Analog and Digital Electronics Lab (EC13203)
CS-A1
Lab-5
(Design of Binary to Gray Code and Gray to binary code convertor)
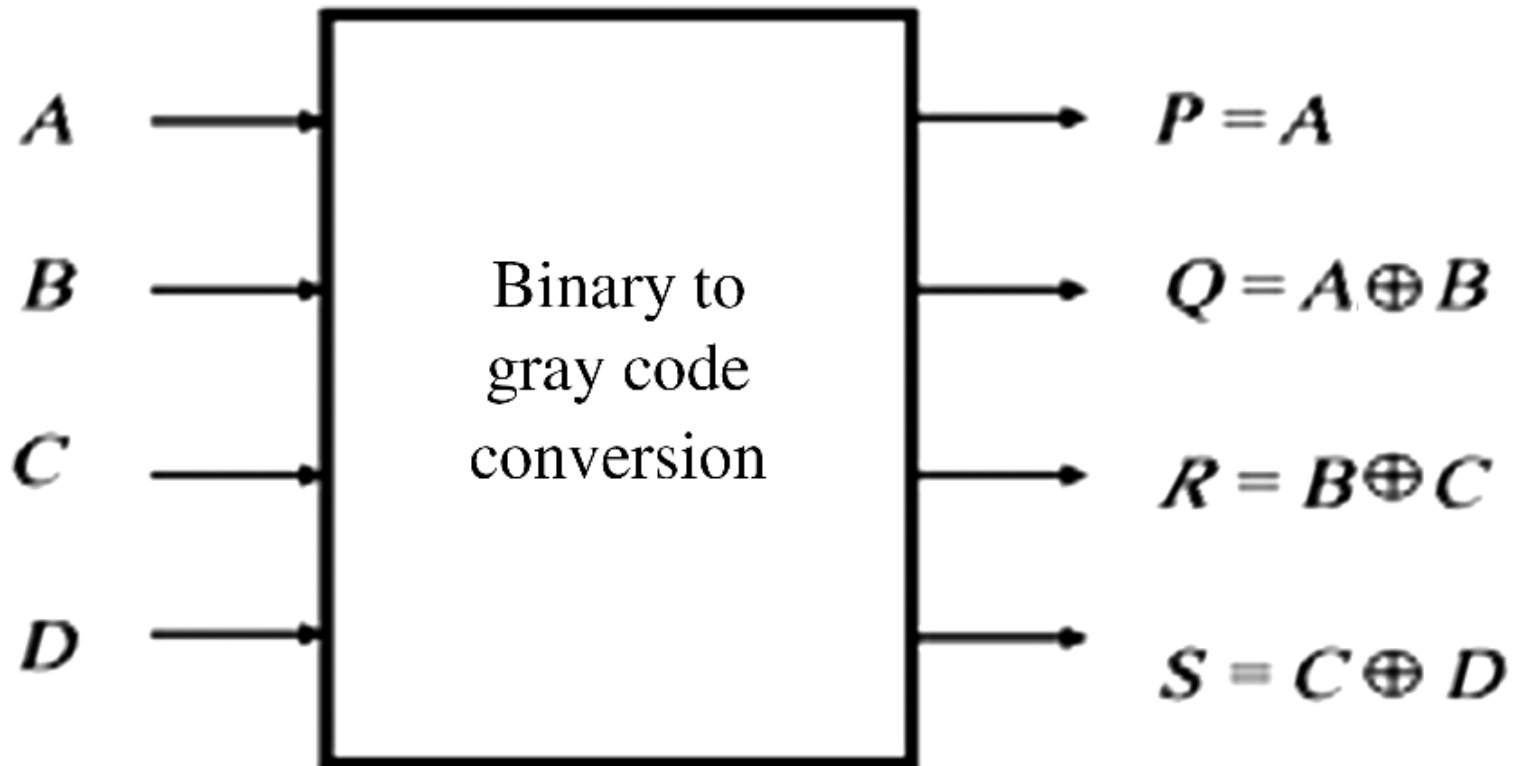
Dr. Anand Sharma

Assistant Professor

ECED, MNNIT Allahabad

Binary to Gray Code Convertor
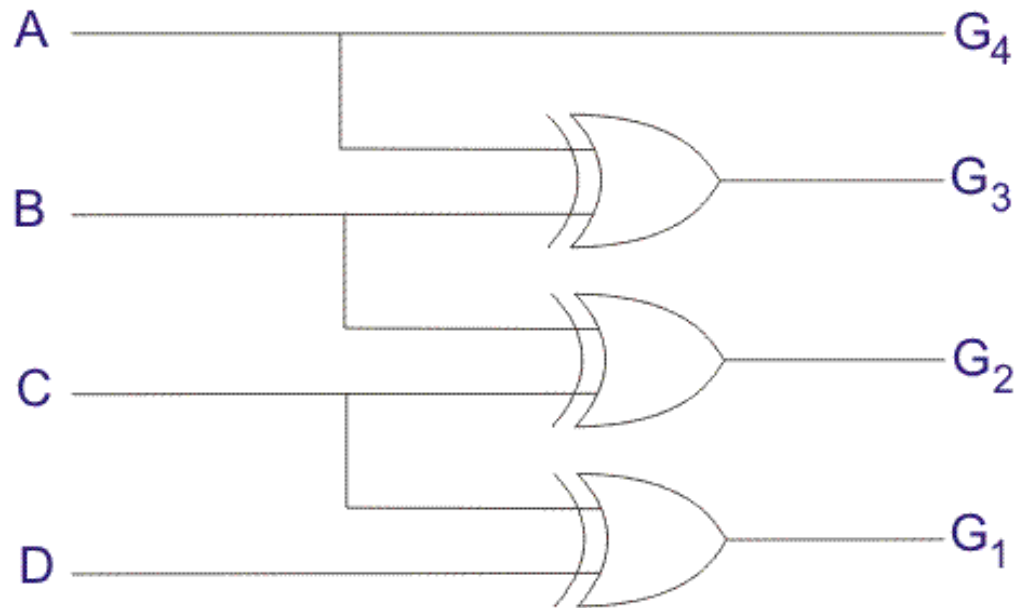
Process of Conversion

Cont.…

Truth Table:

BINARY INPUT				GRAY CODE OUTPUT			
B3	B2	B1	B0	G3	G2	G1	G0
0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1
0	0	1	0	0	0	1	1
0	0	1	1	0	0	1	0
0	1	0	0	0	1	1	0
0	1	0	1	0	1	1	1
0	1	1	0	0	1	0	1
0	1	1	1	0	1	0	0
1	0	0	0	1	1	0	0
1	0	0	1	1	1	0	1
1	0	1	0	1	1	1	1
1	0	1	1	1	1	1	0
1	1	0	0	1	0	1	0
1	1	0	1	1	0	1	1
1	1	1	0	1	0	0	1
1	1	1	1	1	0	0	0

Logic Diagram

Logic Circuit for Binary to Gray Code Converter

Gray to Binary Code Convertor

Process of Conversion

Gray code : g_3 g_2 g_1 g_0

Binary code : b_3 b_2 b_1 b_0

(g_3) $(b_3 \oplus g_2)$ $(b_2 \oplus g_1)$ $(b_1 \oplus g_0)$

G_3 B_3

G_2 B_2

G_1 B_1

G_0 B_0