), b (4 bits)

output: display1 (4 bits), display2 (4 bits), display3 (4 bits), display4 (4 bits)

Local storage: count (15 bits), dreg1 (4 bits), dreg2 (4 bits), dreg3 (4 bits), dreg4 (4 bits)



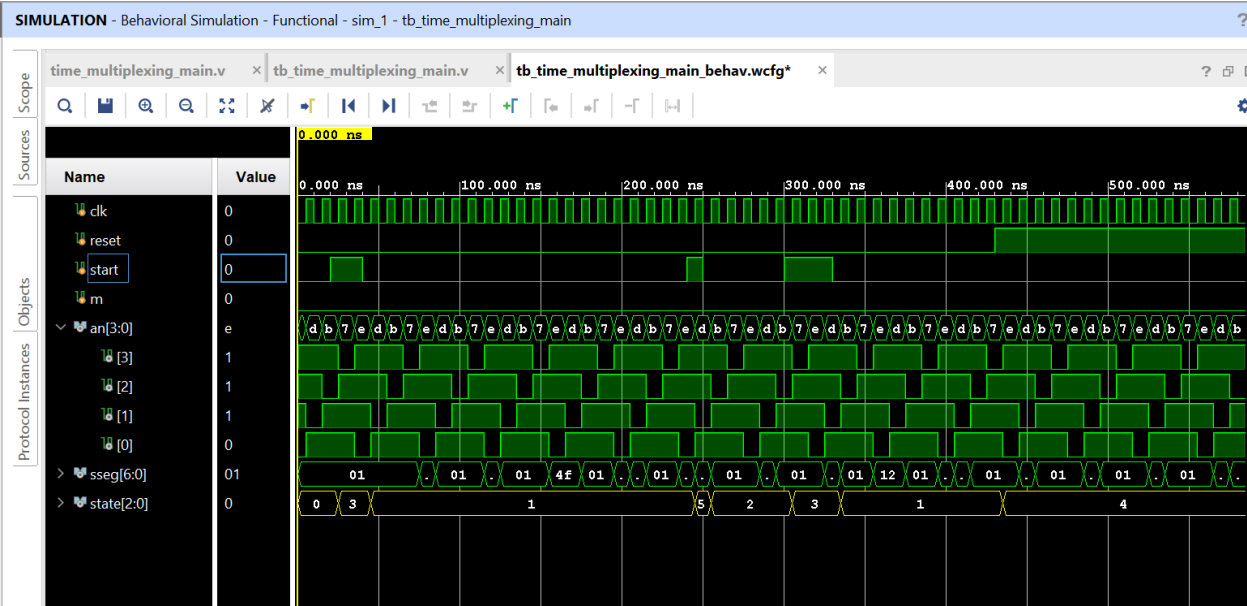
Controller FSM:



Controller FSM Truth Table:

s2	s1	s0	r	s	n2	n1	n0	Cnt_M	drdg0_M	drdg1_M	drdg2_M	drdg3_M
0	0	0	1	x	0	0	0	1	1	1	1	1
0	0	0	0	1	0	0	1	1	1	1	1	1
0	0	0	0	0	0	0	0	1	1	1	1	1
0	0	1	x	0	0	1	0	0	0	0	0	0
0	0	1	x	1	0	0	1	0	0	0	0	0
0	1	0	1	x	1	0	1	1	1	1	1	1
0	1	0	0	1	1	0	0	1	1	1	1	1
0	1	0	0	0	0	1	0	1	1	1	1	1
0	1	1	x	0	1	0	0	0	0	0	0	0
0	1	1	x	1	0	1	1	0	0	0	0	0
1	0	0	1	x	1	0	1	0	0	0	0	0
1	0	0	0	1	0	0	1	0	0	0	0	0
1	0	0	0	0	1	0	0	0	0	0	0	0
1	0	1	0	x	0	0	0	0	0	0	0	0
1	0	1	1	x	1	0	1	0	0	0	0	0

Simulation Waveform:



Datapath:

