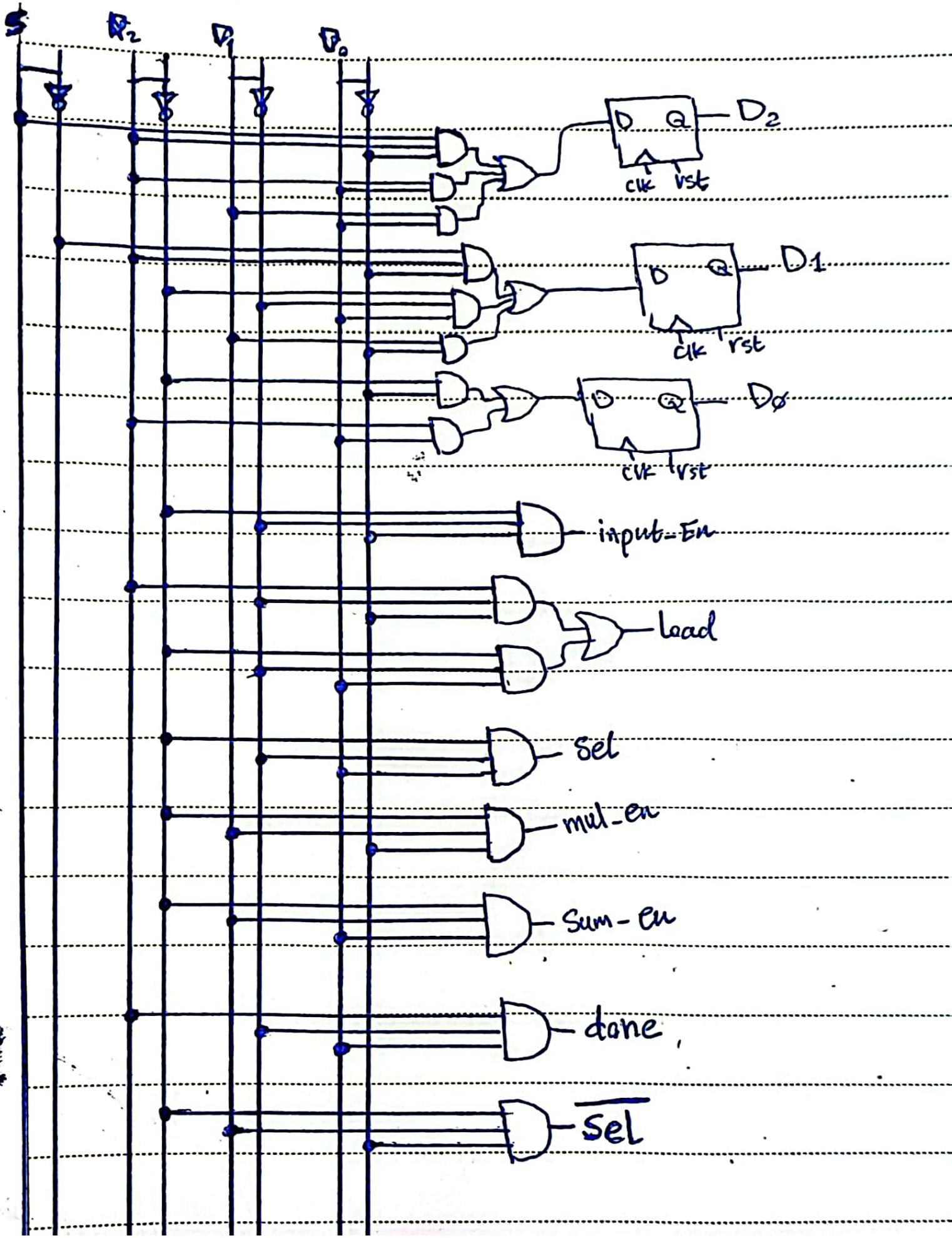
