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Assignment 1

CPSC 359

input				output			
x_0	x_1	y_0	y_1	z_0	z_1	z_2	z_3
0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0
0	0	1	0	0	0	0	0
0	0	1	1	0	0	0	0
0	1	0	0	0	0	0	0
0	1	0	1	0	0	1	1
0	1	1	0	0	1	0	0
0	1	1	1	0	1	0	1
1	0	0	0	0	0	0	0
1	0	0	1	0	0	1	0
1	0	1	0	0	0	0	0
1	0	1	1	0	1	1	0
1	1	0	0	0	0	0	0
1	1	0	1	0	0	0	1
1	1	1	0	1	0	0	0
1	1	1	1	0	1	1	1

z_0

$x_0 x_1 \backslash y_0 y_1$	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	0	0	0	1
10	0	0	0	0

z_1

$x_0 x_1 \backslash y_0 y_1$	00	01	11	10
00	0	0	0	0
01	0	0	1	1
11	0	0	1	0
10	0	0	1	0

$$z_0 = x_0 x_1 y_0 y_1$$

$$z_1 = x_0' x_1 y_0 + x_0 y_0 y_1$$

$$z_2 = x_0' x_1 y_1' y_0 + x_0 y_0 y_1 + x_0 x_1' y_1$$

z_2

$x_0 x_1 \backslash y_0 y_1$	00	01	11	10
00	0	0	0	0
01	0	1	0	0
11	0	0	1	0
10	0	1	1	0

z_3

$x_0 x_1 \backslash y_0 y_1$	00	01	11	10
00	0	0	0	0
01	0	1	1	0
11	0	1	1	0
10	0	0	0	0

$$z_3 = x_1 y_1$$