CE2120

Lab 6

Hashem Qaryouti

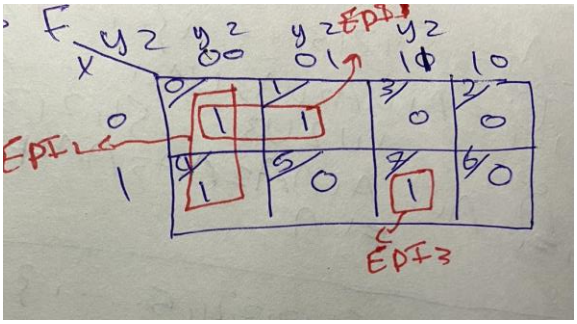
20201502049

Question 1

a.

F(x,y,z) = EPI_1+ EPI_2+ EPI_3

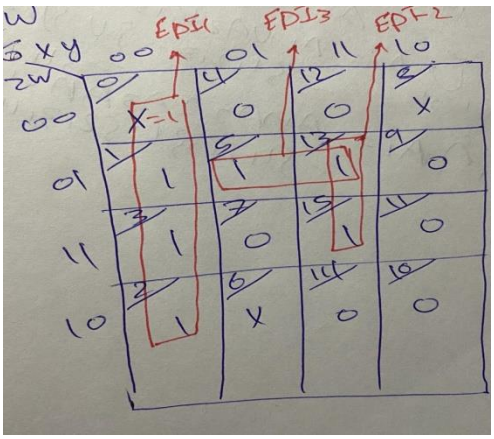
F(x,y,z) = Y'Z'+X'Y'+X.Y.Z



b.

G(x,y,z,w) = EPI +EPI + EPI

G(x,y,z,w) = x'y'+xyw+yz'w

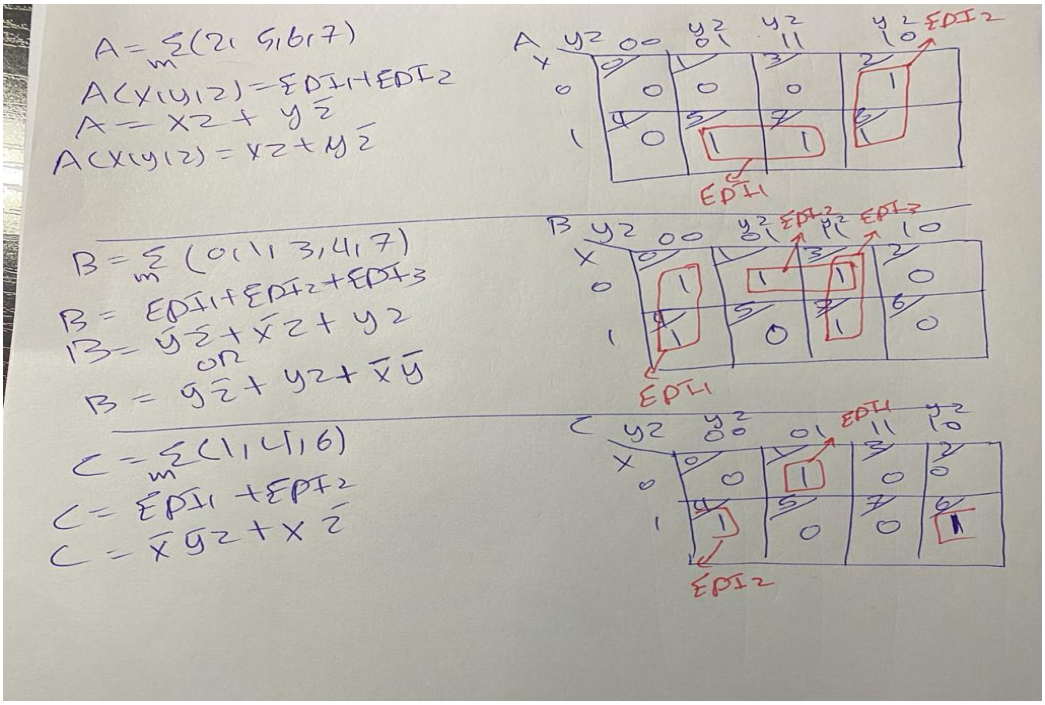


Question 2

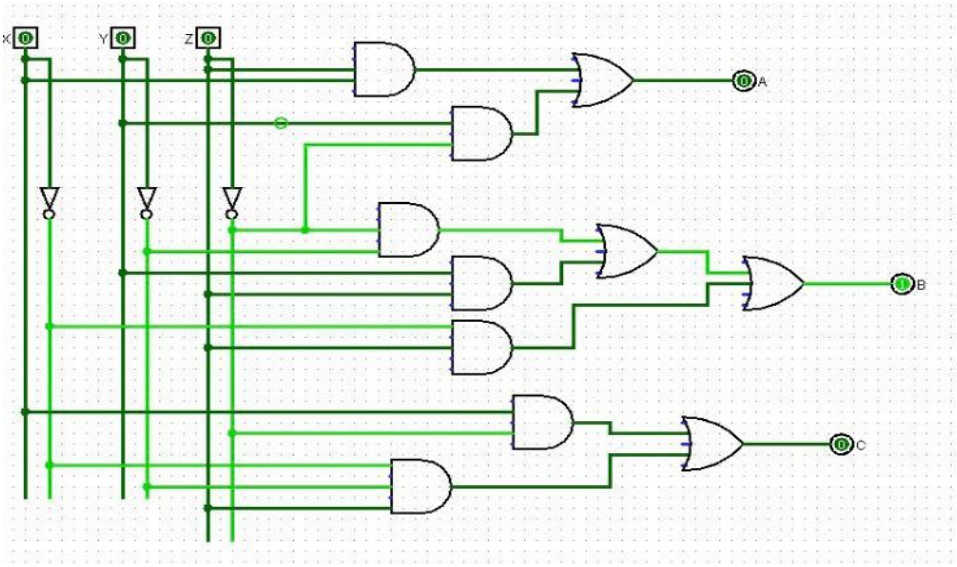
a.

X	Y	Z	A	B	C
0	0	0	0	1	0
0	0	1	0	1	1
0	1	0	1	0	0
0	1	1	0	1	0
1	0	0	0	1	1
1	0	1	1	0	0
1	1	0	1	0	1
1	1	1	1	1	0

b.



c.

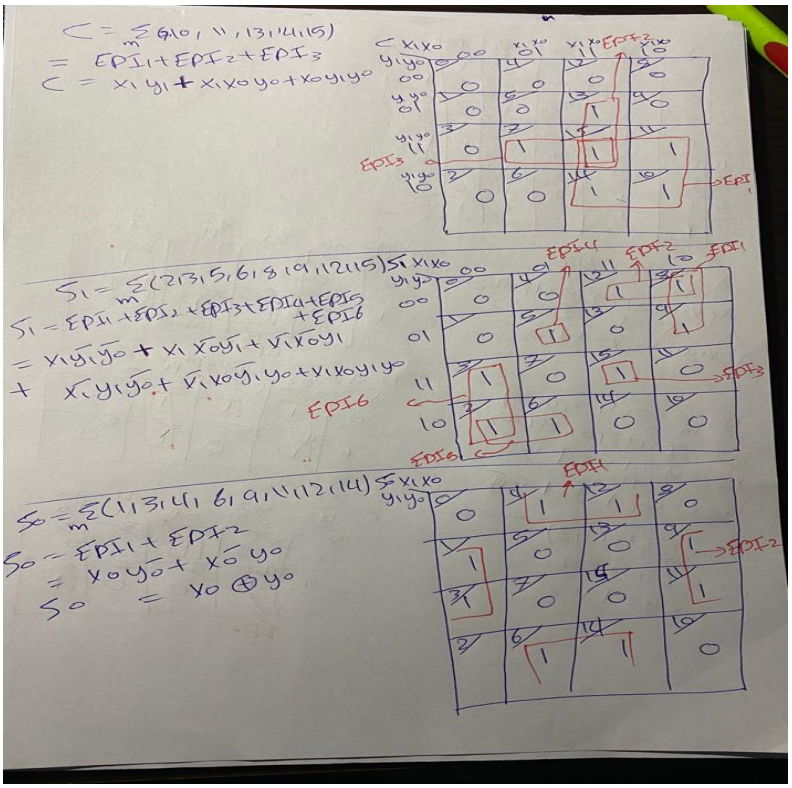


Question 3

a.

X1	X0	Y1	Y0	C	S1	S0
0	0	0	0	0	0	0
0	0	0	1	0	0	1
0	0	1	0	0	1	0
0	0	1	1	0	1	1
0	1	0	0	0	0	1
0	1	0	1	0	1	0
0	1	1	0	0	1	1
0	1	1	1	1	0	0
1	0	0	0	0	1	0
1	0	0	1	0	1	1
1	0	1	0	1	0	0
1	0	1	1	1	0	1
1	1	0	0	0	1	1
1	1	0	1	1	0	0
1	1	1	0	1	0	1
1	1	1	1	1	1	0

b.



S1 =

X1’Y1’Y0’+X1’Y1Y0’+X1X0’Y1’+X1’X0’Y1+

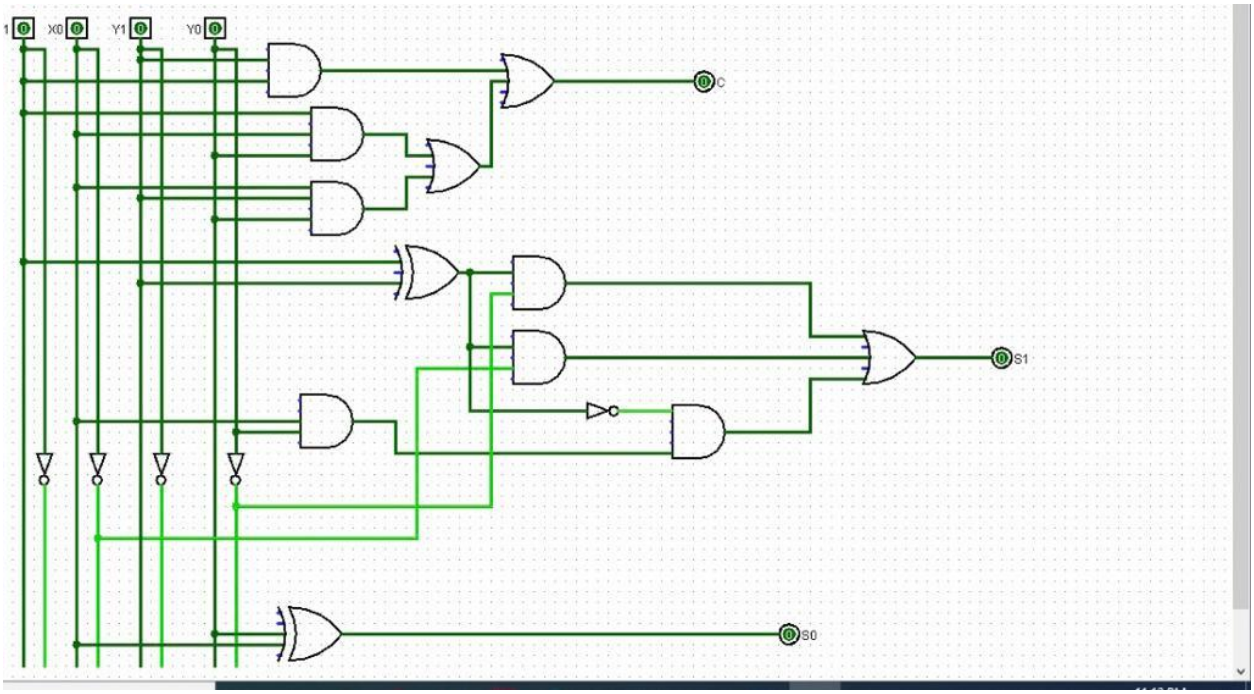
X1’X0Y1’Y0+X1X0Y1Y0=

Y0’(X1Y1’+X1’Y1)+X0’(X1Y1’+X1’Y1)+

X0Y0(X1’Y1’+X1Y1)

Y0’.(X1 ⊕ Y1)+X0’(X1 ⊕Y1)+X0Y0(X1 ⊕Y1)’

c.