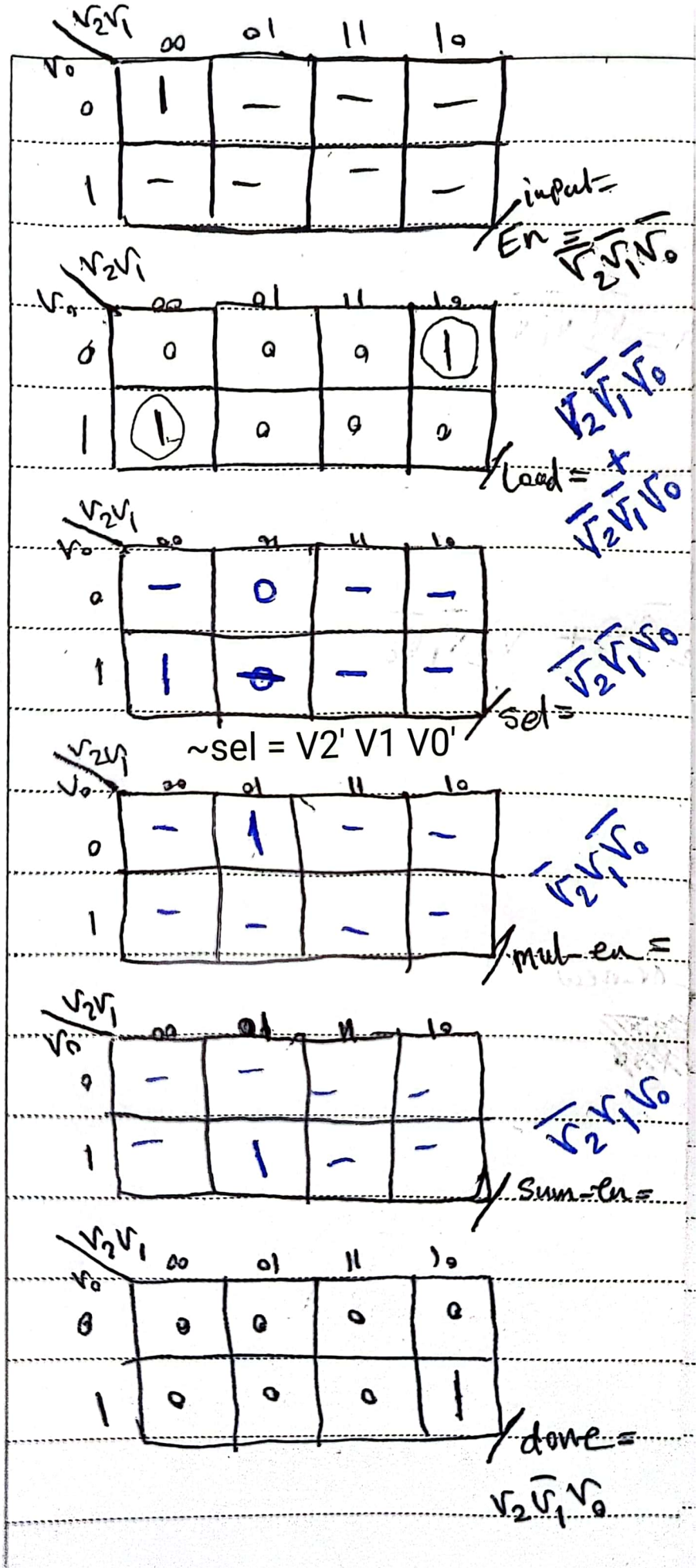
