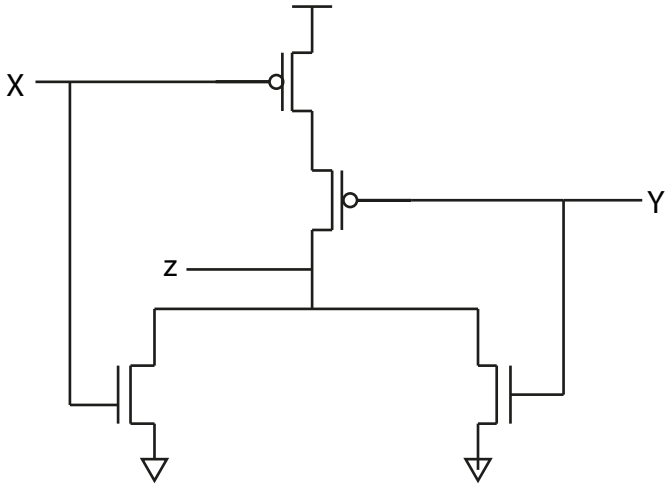
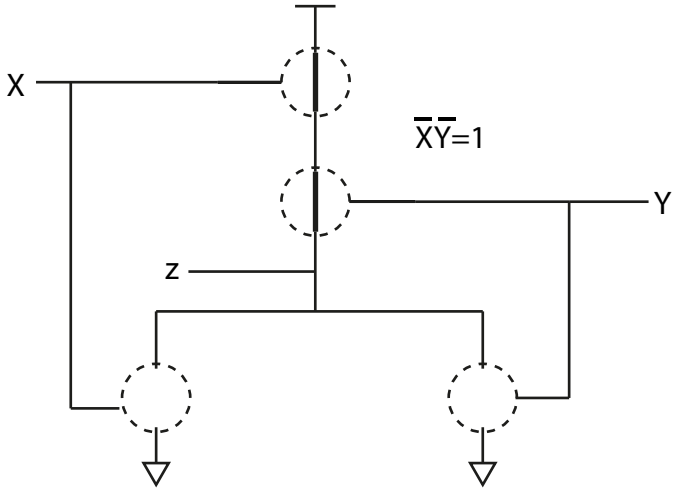
1



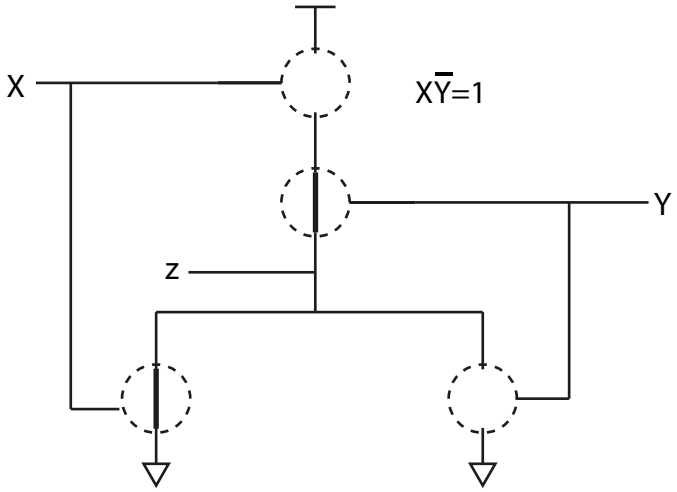
Jamal Kharrat

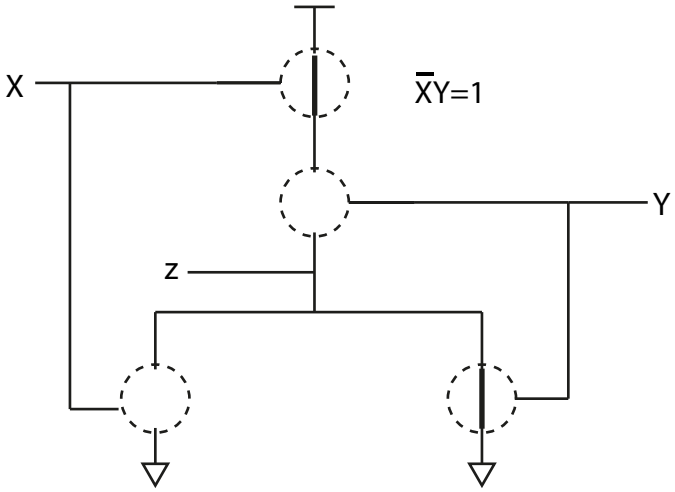
2

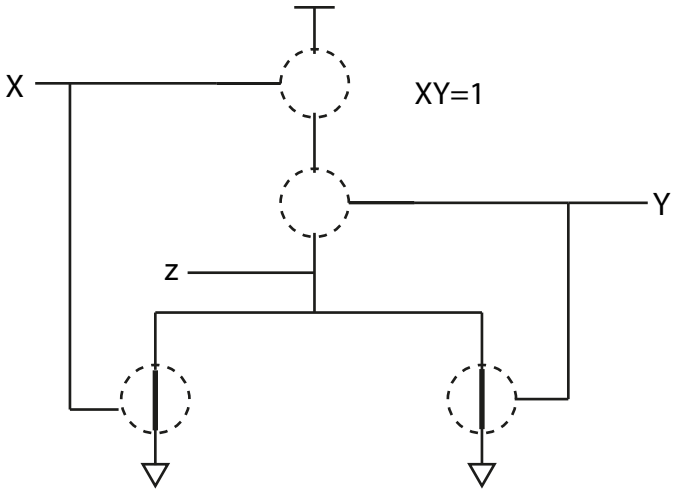
a



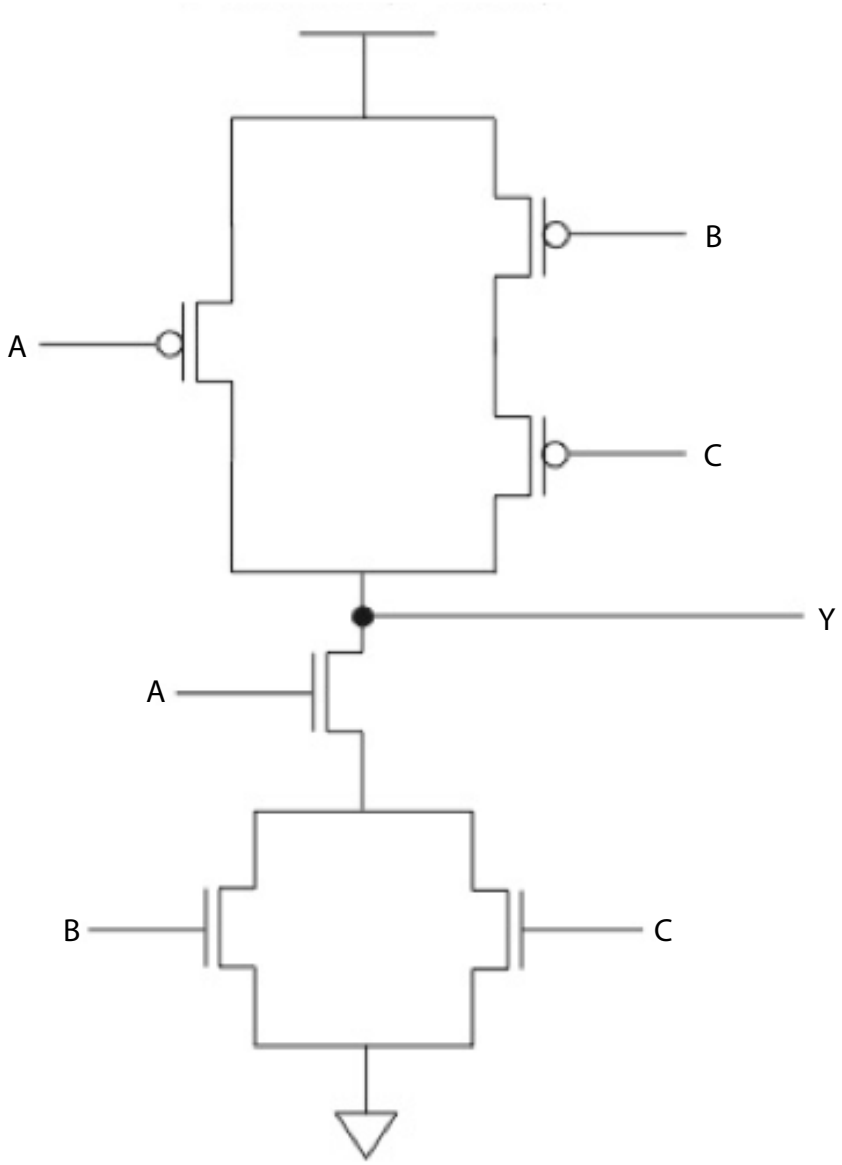
b







3



4 A=0 and B or C =0 => $\bar{A}\,(\bar{B}+\bar{C})$

5 A=1 or B and C =1 => A + (BC)

Yes we get a legal circuit

A	B	C	To Z	To Ground	Output
0	0	1	Y	N	1
0	0	1	Y	N	1
0	1	0	Y	N	1
0	1	1	N	Y	0
1	0	0	N	Y	0
1	0	1	N	Y	0
1	1	0	N	Y	0
1	1	1	N	Y	0

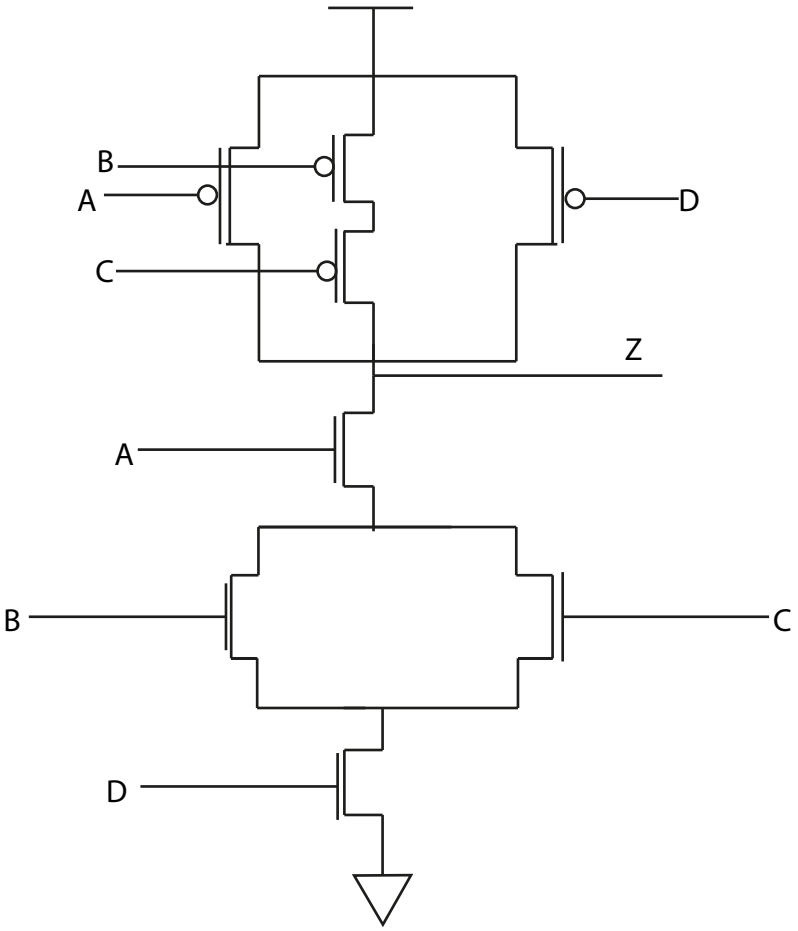
6

A=1 and B or C =1 => A(B+C)

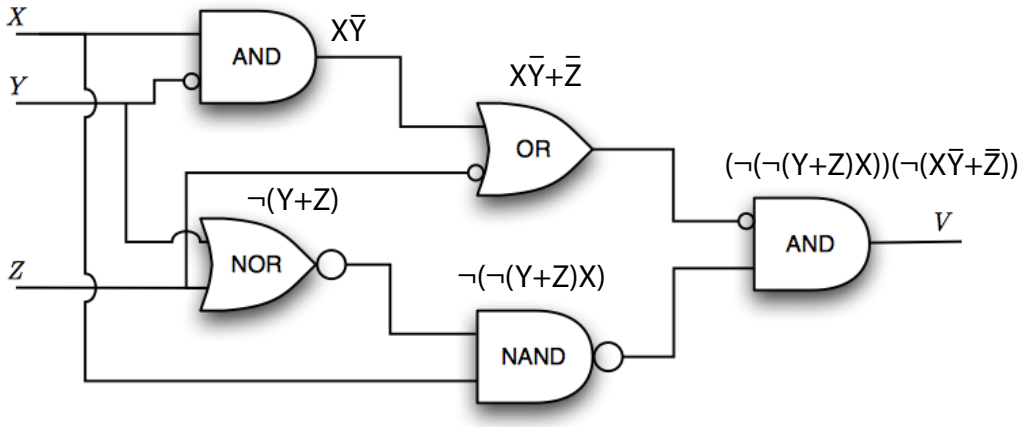
B- no we don't get a legal circuit

A	B	C	To Z	To Ground	Output
0	0	1	Y	N	1
0	0	1	Y	N	1
0	1	0	Y	N	1
0	1	1	N	N	Open
1	0	0	N	N	Open
1	0	1	N	Y	0
1	1	0	N	Y	0
1	1	1	N	Y	0

7



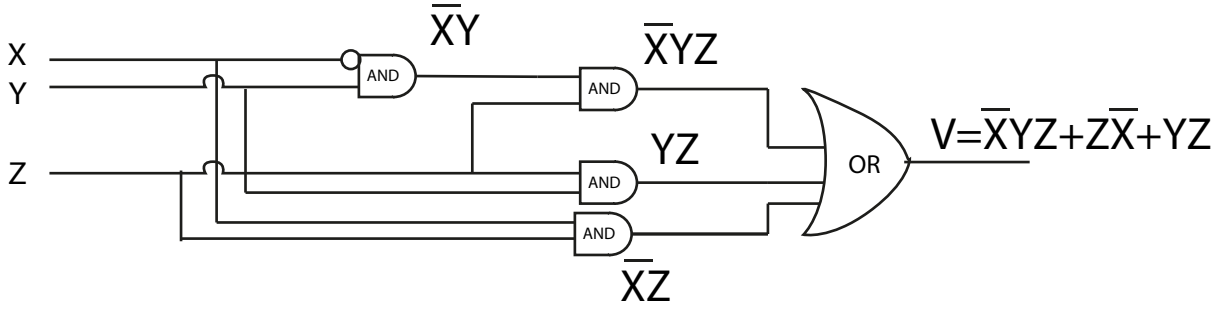
8



$$V=(\neg((\bar{Y}\bar{Z})X))(\neg(X\bar{Y}+\bar{Z}))$$

X	Y	Z	V
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	0
1	1	1	1

$V=\overline{X}YZ+Z\overline{X}+YZ$



	XY			
Z	00	01	11	10
0	0	0	0	0
1	1	1	1	0

$\overline{X}Z+YZ$