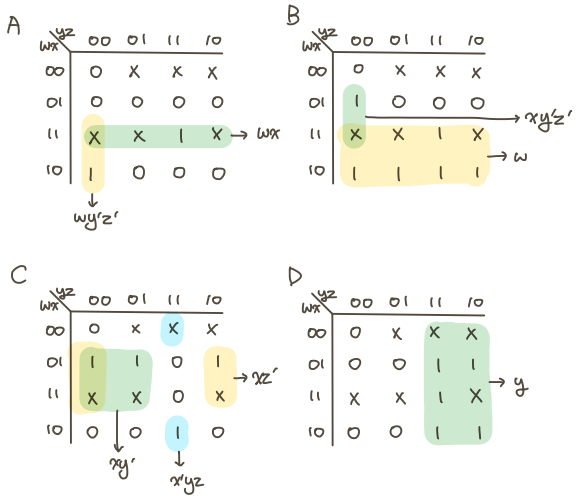
디지털 시스템 과제 3

17011599 안정영

#4.8

(b) 8.4.-2.1

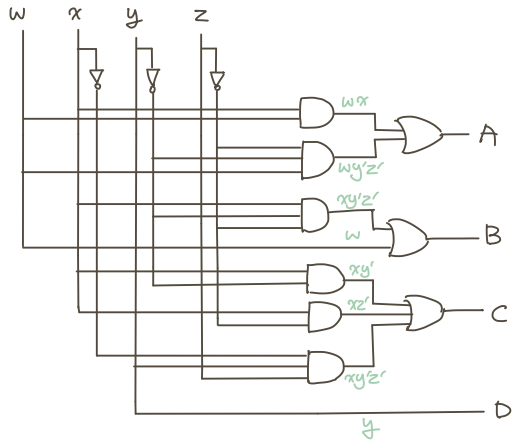


A = wx + wy'z'

B = w + xy'z'

C = xy' + xz' + x'yz

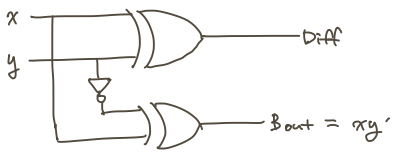
D = y



#4.12

(a)

x	y	Diff.	Bout
0	0	0	0
0	1	1	0
1	0	1	1
1	1	0	0



∴ Diff = x'y + xy' = x ⊕ y

Bout = xy'

(b)

x	y	Bin	Diff.	Bout
0	0	0	0	0
0	0	1	1	1
0	1	0	1	0
0	1	1	0	0
1	0	0	1	1
1	0	1	0	1
1	1	0	0	0
1	1	1	1	1

x \ y	00	01	11	10
0	0	1	0	0
1	1	1	1	0

∴ Bout = xy' + x'Bin + yBin

Diff. = x ⊕ y ⊕ Bin

#4.28

(b) $F_1 = (y'+x)z$

$= y'z + xz$

$= (x+x')y'z + x(y+y')z$

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

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

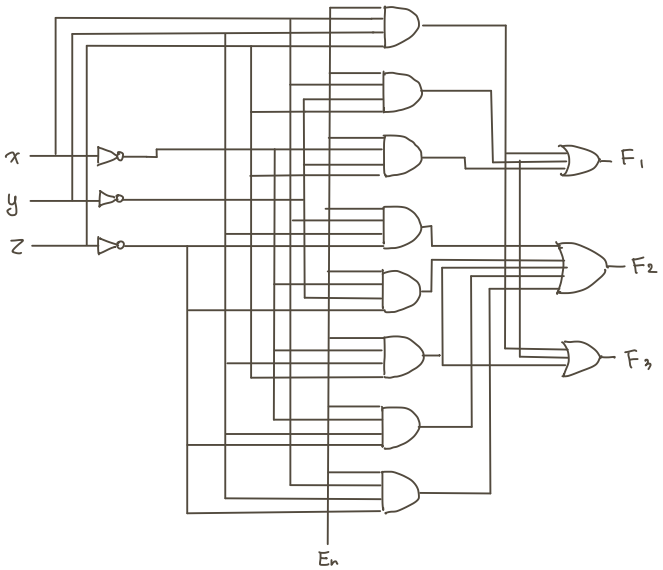
$F_2 = (x'+y)(x'+z)$

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

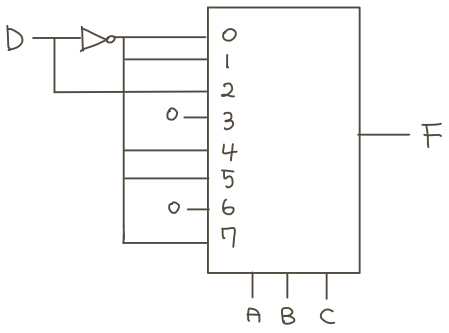
$= x'yz + x'yz' + xyz + x'yz + x'y'z$

$F_3 = x'y + yz' + x'z + z\cdot z'$ (z·z' = 0)

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



#4.32

(a) $F(A,B,C,D) = \Sigma(0,2,5,8,10,14)$

ABCD	F	
0000	1	D′
0001	0	
0010	1	D′
0011	0	
0100	0	D
0101	1	
0110	0	0
0111	0	
1000	1	D′
1001	0	
1010	1	D′
1011	0	
1100	0	0
1101	0	
1110	1	D′
1111	0