Name : Muhammad Ali Khan

Reg No : 16550

DLD Lab No: 10 (Gray to binary code)

Muhammad Ali Khan 16650

Lab 10:

-: GRAY TO BINARY CODE:-

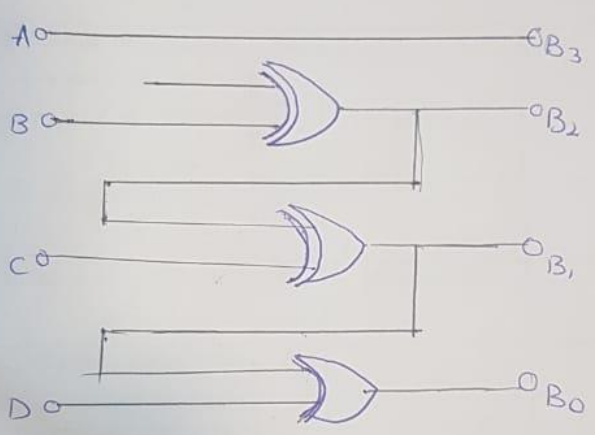

diagram of binary to gray code converter

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Table.

Inputs				Outputs.			
A	B	C	D	B_3	B_2	B_1	B_0
0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1
0	0	1	1	0	0	1	0
0	0	1	0	0	0	1	1
0	1	1	0	0	1	0	0
0	1	1	1	0	1	0	1
1	1	0	0	0	1	1	0
1	1	0	0	1	0	0	0
1	1	0	1	1	0	0	1
1	1	1	1	1	0	1	0
1	1	1	0	1	0	1	1
1	0	1	0	1	1	0	0
1	0	1	1	1	1	0	1
1	0	0	1	1	1	1	0
1	0	0	0	1	1	1	1

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⇒ Kmap Simplification for B_3

AB \ CD	00	01	11	10
00	0	0	0	0
01	0	0	0	0
11	1	1	1	1
10	1	1	1	1

Simplified expression $B_3 = A$

⇒ Kmap Simplified for B_2

CD \ AB	00	01	11	10
00	0	0	0	0
01	1	1	1	1
11	0	0	0	0
10	1	1	1	1

$B_2 = A \oplus B$

⇒ Kmap Simplified for B_1

CD \ AB	00	01	11	10
00	0	0	1	1
01	1	1	0	0
11	0	0	1	1
10	1	1	0	0

$B_1 = \bar{C}(A \oplus B) + C(\overline{A \oplus B})$

$B_1 = A \oplus B \oplus C$