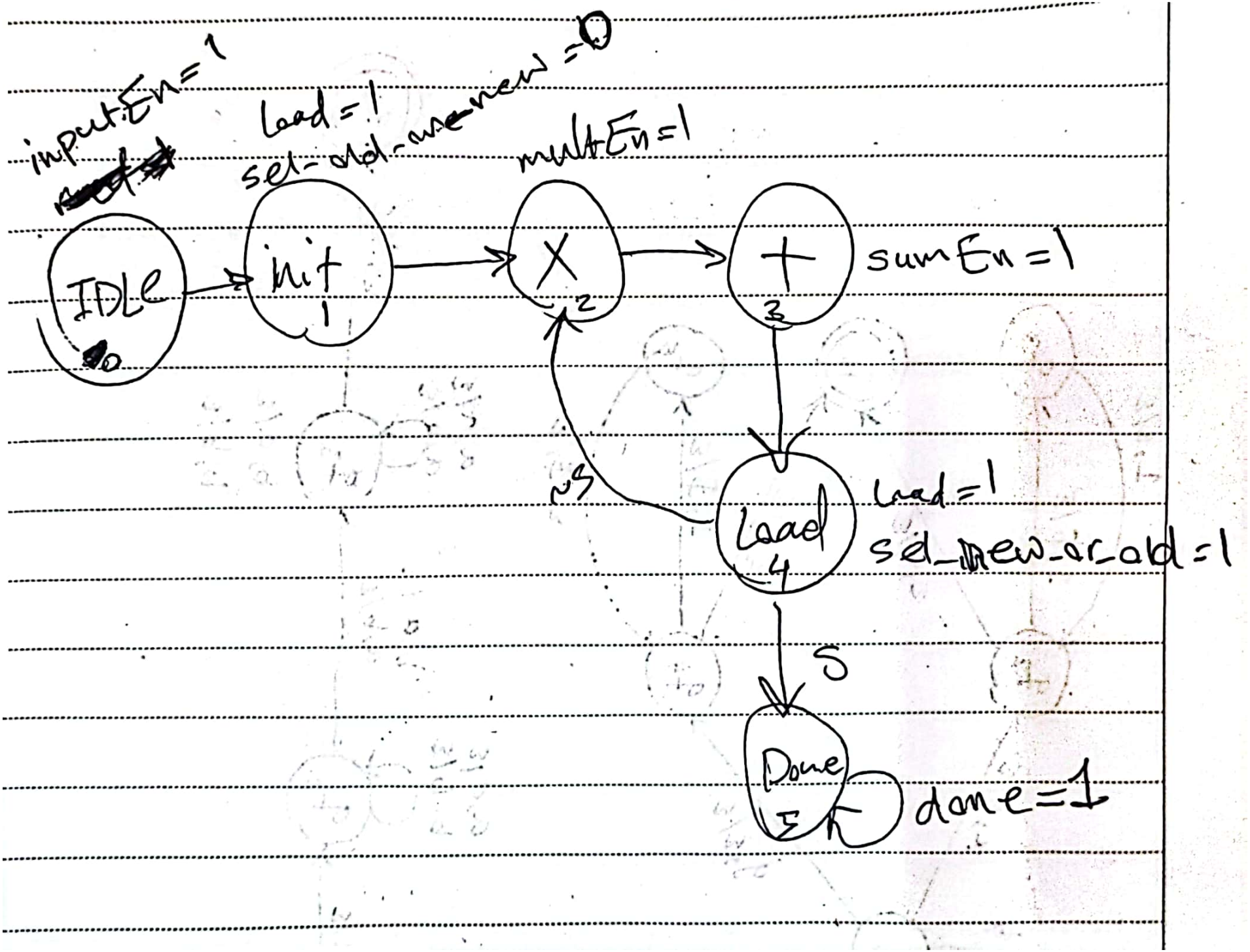

