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DS-M

DLD Assignment

Q1.

D_3	D_2	D_1	D_0	X	Y	V'
0	0	0	0	X	Y	1
1	0	0	0	1	0	0
X	1	0	0	1	1	0
X	X	1	0	0	1	0
X	X	X	1	0	0	0

$\Rightarrow D_2$ has most priority because both outputs are on (1) on D_2 input.

$$V' = (\bar{D}_3 \cdot \bar{D}_2 \cdot \bar{D}_1 \cdot \bar{D}_0)$$

K-map for X

$D_3 D_2$	$D_1 D_0$	00	01	11	10
00	X				
01	1				
11	1				
10	1				

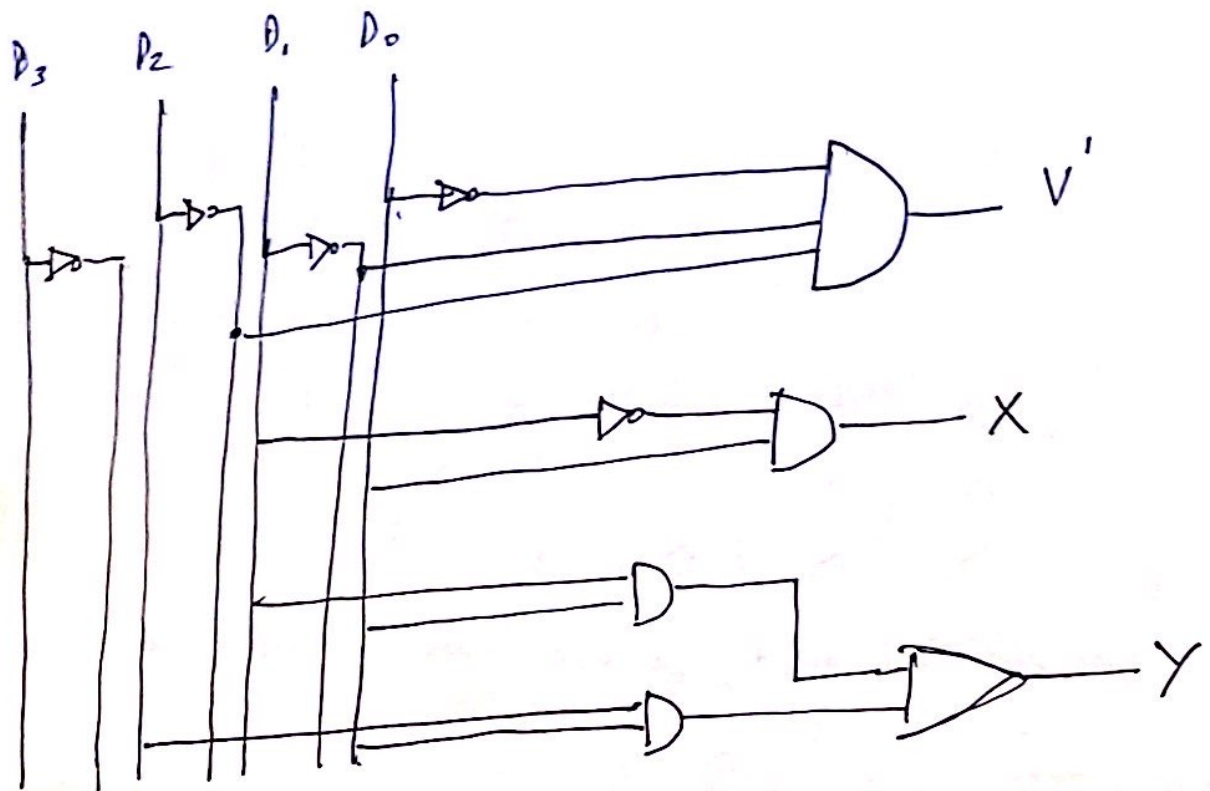
$$X = D_1 \cdot D_0$$

K-map for Y

$D_3 D_2$	$D_1 D_0$	00	01	11	10
00	X				1
01	1				1
11	1				1
10					1

$$Y = D_1 \cdot \bar{D}_0 + D_2 \cdot \bar{D}_0$$

$D_3 D_2$	$D_1 D_0$	00	01	11	10
00	1	0	0	0	0
01	0	0	0	0	0
11	0	0	0	0	0
10	0	0	0	0	0



Q2

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0	A_2	A_1	A_0	V
0	0	0	0	0	0	0	0	X	X	X	0
0	0	0	0	0	0	0	1	0	0	1	1
0	0	0	0	0	0	1	X	0	1	1	1
0	0	0	0	0	1	X	X	0	1	0	1
0	0	0	0	1	X	X	X	1	1	0	1
0	0	0	1	X	X	X	X	1	1	1	1
0	0	1	X	X	X	X	X	1	0	1	1
0	1	X	X	X	X	X	X	1	0	0	1
1	X	X	X	Y	X	X	Y	1	0	0	1

Values from P_3 & P_7 are 0

$$1) \bar{A}_2 \cdot \bar{A}_1 \cdot A_0$$

$$2) \bar{A}_2 A_1 A_0$$

$$3) \bar{A}_2 A_1 \bar{A}_0$$

$$4) A_2 A_1 A_0$$