

### Truth Table

	x	y	z	A	B	C	
0	0	0	0	0	0	1	} output is one greater than Input
1	0	0	1	0	1	0	
2	0	1	0	0	1	1	
3	0	1	1	1	0	0	
4	1	0	0	0	1	0	} output is two less than input.
5	1	0	1	0	1	1	
6	1	1	0	1	0	0	
7	1	1	1	1	0	1	

### Kmap for A

		01	11	10	00
z	0	0	0	1	0
z	1	0	0	1	1
		00	01	11	10
x	0	0	0	1	0
x	1	0	0	1	1

$$A = xy + yz$$

		yz	00	01	11	10
x	0		0	1	0	1
	1		1	1	0	0

$$B = y'z + xy' + x'yz'$$

Kmap For C

		yz	00	01	11	10
x	0		1	0	0	1
	1		0	1	1	0

$$C = x'y'z' + x'yz' + xz$$

Kmap Equations:

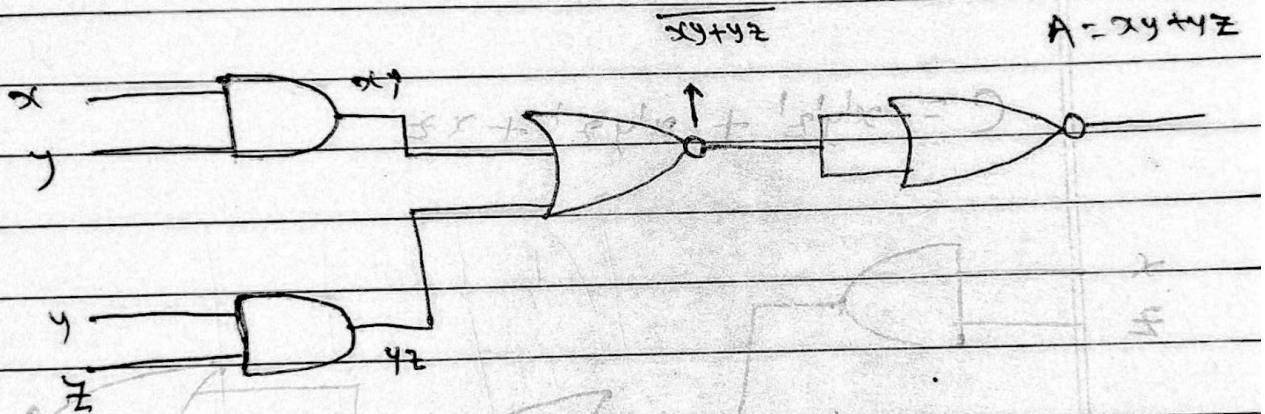
$$A = xy + yz$$

$$B = y'z + xy' + x'yz'$$

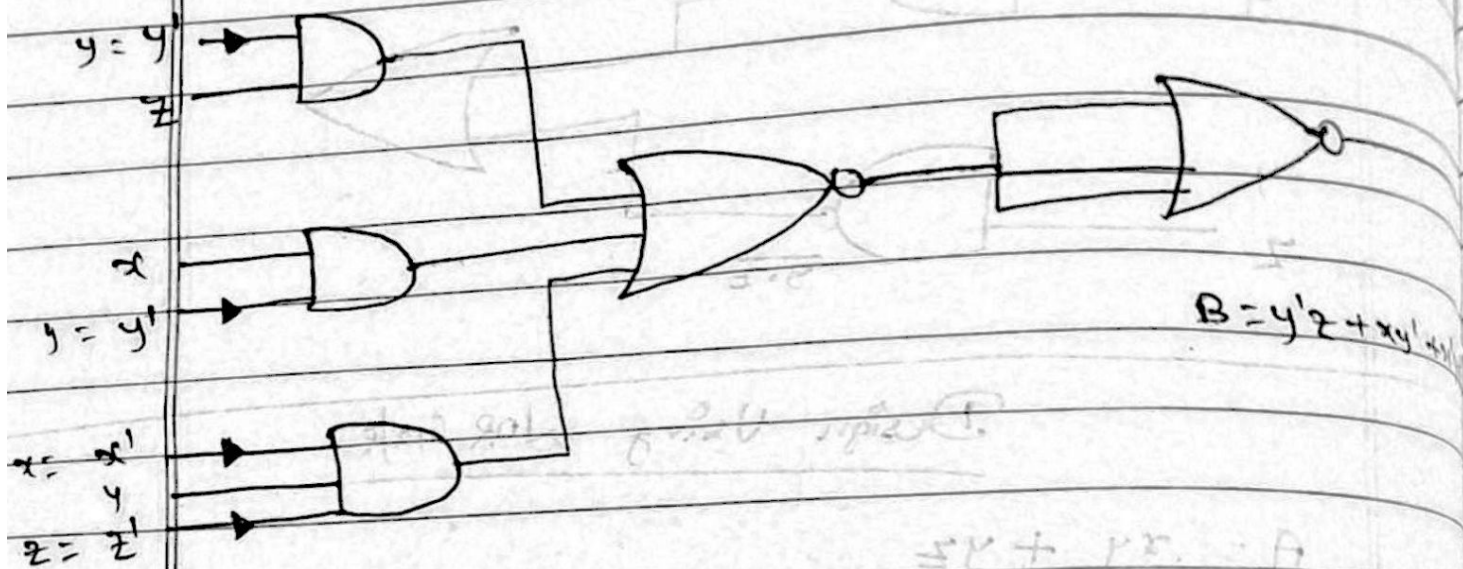
$$C = x'y'z' + x'yz' + xz$$

# Design Using NOR Gate

$$A = xy + yz$$

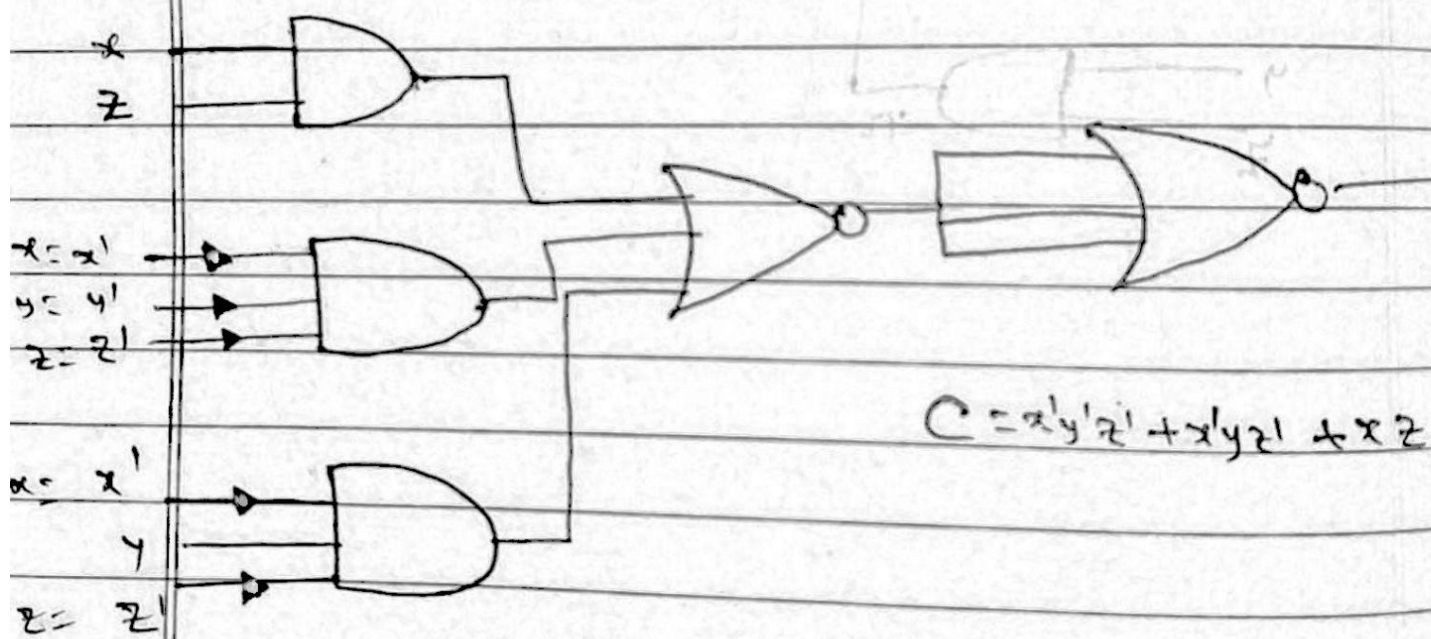


$$B = y'z + xy' + x'yz'$$



$$B = y'z + xy' + x'yz'$$

$$C = x'y'z' + x'yz' + xz$$



$$C = x'y'z' + x'yz' + xz$$