

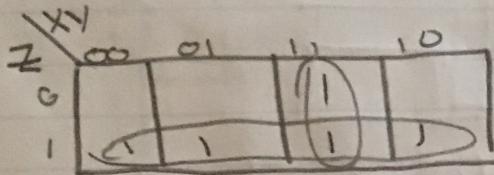
Hw4: Keegan Haghshenas RUID:171000841: (10/08/17)

#'s: 14a-14e, 15b, 15f, 18a, 18b, 19b, 19d, 35, 36, 59b, 61:

14:

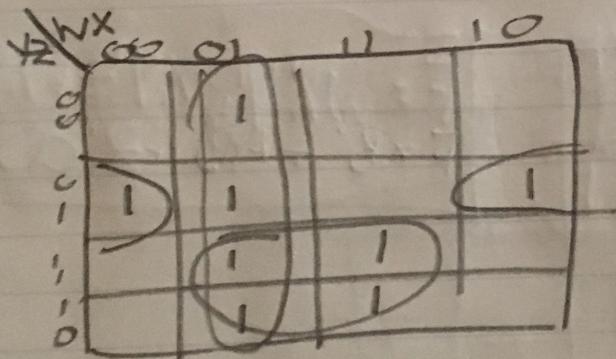
a) $F = \sum_{xyz} (1, 3, 5, 6, 7)$

$$F = z + xy$$



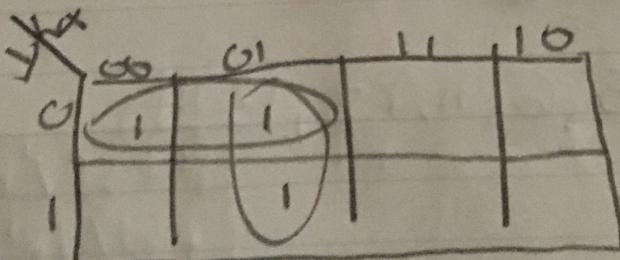
b) $F_{xyz} = \sum (1, 4, 5, 6, 7, 9, 14, 15)$

$$F = \overline{w'x} \cdot \overline{xy} \cdot \overline{x'y} \cdot \overline{z}$$



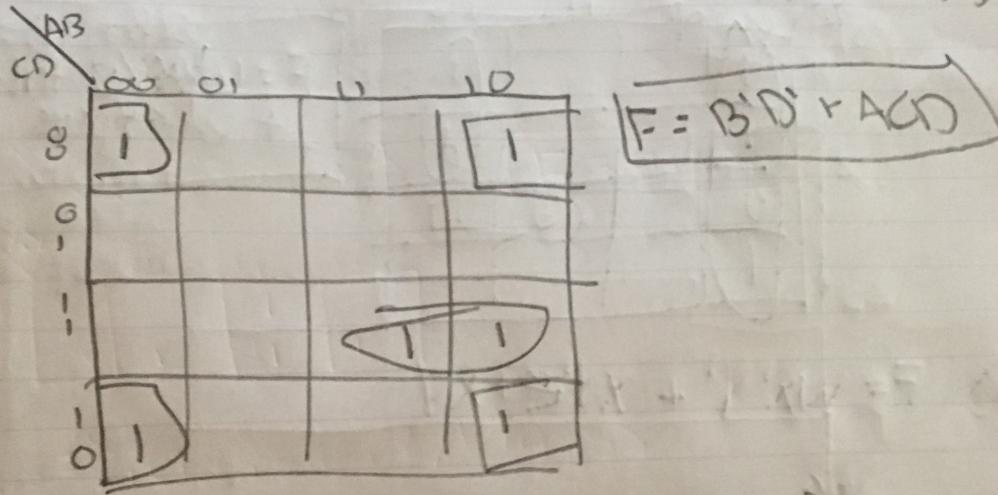
c) $F = \overline{w'xy} (1, 4, 5, 6, 7) \rightarrow F = \sum_{wxy} (0, 2, 3)$

