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Lab 1

1. 3-input OR gate. (A+B+C)

A	B	C	A+B+C
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

2. 3-input NAND gate. (A.B.C)'

A	B	C	(A.B.C)'
0	0	0	1
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	0

3. (A AND B) OR NOT C

A	B	C	A.B	C'	(A.B)+C'
0	0	0	0	1	1
0	0	1	0	0	0
0	1	0	0	1	1
0	1	1	0	0	0
1	0	0	0	1	1
1	0	1	0	0	0
1	1	0	1	1	1
1	1	1	1	0	1

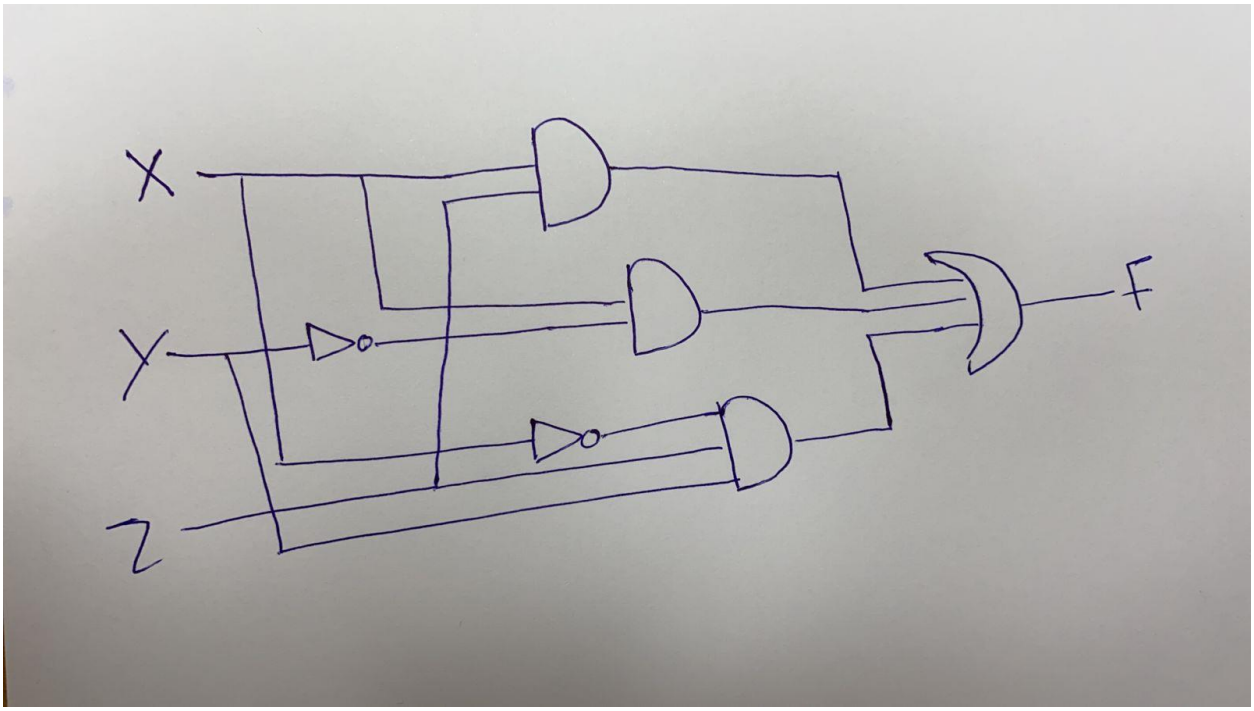
4. (NOT A OR NOT B) AND C

A	B	C	A'	B'	A'+B'	(A'+B').C
0	0	0	1	1	1	0
0	0	1	1	1	1	1
0	1	0	1	0	1	0
0	1	1	1	0	1	1
1	0	0	0	1	1	0
1	0	1	0	1	1	1
1	1	0	0	0	0	0
1	1	1	0	0	0	0

2. Given the following Boolean expression: F(X,Y, Z) = X.Z + X.Y` + X`.Y.Z

X	Y	Z	X.Z	X.Y'	X'.Y.Z	F(X,Y,Z)
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	0	0
0	1	1	0	0	1	1
1	0	0	0	1	0	1
1	0	1	1	1	0	1
1	1	0	0	0	0	0
1	1	1	1	0	0	1

B.



c.Build the circuit in part b using the logisim Software.