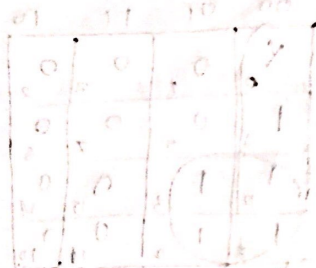


Roll: 1805098

Problem 3: $D_1 > D_3 > D_0 > D_2$

D_3	D_2	D_1	D_0	A_1	A_0
0	0	0	0	X	X
0	0	0	1	0	0
0	0	1	0	0	1
0	0	1	1	0	1
0	1	0	0	1	0
0	1	0	1	0	0
0	1	1	0	0	1
0	1	1	1	0	1
1	0	0	0	1	1
1	0	0	1	1	1
1	0	1	0	0	1
1	0	1	1	0	1
1	1	0	0	1	1
1	1	0	1	1	1
1	1	1	0	0	1
1	1	1	1	0	1

$D_0 \rightarrow 00$
 $D_1 \rightarrow 01$
 $D_2 \rightarrow 10$
 $D_3 \rightarrow 11$



$$D_0 + D_1 + D_2 + D_3$$

$$(D_0 + D_1) + (D_2 + D_3)$$

For A_1

D_3D_2	D_1D_0			
	00	01	11	10
00	X ₀	0 ₁	0 ₃	0 ₂
01	1 ₄	0 ₅	0 ₇	0 ₆
11	1 ₁₂	1 ₁₃	0 ₁₅	0 ₁₄
10	1 ₈	1 ₉	0 ₁₁	0 ₁₀

$$\therefore A_1 = \overline{D_1}\overline{D_0} + \overline{D_1}D_3$$

$$= \overline{D_1}(\overline{D_0} + D_3)$$

For A_0

D_3D_2	D_1D_0			
	00	01	11	10
00	X ₀	0 ₁	1 ₃	1 ₂
01	0 ₄	0 ₅	1 ₇	1 ₆
11	1 ₁₂	1 ₁₃	1 ₁₅	1 ₁₄
10	1 ₈	1 ₉	1 ₁₁	1 ₁₀

$$\therefore A_0 = D_3 + D_1$$

0	0	1	0	0	0
1	0	1	0	0	0
1	1	0	0	0	1
1	1	0	0	0	1
1	0	0	1	0	1
1	0	1	1	0	1
1	1	0	0	1	1
1	1	1	0	1	1
1	0	0	1	1	1
1	0	1	1	1	1