

Exercice 3

$$b_3 = g_3 \quad g_3 = b_3$$

1-

b_3	b_2	b_1	b_0	g_3	g_2	g_1	g_0
0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1
0	0	1	0	0	0	1	1
0	0	1	1	0	0	1	0
0	1	0	0	0	1	1	0
0	1	0	1	0	1	1	1
0	1	1	0	0	1	0	1
0	1	1	1	0	1	0	0
1	0	0	0	1	1	0	0
1	0	0	1	1	1	0	1
1	0	1	0	1	1	1	1
1	0	1	1	1	1	1	0
1	1	0	0	1	0	1	0
1	1	0	1	1	0	1	1
1	1	1	0	1	0	0	1
1	1	1	1	1	0	0	0

$$g_3 = b_3$$

$$g_2 = b_3 \oplus b_2$$

$$g_1 = b_2 \oplus b_1$$

$$g_0 = b_1 \oplus b_0$$

2-

$$b_3 = g_3$$

$$b_2 = g_3 \oplus g_2$$

$$b_1 = b_2 \oplus g_1 = g_3 \oplus g_2 \oplus g_1$$

$$b_0 = b_1 \oplus g_0 = g_3 \oplus g_2 \oplus g_1 \oplus g_0$$