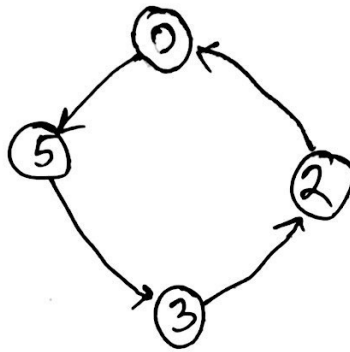


Name: Sk. Sabit Bin Mosaddek

Roll: 5201805106

Problem 1

State Diagram:



Excitation Table:

$y_2 y_1 y_0$	$Y_2 Y_1 Y_0$	J_2	K_2	J_1	K_1	J_0	K_0
0 0 0	1 0 1	1	x	0	x	1	x
1 0 1	0 1 1	x	1	1	x	x	0
0 1 1	0 1 0	0	x	x	0	x	1
0 1 0	0 0 0	0	x	x	1	0	x

KMap:

J_2

$y_2 \backslash y_1$	00	01	11	10
0	1	0	x	x
1	x	0	x	x

$$J_2 = \overline{y_1}$$

K_2

$y_2 \backslash y_1$	00	01	11	10
0	x	x	x	x
1	x	x	x	1

$$K_2 = 1$$

J_1

$y_2 \backslash y_1$	00	01	11	10
0	0	x	x	x
1	x	x	x	1

$$J_1 = y_0$$

K_1

$y_2 \backslash y_1$	00	01	11	10
0	x	1	x	x
1	x	0	x	x

$$K_1 = \overline{y_0}$$

J_0

$y_2 \backslash y_1$	00	01	11	10
0	1	0	x	x
1	x	x	x	x

$$J_0 = \overline{y_1}$$

K_0

$y_2 \backslash y_1$	00	01	11	10
0	x	x	x	x
1	x	1	x	0

$$K_0 = \overline{y_2}$$

Circuit Diagram:

