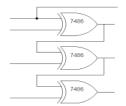
PLAZA, ELMO L.

BSCpE 3-A

VHDL CODE FOR GRAY TO BINARY:

library IEEE;

use IEEE.STD\_LOGIC\_1164.ALL;



## entity gb1 is

Port (

g:in STD\_LOGIC\_VECTOR(3 downto 0); -- Gray Code Input

b: out STD\_LOGIC\_VECTOR(3 downto 0) -- Binary Output

); end gb1;

## architecture Behavioral of gb1 is

## begin

 $b(3) \le g(3);$ 

 $b(2) \le g(3) xor g(2);$ 

 $b(1) \le g(3) xor g(2) xor g(1);$ 

 $b(0) \le g(3) xor g(2) xor g(1) xor g(0);$ 

end Behavioral;

0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     0     0     0     1     0     0     1     0     0     1     0     0     0     1     1     0     0     0     1     1     0     0     0     1     1     0     0     0     1     1     0     0     1     0     1     0     1     0     1     0     1     1     1     0     0     0     0     1     1     1     1     1     0	INPUT				OUTPUT			
0     0     0     1     0     0     0     1       0     0     1     1     0     0     1     0       0     0     1     0     0     0     1     1     1       0     1     1     0     0     1     0     0     0     0     0     1     0     1     0     1     0     1     0     1     0     0     1     1     0     0     0     0     1     1     1     1     1     1     1     0	G(3)	G(2)	G(1)	G(0)	B (3)	B (2)	B (1)	B (0)
0     0     1     1     0     0     1     0       0     0     1     0     0     0     1     1     1       0     1     1     1     0     0     1     0     0     0     1     0     1     0     1     0     1     0     1     0     1     0     0     1     1     1     0	0	0	0	0	0	0	0	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       0     1     0     1     0     1     1     0       0     1     0     0     0     1     1     1     1       1     1     0     0     1     0     0     0     0     1     1     0	0	0	0	1	0	0	0	1
0     1     1     0     0     1     0     0       0     1     1     1     0     1     0     1       0     1     0     1     0     1     1     0       0     1     0     0     0     1     1     1     1       1     1     0     0     1     0     0     0     0     1     1     0     0     0     1     1     0     0     0     1     1     0     0     0     0     1     1     0     0     0     0     1     1     0	0	0	1	1	0	0	1	0
0 1 1 1 0 1 0 1   0 1 0 1 0 1 1 0   0 1 0 0 0 1 1 1 1   1 1 0 0 1 0 0 0 0   1 1 0 1 1 0 0 0 1   1 1 1 1 1 0 0 1 0   1 1 1 1 0 1 0 1 0   1 1 1 0 1 0 1 1	0	0	1	0	0	0	1	1
0 1 0 1 0 1 1 0   0 1 0 0 0 1 1 1 1   1 1 0 0 1 0 0 0 0   1 1 0 1 1 0 0 1 0 0 1   1 1 1 1 1 0 1 0 1 0   1 1 1 0 1 0 1 0 1 1	0	1	1	0	0	1	0	0
0     1     0     0     0     1     1     1       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	0	1	1	1	0	1	0	1
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 1 0 1 0 1 1 1	0	1	0	1	0	1	1	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	0	1	0	0	0	1	1	1
1     1     1     1     1     0     1     0       1     1     1     0     1     0     1     1	1	1	0	0	1	0	0	0
1 1 1 0 1 0 1 1	1	1	0	1	1	0	0	1
	1	1	1	1	1	0	1	0
1 0 1 0 1 1 0 0	1	1	1	0	1	0	1	1
	1	0	1	0	1	1	0	0
1 0 1 1 1 0 1	1	0	1	1	1	1	0	1
1 0 0 1 1 1 0	1	0	0	1	1	1	1	0
1 0 0 0 1 1 1 1	1	0	0	0	1	1	1	1