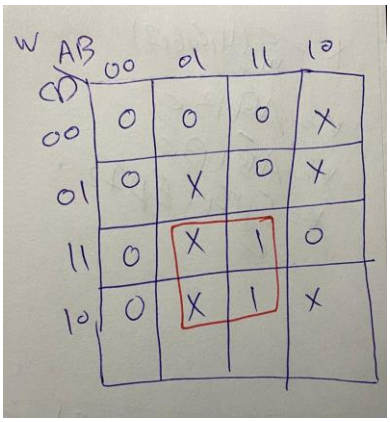


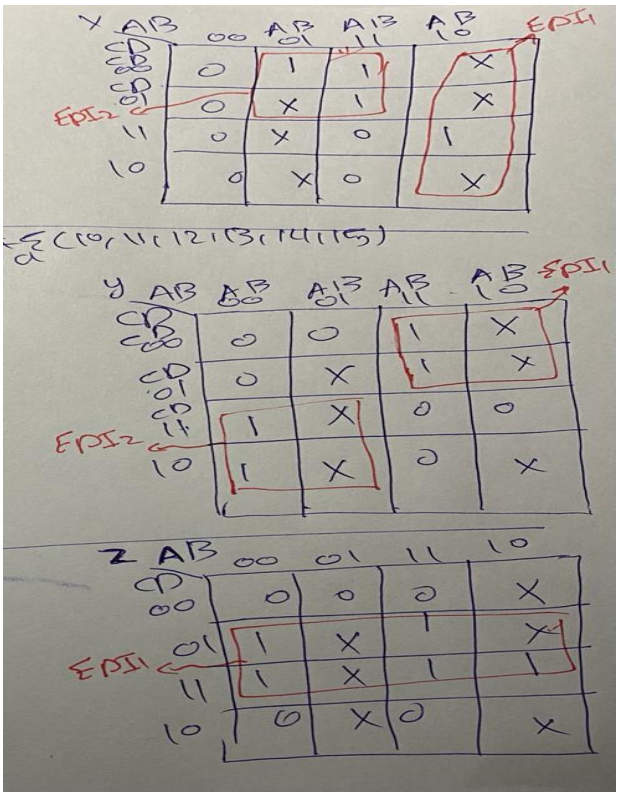
Question 4

a.

A	B	C	D	W	X	Y	Z
0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	1
0	0	1	0	0	0	1	0
0	0	1	1	0	0	1	1
0	1	0	0	0	1	0	0
1	0	1	1	0	1	0	1
1	1	0	0	0	1	1	0
1	1	0	1	0	1	1	1
1	1	1	0	1	0	0	0
1	1	1	1	1	0	0	1
0	1	0	1	X	X	X	X
0	1	1	0	X	X	X	X
0	1	1	1	X	X	X	X
1	0	0	0	X	X	X	X
1	0	0	1	X	X	X	X
1	0	1	0	X	X	X	X

B.



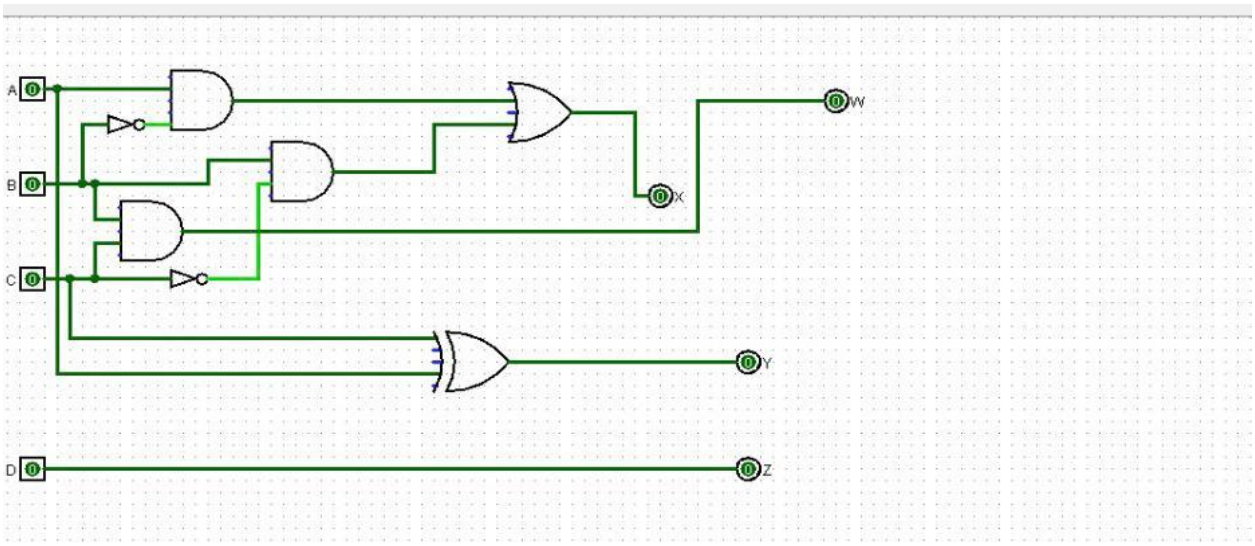


W = BC

X= AB'+BC'

Y = AC'+A'C = A XOR C

Z = D


A
B
C
D
W
X
Y
Z