

Name

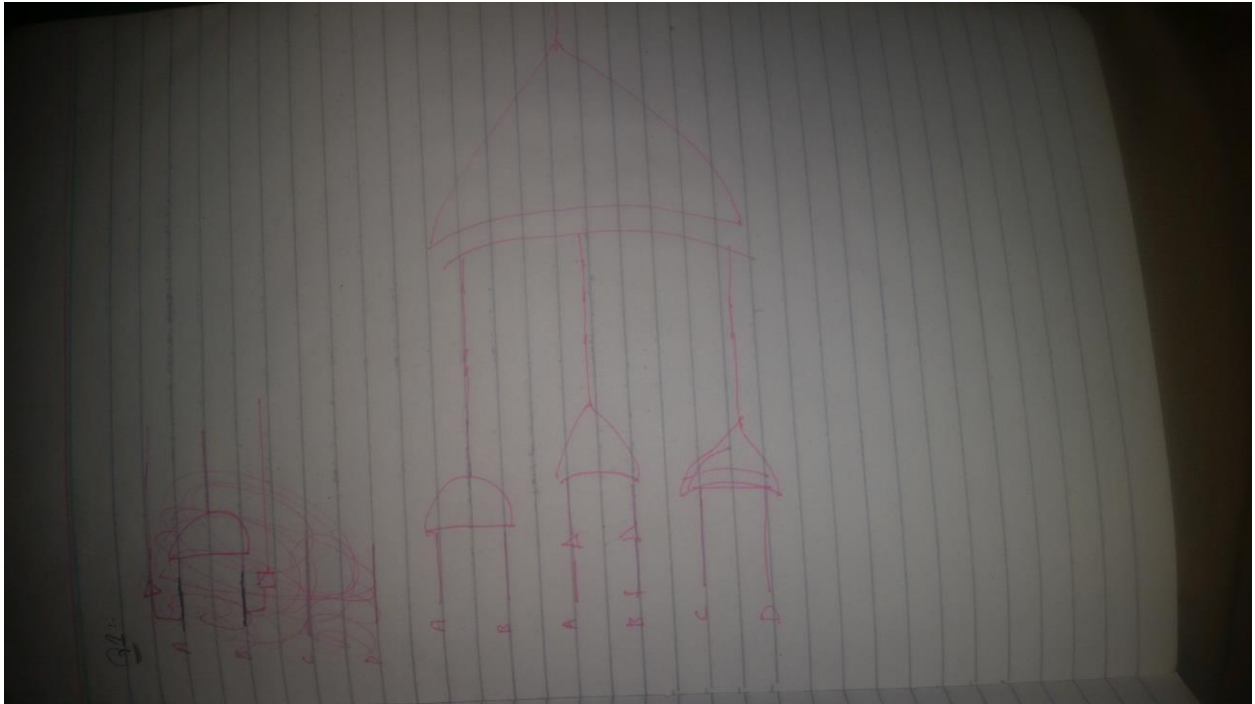
Miandad Khan

ID

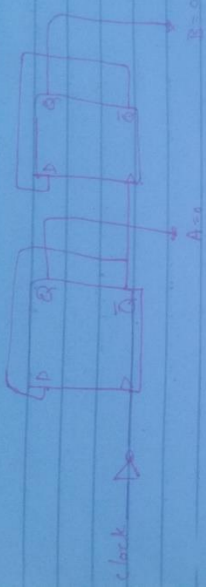
14130

Subject

DLD

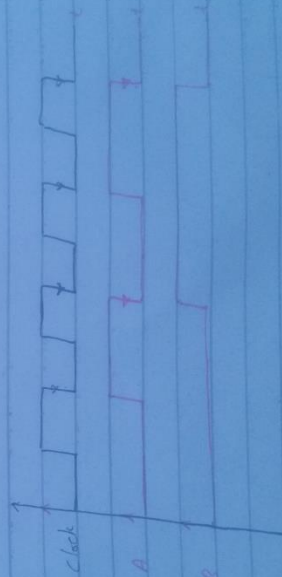


Q9

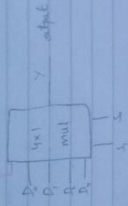


Truth Table for 2-bit Full Adder:

Carry	A ₁	B ₁	A ₀	B ₀	S ₁	S ₀	Z
0	0	0	0	0	0	0	0
0	0	0	0	1	0	1	1
0	0	0	1	0	1	0	0
0	0	0	1	1	1	1	1
0	0	1	0	0	1	0	0
0	0	1	0	1	0	1	1
0	0	1	1	0	0	1	1
0	0	1	1	1	0	0	0
1	1	0	0	0	0	0	1
1	1	0	0	1	0	1	0
1	1	0	1	0	1	0	0
1	1	0	1	1	1	1	0
1	1	1	0	0	1	1	0
1	1	1	0	1	0	0	1
1	1	1	1	0	0	1	1
1	1	1	1	1	0	0	0