$$F = \overline{w'y} + \overline{w'x}$$

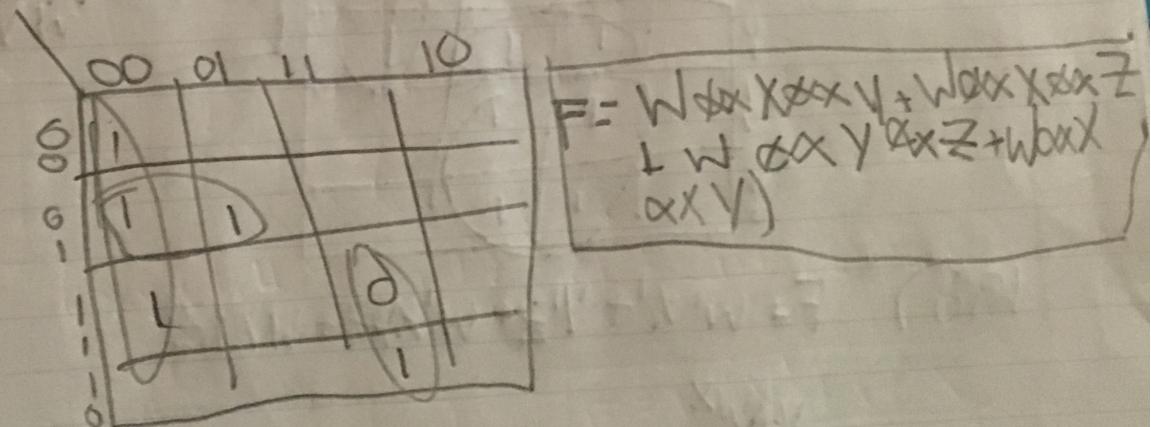


15f)

$$F = \prod_{ABCDO} (1, 3, 4, 5, 6, 7, 9, 12, 13, 14) \rightarrow \sum_{ABCDO} (0, 2, 4, 10, 11, 15)$$

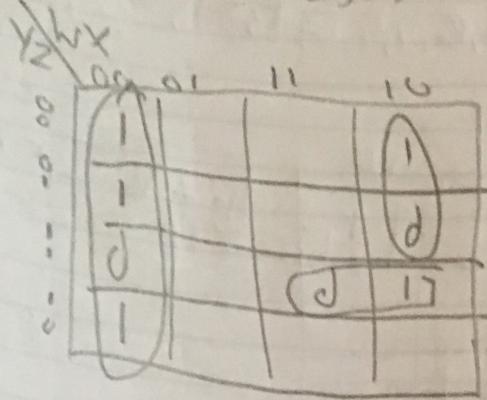


18a) $F = \sum_{WXYZ} (0, 1, 3, 5, 14) + \bar{D}(5, 15)$



18b)

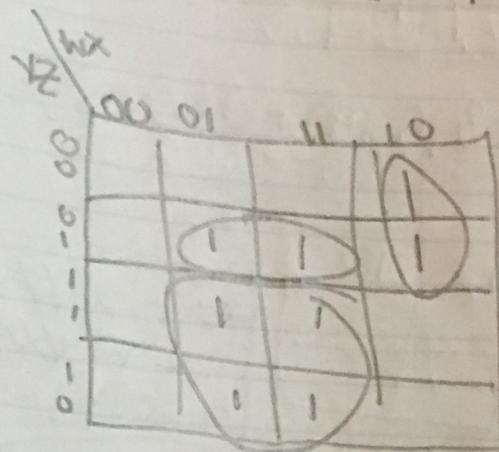
$$F = \sum_{wxzy} (0, 128, 11) + d(39, 15)$$



$$F = W \bar{w} \bar{x} \bar{y} + W \bar{w} x \bar{y} \bar{z} + W x \bar{y} z + \bar{w} y z$$

19b)

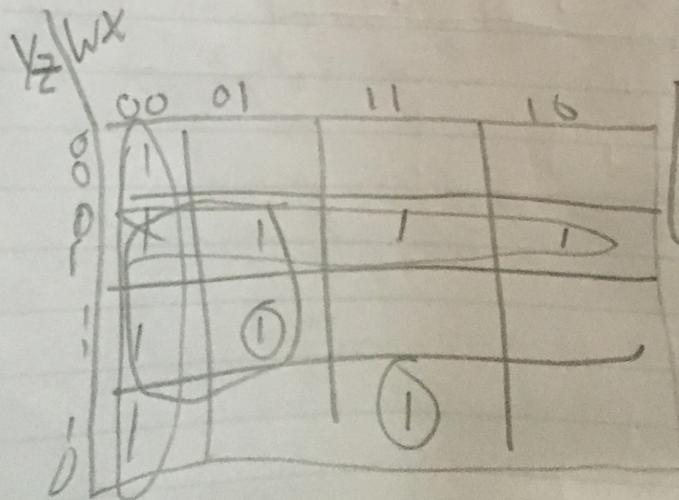
$$F = W \bar{x} \bar{y} + \bar{x} \bar{y} z + \bar{x} y$$



$$F = W \bar{x} \bar{y} + \bar{x} \bar{y} z + \bar{x} y + x \bar{y} + x z + \bar{w} y z$$

