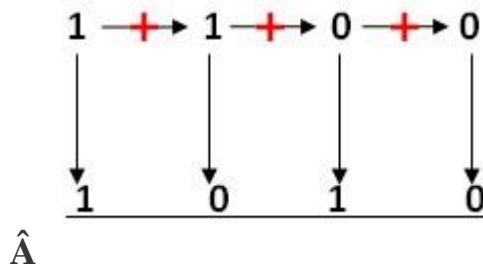# BINARY TO GRAY CODE CONVERSION

<u>Binary to gray code</u>

1. First, write the binary code and copy down MSB. The MSB of gray and binary code are same.

2. Then, add MSB and next lower significant bit and write down the addition of them.

3. Continue the same process for all bits.

<u>E.g.</u> Find gray code for $(1100)_2$

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List of gray codes of first 16 binary numbers.

BINARY	GRAY
0000	0000
0001	0001

0010	0011
0011	0010
0100	0110
0101	0111
0110	0101
0111	0100
1000	1100
1001	1101
1010	1111
1011	1110
1100	1010
1101	1011
1110	1001
1111	1000

Alternate method

There is an alternate method for finding gray code.

1. Write down the binary code.

2. Once again write the binary code starting from second MSB.

3. Add both of them and ignore any carry in the process. Also ignore the LSB of

    the sum.

1 1 0 1

+ 1 1 0 1

1 0 1 1

Use the method you feel is simpler. Both of them will give correct gray code.