

SENG1040

Assignment #2

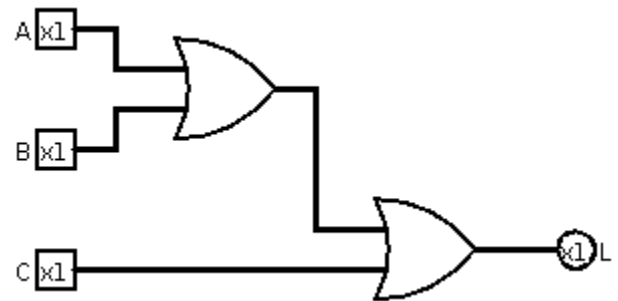
Date of submission: Jan 22, 2019

Question 1

a. $L = A + B + C$

A	B	C	L
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

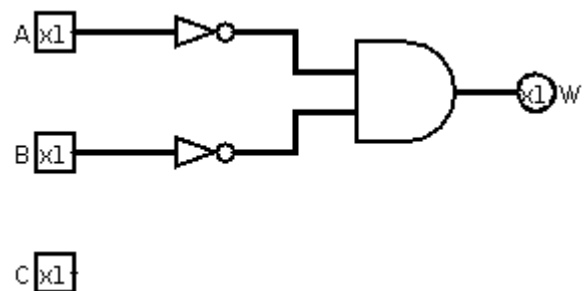
b.



c. $W = \bar{A} \cdot \bar{B}$

A	B	C	W
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

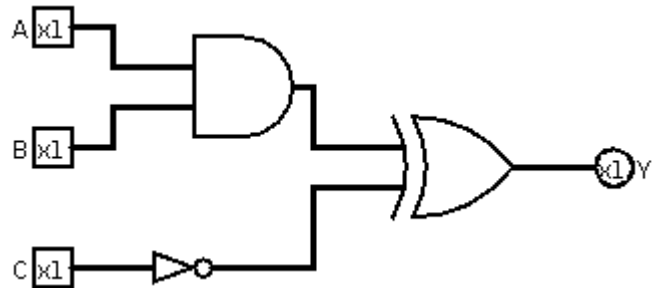
d.



Question 2

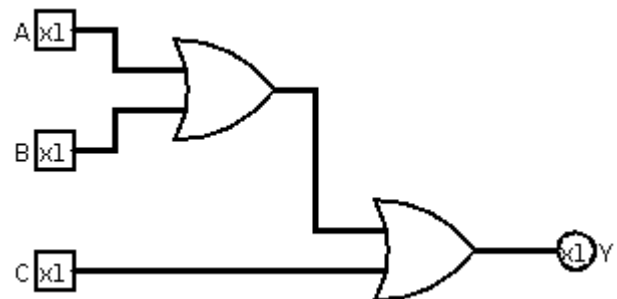
a. $Y = (A \cdot B) \oplus \bar{C}$

A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1



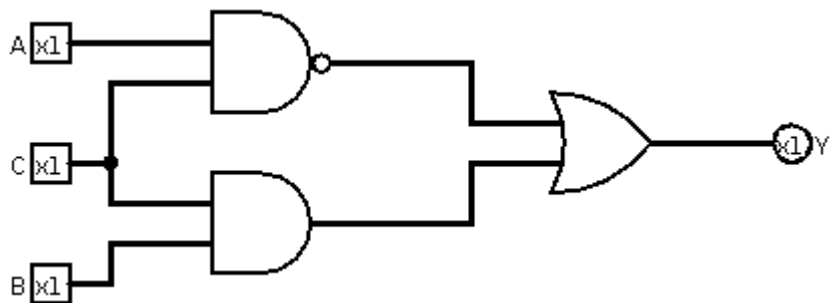
b. $Y = A + B + C$

A	B	C	Y
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1



c. $\overline{(A \cdot C)} + (B \cdot C)$

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1



Question 3

a.

F	L	R	B	M_F	M_L	M_R	M_B	V
0	0	0	0	0	0	0	0	1
0	0	0	1	0	0	0	1	0
0	0	1	0	0	0	1	0	0
0	0	1	1	0	0	1	0	0
0	1	0	0	0	1	0	0	0
0	1	0	1	0	1	0	0	0
0	1	1	0	0	1	0	0	0
0	1	1	1	0	1	0	0	0
1	0	0	0	1	0	0	0	0
1	0	0	1	1	0	0	0	0
1	0	1	0	1	0	0	0	0
1	0	1	1	1	0	0	0	0
1	1	0	0	1	0	0	0	0
1	1	0	1	1	0	0	0	0
1	1	1	0	1	0	0	0	0
1	1	1	1	1	0	0	0	0

b.

$$M_F = F$$

$$M_L = L \cdot \bar{F}$$

$$M_R = R \cdot \bar{L} \cdot \bar{F}$$

$$M_B = B \cdot \bar{R} \cdot \bar{L} \cdot \bar{F}$$

$$V = \overline{B} \cdot \overline{R} \cdot \overline{L} \cdot \overline{F}$$

C.