S
D_2
D_1
D_0
D
Q
D_2
clk
rst
D
Q
D_1
clk
rst
D
Q
D_0
clk
rst
input_En
load
sel
mul_en
Sum_en
done
$\overline{sel}$

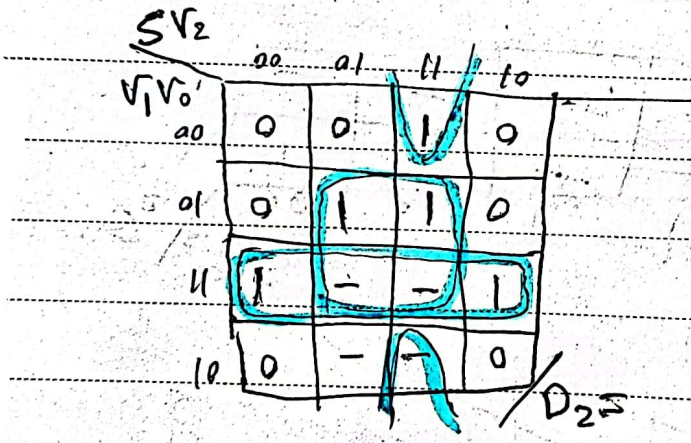

V2V1
V0
00
01
11
10
0
1
input= En = V2' V1' V0'
Load = V2 V1' V0' + V2' V1 V0
sel = V2' V1 V0'
~sel = V2' V1 V0'
mul-en = V2' V1' V0
Sum-en = V2' V1 V0
done = V2 V1' V0


inputEn=1
load=1
sel_old_or_new=0
multEn=1
IDLE
0
Init
1
X
2
+
3
sumEn=1
S3
Load
4
load=1
sel_new_or_old=1
S
Done
5
done=1

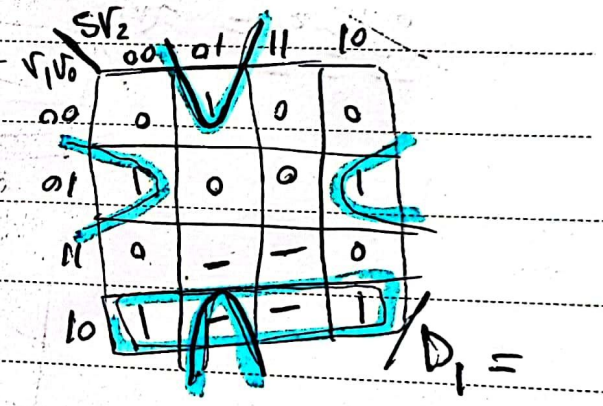
	$Y_2Y_1Y_0$
IDLE	000
INIT	001
X	010
+	011
LOAD	100
Done	101

S			in En	load	Sel	m en	Sum En	done
0	1							
001 ①	001 ⑦		1	0	–	→	–	0
010 ②	010 ⑧		–	1	0	→	–	0
011 ④	011 ⑩		–	0	–	1	–	0
100 ③	100 ⑨		–	0	–	–	1	0
010 ⑤	101 ⑪		–	1	1	–	–	0
101 ⑥	101 ⑫		–	0	–	–	–	1