19d)

$$F = \bar{w} \bar{x} \bar{y} + \bar{y} \bar{z} + w' x \bar{y} z + w x y z$$

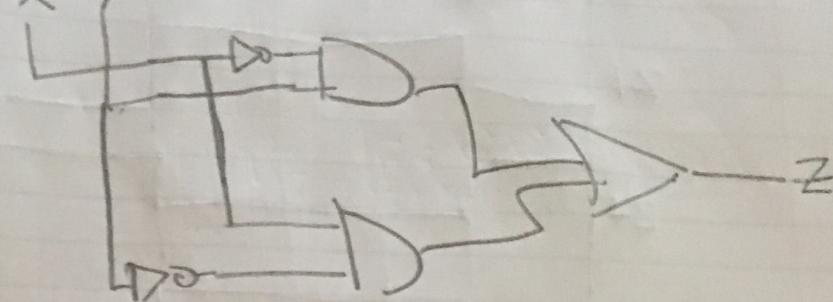


$$F = \bar{w} \bar{x} \bar{y} + \bar{y} \bar{z} + w' x \bar{y} z + w x y z + \bar{z} y w + z' y w + \bar{z} y' w + z' y' w$$

35)

X	Y	Z
0	0	0
0	1	1
1	0	1
1	1	0

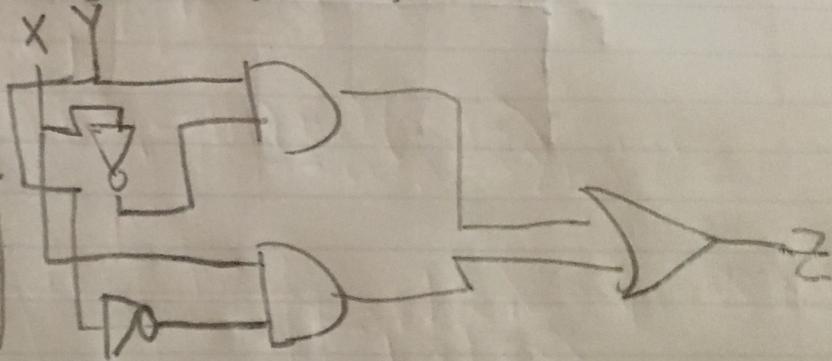
$$Z = X'Y + XY'$$



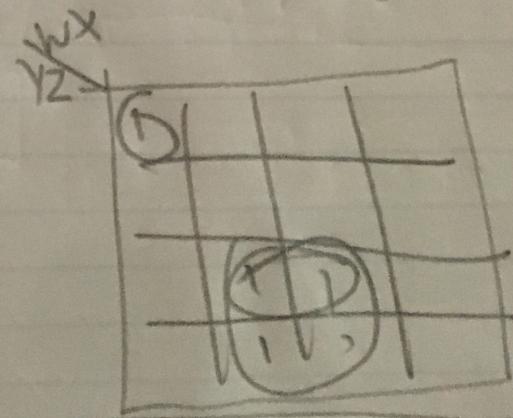
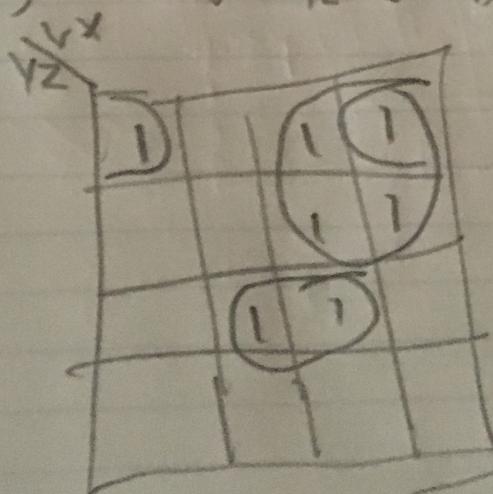
36)

