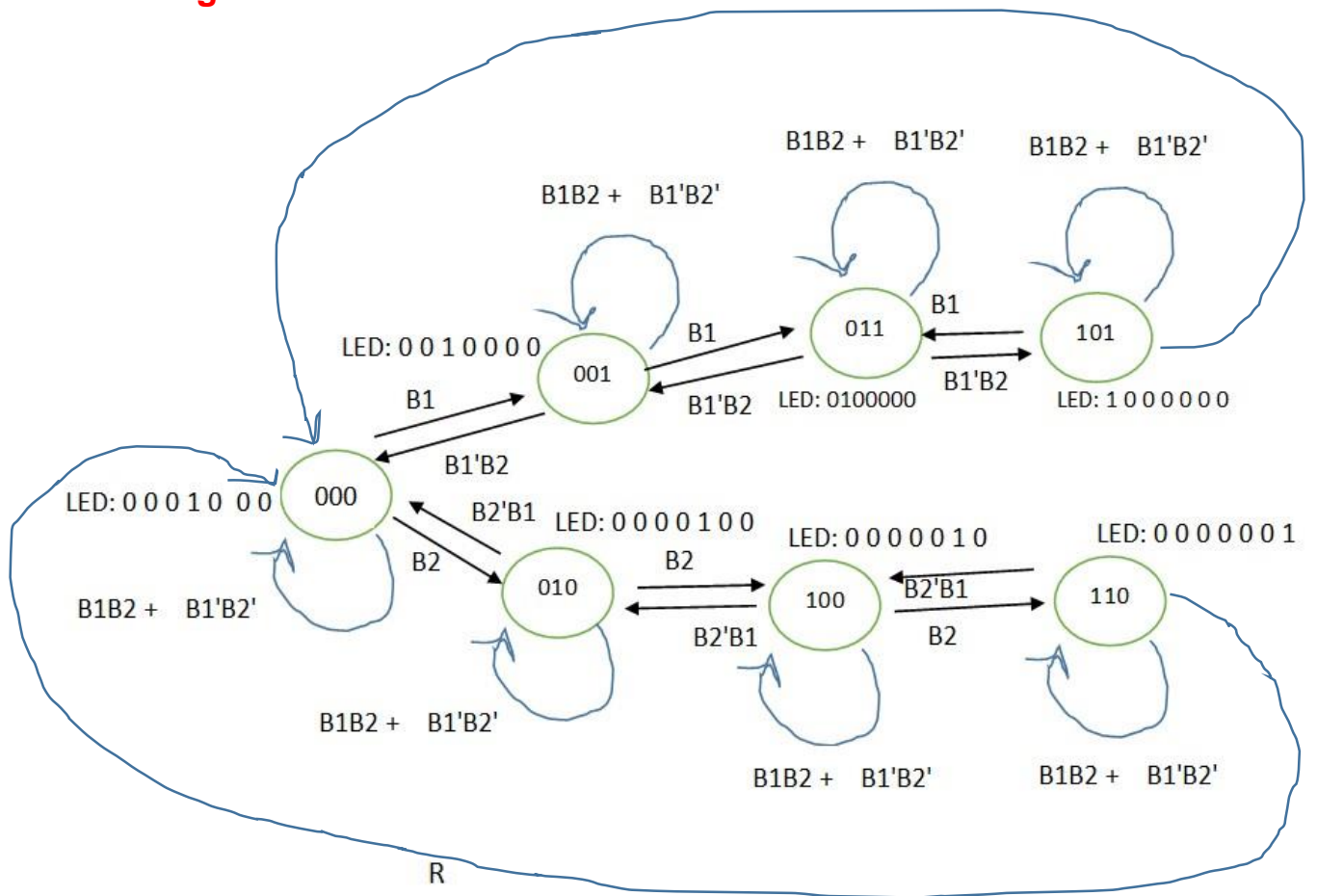


## State Diagram



## FSM CONTROLLER

Inputs: s2,s1,s0,B1,B2

Outputs: n2,n1,n0,Led1,Led2,Led3,Led4,Led5,Led6,Led7



1	0	0	0	1	1	1	0	0	0	0	0	0	0	1
1	0	0	1	0	0	1	0	0	0	0	0	1	0	0
1	0	0	1	1	1	0	0	0	0	0	0	0	1	0
1	0	1	0	0	1	0	1	1	0	0	0	0	0	0
1	0	1	0	1	0	1	1	0	1	0	0	0	0	0
1	0	1	1	0	1	1	1	0	0	0	0	0	0	0
1	0	1	1	1	1	0	1	1	0	0	0	0	0	0
1	1	0	0	0	1	1	0	0	0	0	0	0	0	1
1	1	0	0	1	1	1	1	0	0	0	0	0	0	0
1	1	0	1	0	1	0	0	0	0	0	0	0	1	0
1	1	0	1	1	1	1	0	0	0	0	0	0	0	1

### Boolean Expressions:

n2:  $s_2s_0'B_1' + s_2B_1'B_2' + s_2B_1B_2 + s_2s_1s_0' + s_1s_0'B_1'B_2 + s_2's_1s_0B_1B_2'$

n1:  $s_1B_1'B_2' + s_1B_1B_2 + s_2s_0'B_2 + s_1's_0'B_1'B_2 + s_1's_0B_1B_2' + s_2s_1'B_1'B_2$

n0:  $s_0B_1'B_2' + s_0B_1B_2 + s_2's_1s_0 + s_2s_1's_0 + s_2's_1'B_1B_2' + s_2s_1s_0'B_1'B_2$

Led 1:  $s_2's_1s_0B_1B_2' + s_2s_1's_0B_1'B_2' + s_2s_1's_0B_1B_2$

Led 2:  $s_2's_1's_0B_1B_2' + s_2's_1s_0B_1'B_2' + s_2's_1s_0B_1B_2 + s_2s_1's_0B_1'B_2$

Led 3:  $s_2's_1's_0'B_1B_2' + s_2's_1's_0B_1'B_2' + s_2's_1's_0B_1B_2 + s_2's_1s_0B_1'B_2$

Led 4:  $s_2's_1's_0'B_1'B_2' + s_2's_1's_0'B_1B_2 + s_2's_1's_0B_1'B_2 + s_2's_1s_0'B_1B_2' + s_2s_1s_0B_1'B_2 + s_2s_1s_0B_1B_2'$

Led 5 :  $s_2's_0'B_1'B_2 + s_2's_1s_0'B_1' + s_2's_1s_0'B_2 + s_2s_1's_0'B_1B_2'$

Led 6:  $s_2s_1's_0'B_1'B_2' + s_2s_1's_0'B_1B_2 + s_2s_1s_0'B_1B_2'$

Led 7 :  $s_2s_1's_0'B_1'B_2 + s_2s_1s_0'B_1'B_2' + s_2s_1s_0'B_1B_2$

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