Q10: For 4-input multiplexer, data

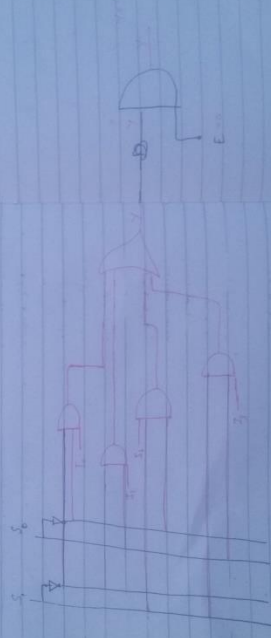


$Y = \sum_{i=0}^3 D_i \cdot S_1 \cdot S_0$

is also circuit

Truth Table for 4-input Multiplexer:

S ₁	S ₀	Y
0	0	D ₀
0	1	D ₁
1	0	D ₂
1	1	D ₃



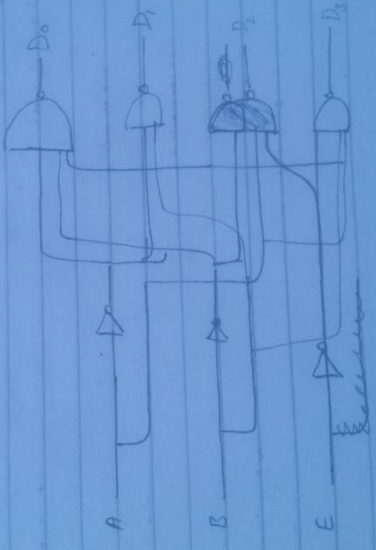
Q5: 4 bit Gray convert to Binary

1011
~~1010~~
 1101

Gray (G ₃ G ₂ G ₁ G ₀)	Binary (D ₃ D ₂ D ₁ D ₀)
0000	0000
0001	0001
0010	0010
0011	0011
0100	0100
0101	0101
0110	0110
0111	0111
1000	1000
1001	1001
1010	1010
1011	1011
1100	1100
1101	1101
1110	1110
1111	1111

Q6: Two to Four line decoder

E	A	B	D ₃	D ₂	D ₁	D ₀
0	0	0	1	1	1	1
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	1	0	0	1
1	0	0	1	1	0	0
1	0	1	1	1	1	0
1	1	0	1	0	1	0
1	1	1	1	0	0	0



Q5

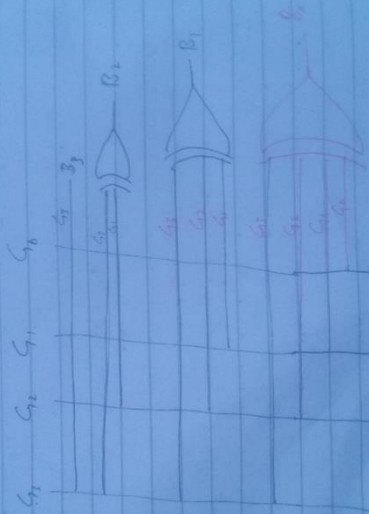
Crut diagram to convert

$$B_3 = G_2$$

$$B_2 = G_3 \oplus G_1$$

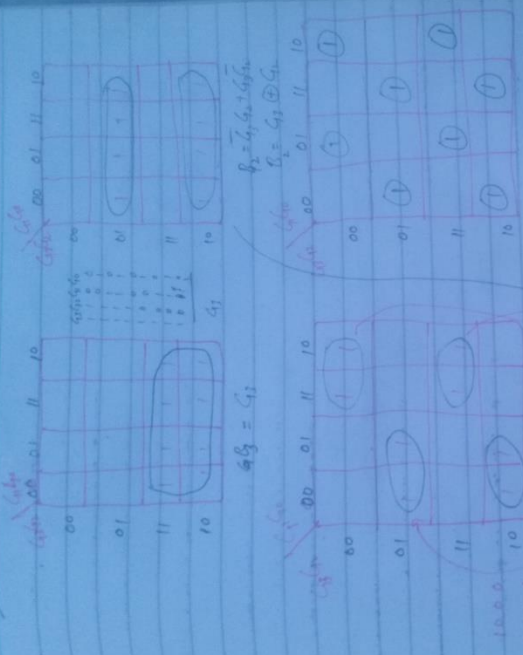
$$B_1 = G_2 \oplus G_1$$

$$B_0 = G_3 \oplus G_2 \oplus G_1 \oplus G_0$$



Let have to Binary converter

Q5



$$B_1 = G_2 \oplus G_1$$

$$G_2 = G_3 \oplus G_1$$

$$G_1 = G_2 \oplus G_1$$

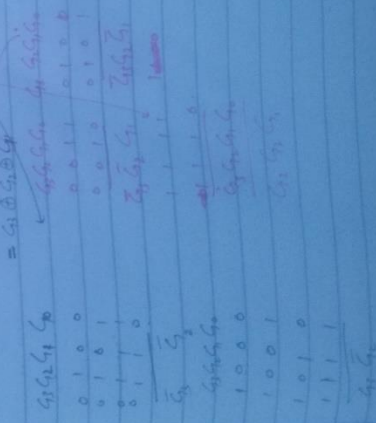
$$G_0 = G_3 \oplus G_2 \oplus G_1 \oplus G_0$$

$$B_3 = G_2$$

$$B_2 = G_3 \oplus G_1$$

$$B_1 = G_2 \oplus G_1$$

$$B_0 = G_3 \oplus G_2 \oplus G_1 \oplus G_0$$



Q4

For $A < B$:



For $A = B$:



For $A > B$:

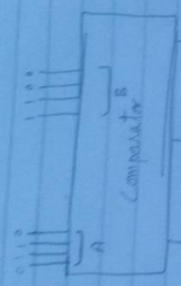


$A < B: \bar{A}_1 \bar{A}_0 B_1 B_0 + \bar{A}_1 A_0 B_1 B_0 + A_1 \bar{A}_0 B_1 B_0 + A_1 A_0 B_1 B_0$

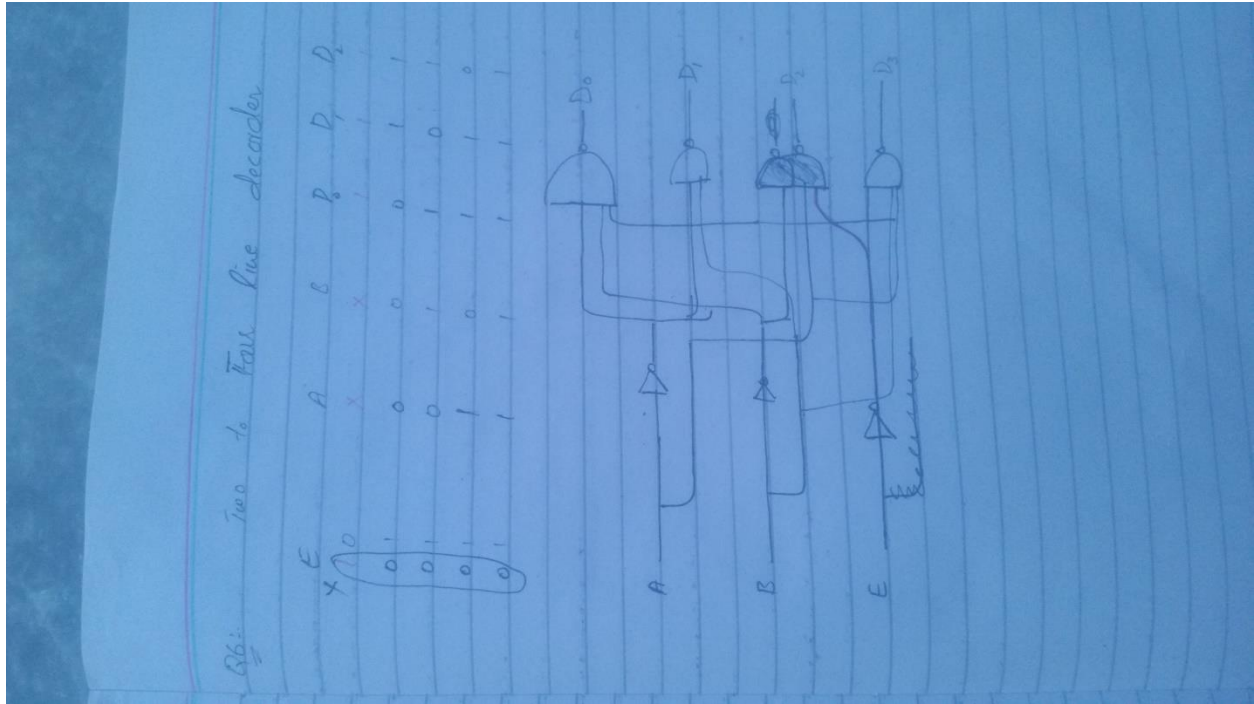
$A = B: A_1 \bar{B}_1 \bar{B}_0 + \bar{A}_1 B_1 B_0 + A_1 B_1 \bar{B}_0 + \bar{A}_1 \bar{B}_1 B_0$

This was required

Q4



Inputs		Output		
$A_1 A_0$	$B_1 B_0$	$A < B$	$A = B$	$A > B$
00	00	0	1	0
00	01	0	0	1
00	10	0	0	1
00	11	0	1	0
01	00	1	0	0
01	01	0	1	0
01	10	1	0	0
01	11	0	1	0
10	00	1	0	0
10	01	0	0	1
10	10	0	1	0
10	11	0	0	1
11	00	1	0	0
11	01	0	1	0
11	10	0	0	1
11	11	0	1	0



Sir

The paper you made is like we everyday attend the classes. So much difficult

Please check normally and we did not know anything

thanks