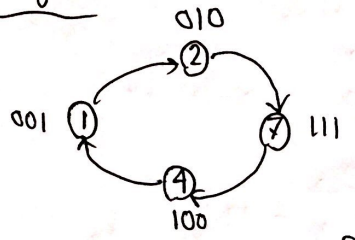
Roll: 1805098

3. $2 \rightarrow 1 \rightarrow 4 \rightarrow 7 \rightarrow 2$

$\therefore$ Reverse $2 \rightarrow 7 \rightarrow 4 \rightarrow 1 \rightarrow 2$

State Diagram



State Table

PS $y_3y_2y_1$	NS $Y_3Y_2Y_1$
0 1 0	1 1 1
1 1 1	1 0 0
1 0 0	0 0 1
0 0 1	0 1 0
0 0 0	1 1 1

Excitation Table

PS $y_3y_2y_1$	T_3	T_2	T_1
0 1 0	1	0	1
1 1 1	0	1	1
1 0 0	1	0	1
0 0 1	0	1	1
0 0 0	1	1	1

K-map

T_3

y_3 \ Y_2Y_1	00	01	11	10
0	1	0	X	1
1	1	X	0	X

$\therefore T_3 = \overline{y_1}$

T_2

y_3 \ Y_2Y_1	00	01	11	10
0	1	1	X	0
1	0	X	1	X

$\therefore T_2 = \overline{y_3}\,\overline{y_2} + y_1$

T_1

y_3 \ y_2y_1	00	01	11	10
0	1	1	X	1
1	1	X	1	X

$\therefore T_1 = 1$