

CE2120

Digital Systems

Lab 7

Hashem Qaryouti

20201502049

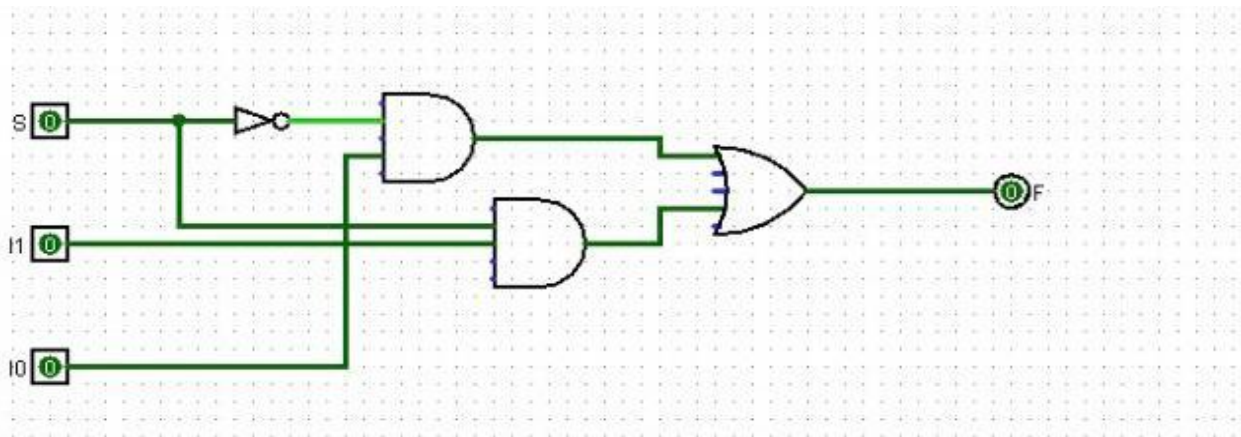
Question 1

a.

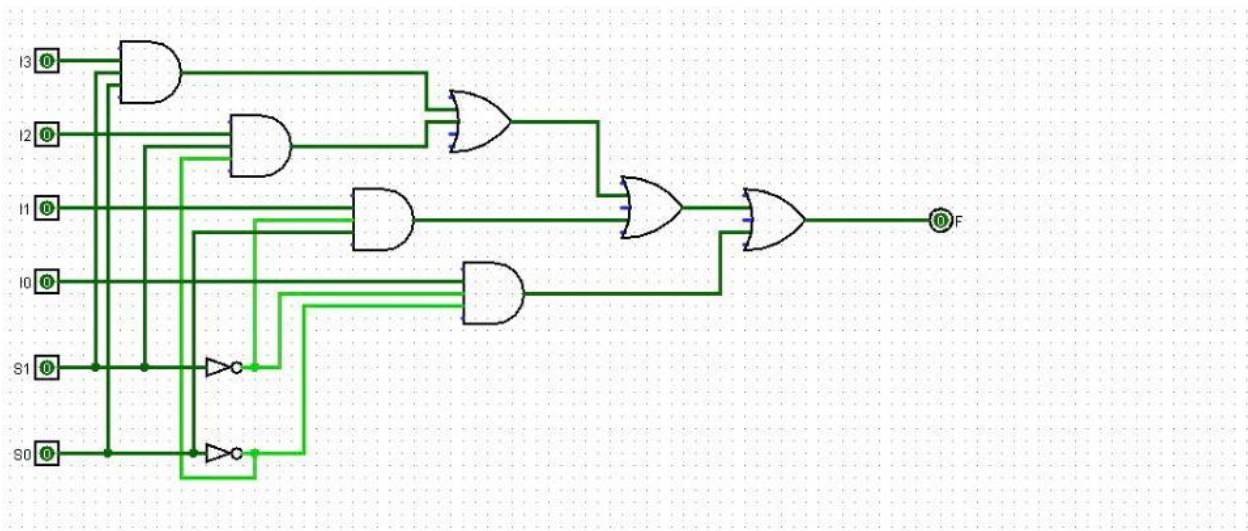
S	I1	I0	F
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

$$F(S, I1, I0) = \sum_m(1, 3, 6, 7)$$

$$F = S'I0 + SI1$$



b.



## Question 2

$$F(x,y,z) = xz' + xy + x'y'z$$

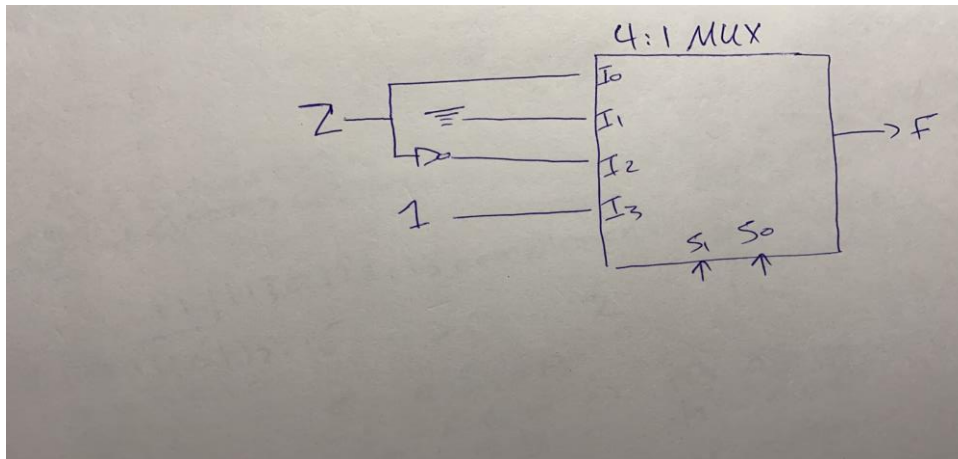
$$= xz'(y+y') + xy.(z+z') + x'y'z$$

$$= xyz' + xy'z' + xyz + xyz' + x'y'z$$

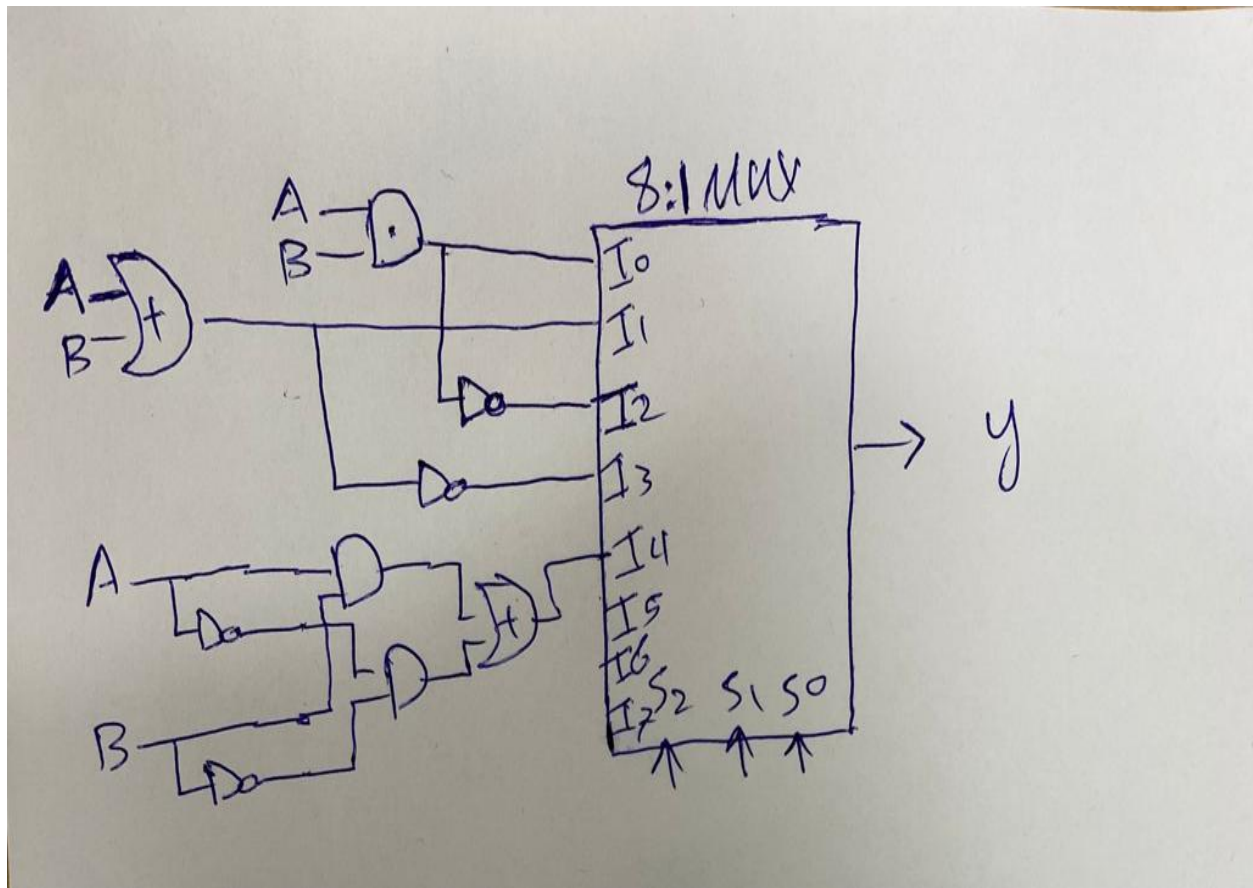
$$= m_6 + m_4 + m_7 + m_4 + m_1$$

$$F(x,y,z) = \sum_m(1,4,6,7)$$

X	Y	Z	F
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1



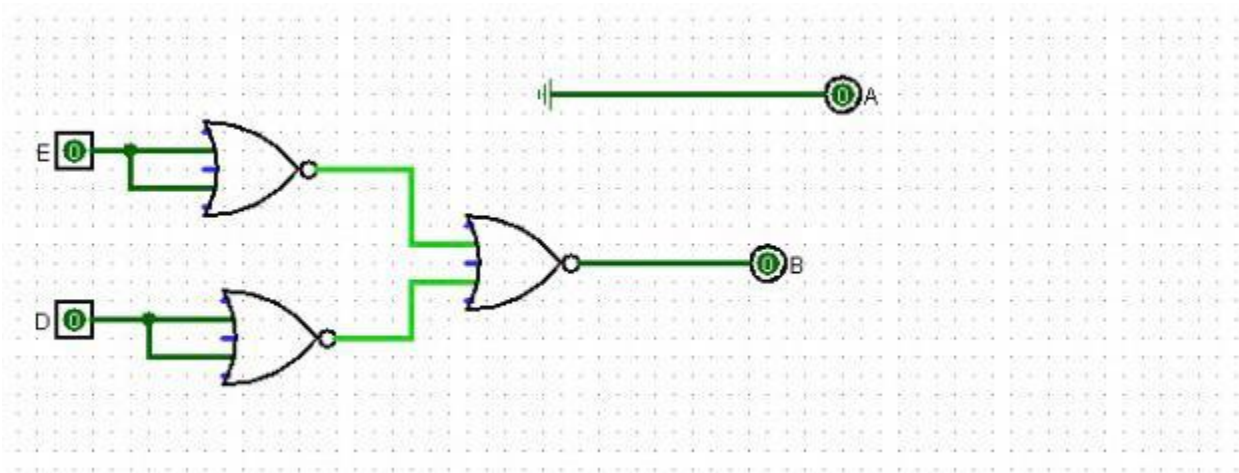
### Question 3



### Question 4

E	D	A	B
0	0	0	0
0	1	0	0
1	0	0	0
1	1	0	1

$$B(E,D) = m_3 = (E+D)'' = (E'+D')'$$



## Question 5

D <sub>2</sub>	D <sub>1</sub>	D <sub>0</sub>	Y <sub>0</sub>	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>3</sub>	Y <sub>4</sub>	Y <sub>5</sub>	Y <sub>6</sub>	Y <sub>7</sub>
0	0	0	1	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0	0	0	0
0	1	0	0	0	1	0	0	0	0	0
0	1	1	0	0	0	1	0	0	0	0
1	0	0	0	0	0	0	1	0	0	0
1	0	1	0	0	0	0	0	1	0	0
1	1	0	0	0	0	0	0	0	1	0
1	1	1	0	0	0	0	0	0	0	1