X	Y	Z
0	0	1
0	1	0
1	0	0
1	1	1

$$Z = X'Y + XY$$



59b) $F = \sum_{VWXY} (0, 7, 8, 9, 12, 13, 15, 16, 22, 23, 30, 31)$

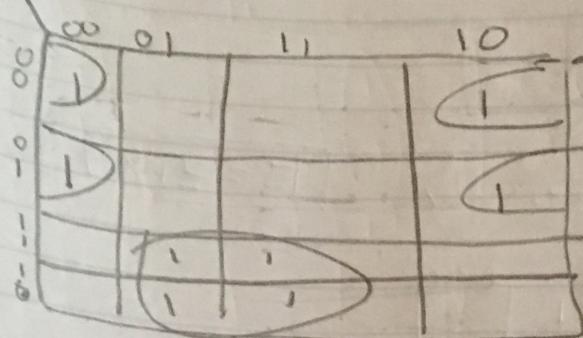


$$XYZ + WY'V' + VXY + W'X'V'Z' + V'V'Z'$$

d)

$$F = \sum_{WXYZ} (0, 1, 6, 7, 8, 9, 14, 15)$$

Σ_{WZ}

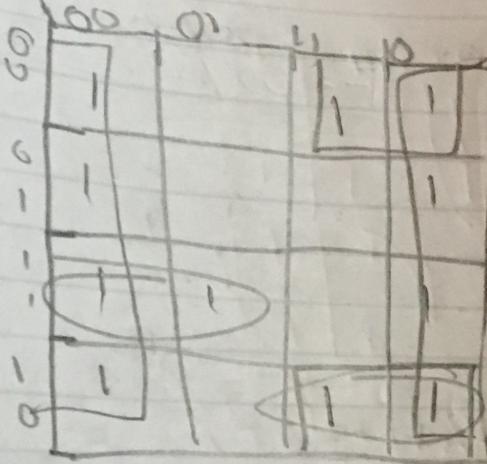


$$F = XY + X'Y'$$

c)

$$F = \prod_{ABCD} (4, 5, 6, 13, 15) \rightarrow \sum_{minterms} (0, 1, 2, 3, 7, 8, 9, 10, 11, 12, 14)$$

Σ_{AB}

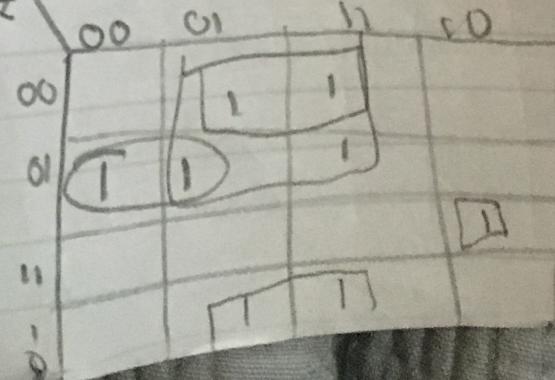


$$F = B' + AD' + A'CD$$

15b)

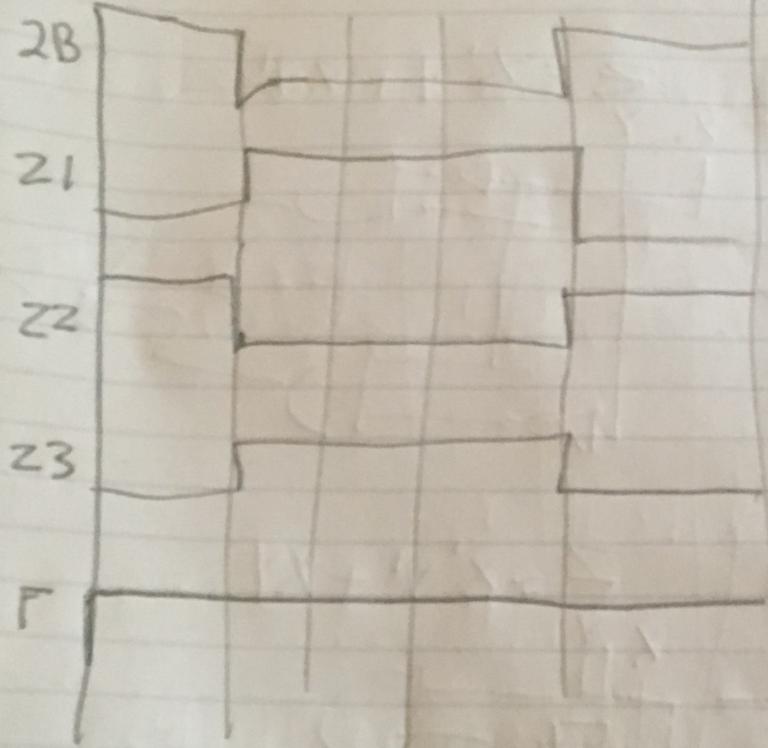
$$F = \sum_{WXYZ} (1, 4, 5, 6, 11, 12, 13, 14)$$

Σ_{WX}



$$F = XY' + XZ' + WY'Z + WX'YZ$$

61)



The output is

$zB + \bar{z}B = 1$, so it
does nothing. It gives
output non-respective
to zB . Also it
spoken as the famous
lines!