

Answer to the question no. 2

1 → 7 → 2 → 6 → 1

State Table:

PS	NS
1	6
6	2
2	7
7	1

Excitation Table:

PS	NS	Flipflop					
$y_2 y_1 y_0$	$Y_2 Y_1 Y_0$	J_2	K_2	J_1	K_1	J_0	K_0
0 0 0	0 0 1	0	—	0	—	1	—
0 0 1	1 1 0	1	—	1	—	—	1
0 1 0	1 1 1	1	—	—	0	1	—
0 1 1	0 1 0	0	—	—	0	—	1
1 0 0	0 1 0	—	1	1	—	0	—
1 0 1	0 1 0	—	1	1	—	—	1
1 1 0	0 1 0	—	1	—	0	0	—
1 1 1	0 0 1	—	1	—	1	—	0

K-Map J_2

$y_2 \backslash y_1 y_0$	00	01	11	10
0	0	1	0	1
1	—	—	—	—

$$J_2 = \bar{y}_1 y_0 + y_1 \bar{y}_0$$

$$= y_1 \oplus y_0$$

$y_2 \backslash y_1 y_0$	00	01	11	10
0	0	1	—	—
1	1	1	—	—

$$J_1 = y_0 + y_2$$

$y_2 \backslash y_1 y_0$	00	01	11	10
0	1	—	—	1
1	0	—	—	0

$$J_0 = \bar{y}_2$$

$y_2 \backslash y_1 y_0$	00	01	11	10
0	—	—	—	—
1	1	1	1	1

$$K_2 = 1$$

$y_2 \backslash y_1 y_0$	00	01	11	10
0	—	—	0	0
1	—	—	1	0

$$K_1 = y_2 y_0$$

$y_2 \backslash y_1 y_0$	00	01	11	10
0	—	1	1	—
1	—	1	0	—

$$K_0 = \bar{y}_1 + \bar{y}_2$$

