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CS 303 LAB4 REPORT

State Diagram:

00/000
01 /000
00/000
11/001
01/000
11/011
01/000
10/000
10/001
11/101
10/000
10/000
01 /000
00/000
00/000
00/000
00 OK
01 25k
11 75 k
10 50k
01/010
01/011
11/111
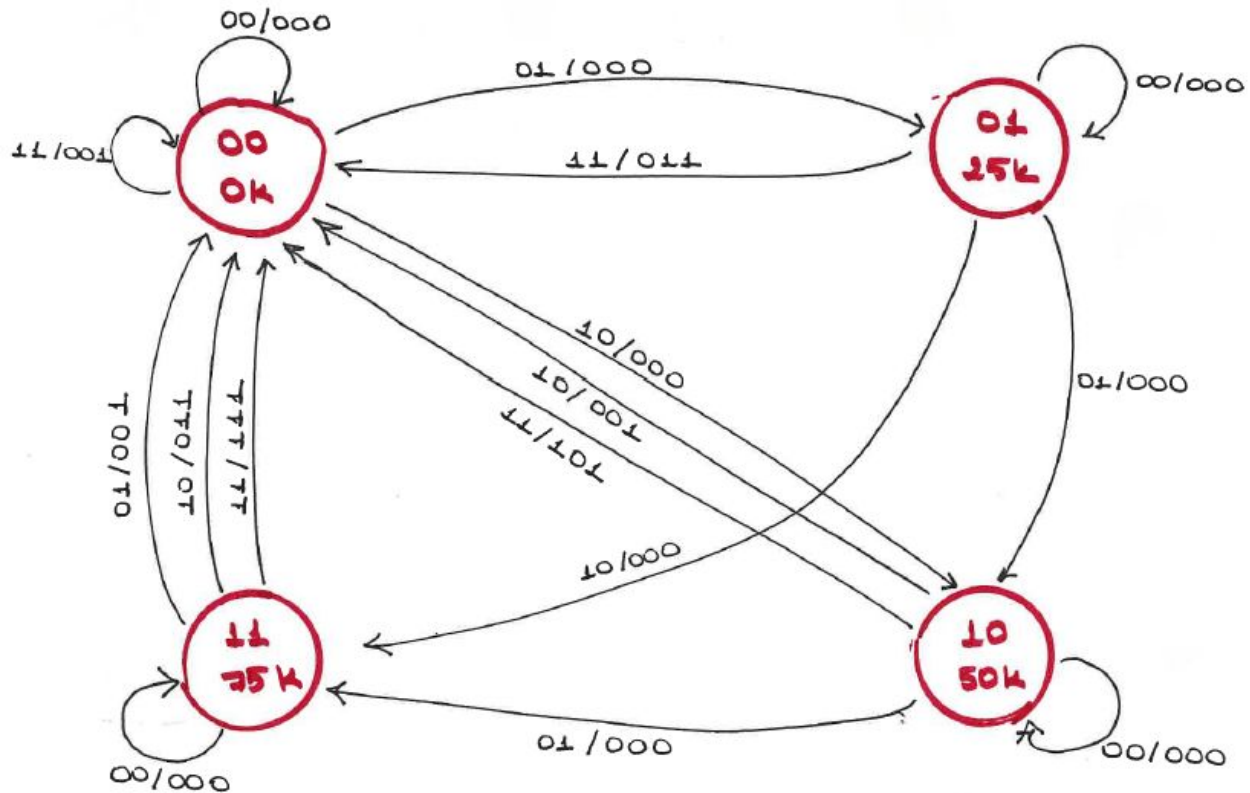
State Table:

A 1(t)	A 0 (t)	Input 1	Input 0	A 1 (t+1)	A 0 (t+1)	Change 1	Change 0	Output
0	0	0	0	0	0	0	0	0
0	0	0	1	0	1	0	0	0
0	0	1	0	1	0	0	0	0
0	0	1	1	0	0	0	0	1
0	1	0	0	0	1	0	0	0
0	1	0	1	1	0	0	0	0
0	1	1	0	1	1	0	0	0
0	1	1	1	0	0	0	1	1
1	0	0	0	1	0	0	0	0
1	0	0	1	1	1	0	0	0
1	0	1	0	0	0	0	0	1
1	0	1	1	0	0	1	0	1
1	1	0	0	1	1	0	0	0
1	1	0	1	0	0	0	0	1
1	1	1	0	0	0	0	1	1
1	1	1	1	0	0	1	1	1

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K-Maps and Functions:

A 0 (t+1)				
A1A0\I1I0	00	01	11	10
00	0	1	0	0
01	1	0	0	1
11	1	0	0	0
10	0	1	0	0

A0 (t+1) = A0'.I1'.I0 + A1'.A0.I0' + A0.I0'.I1'

A 1 (t+1)				
A1A0\I1I0	00	01	11	10
00	0	0	0	1
01	0	1	0	1
11	1	0	0	0
10	1	1	0	0

A1 (t+1) = A1'.I0'.I1 + A0'.A1.I1' + A1.I0'.I1'+ A1'.A0.I1'.I0

Change 1				
A1A0\I1I0	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	0	0	1	0
10	0	0	1	0

C1 = A1.I0.I1

Change 0				
A1A0\I1I0	00	01	11	10
00	0	0	0	0
01	0	0	1	0
11	0	0	1	1
10	0	0	0	0

C0 = A0.I0.I1 + A1.A0.I1

Output				
A1A0\I1I0	00	01	11	10
00	0	0	1	0
01	0	0	1	0
11	0	1	1	1
10	0	0	1	1

Output = I0.I1 + A1.I1 + A1.A0.I0

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Screenshot of Schematic Design: