CSC 258 Lab1

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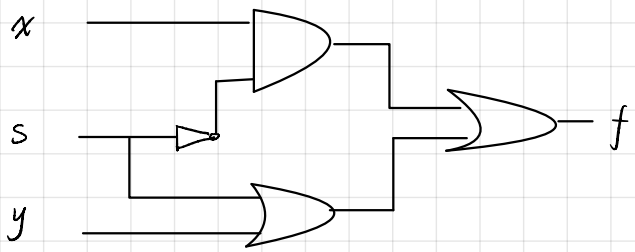
Part I

$$f = xs' + ys$$

This notation is shorthand for the following expression:

f = (x AND NOT(s)) OR (y AND s)

1.



2. Truth Table

x	s	y	s'	xs'	ys	f ($xs'+ys$)
0	0	0	1	0	0	0
0	0	1	1	0	0	0
0	1	0	0	0	0	0
0	1	1	0	0	1	1
1	0	0	1	1	0	1
1	0	1	1	1	0	1
1	1	0	0	0	0	0
1	1	1	0	0	1	1

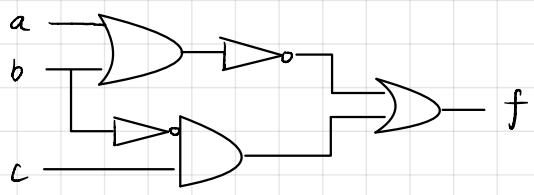
Part II

$$f = (a+b)' + cb'$$

This notation is shorthand for the following expression:

f = (NOT (a OR b)) OR (c AND NOT(b))

1.



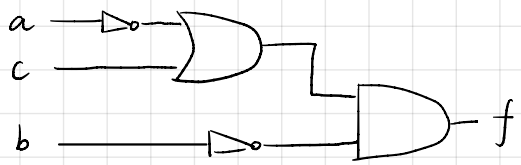
2. Truth Table

a	b	c	$(a+b)'$	cb'	$f\ (\ (a+b)' + cb'\ )$
0	0	0	1	0	1
0	0	1	1	1	1
0	1	0	0	0	0
0	1	1	0	0	0
1	0	0	0	0	0
1	0	1	0	1	1
1	1	0	0	0	0
1	1	1	0	0	0

3. $f = (a+b)' + cb'$

$= a'b' + cb'$

$= b'(a' + c)$



4 gates