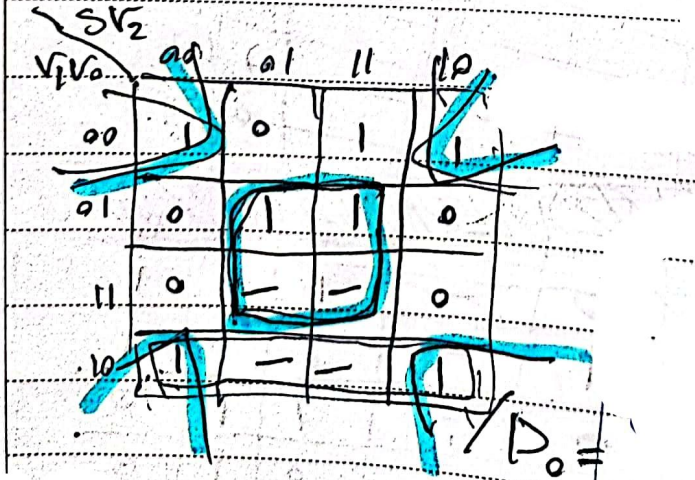
$D_2D_1D_0$



$SY_2\bar{Y}_0 + Y_2\bar{Y}_0 + Y_1Y_0$

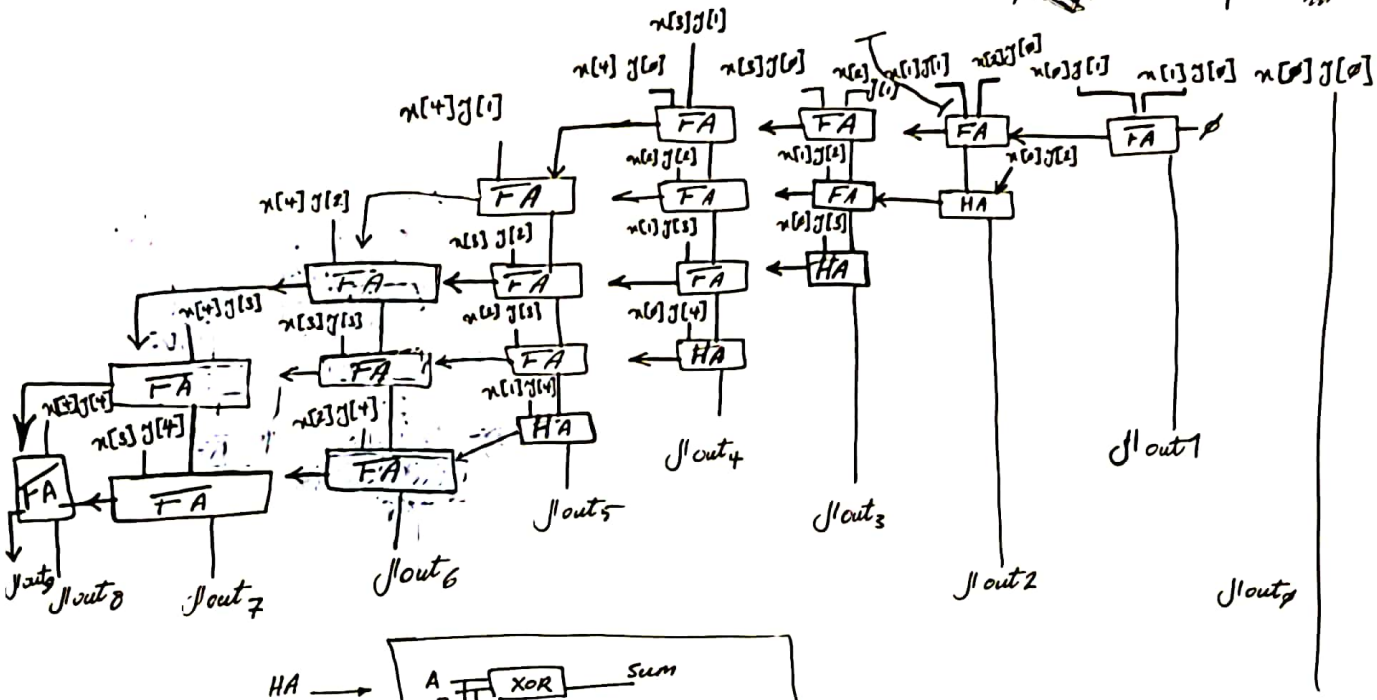


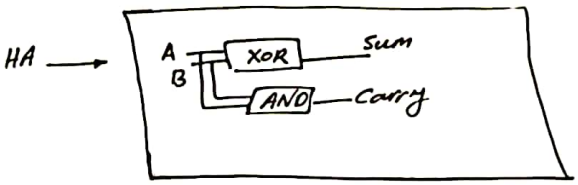
$S\bar{Y}_2\bar{Y}_0 + \bar{Y}_2\bar{Y}_1Y_0 + Y_1\bar{Y}_0$

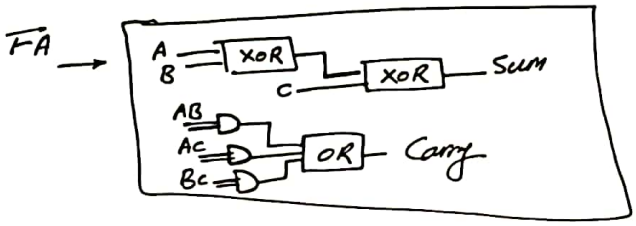


$\bar{Y}_2\bar{Y}_0 + Y_2Y_0$

Multiplier







Adder