Friday, February 06, 2009
1:38 PM

Read your textbook

- skip chapter 3 for now, will come back to it.
- We are at chapter 4 now

SOP — Not AND OR — box the 1s

NAND POS — Not OR AND — box the 0s

NOR

XOR

x_1	x_2	f
0	0	0
0	1	1
1	0	1
1	1	0

SOP: $f = \bar{x}_1 x_2 + x_1 \bar{x}_2$

POS: $g = (x_1 + x_2)(\bar{x}_1 + \bar{x}_2)$

XOR gate

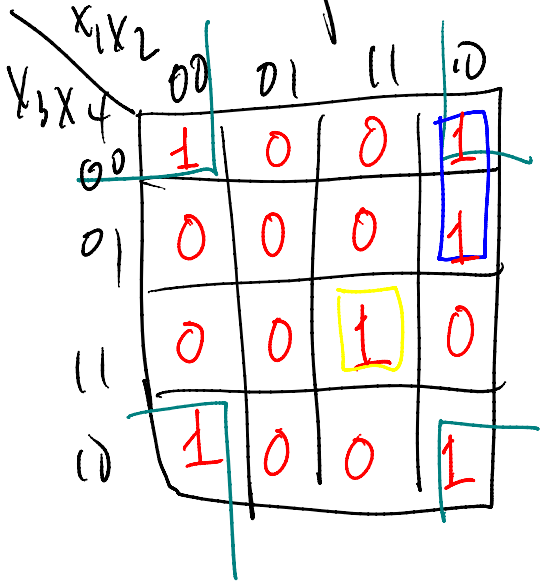
$f = x_1 \oplus x_2$

$z = \bar{x}_1 \bar{x}_2 + x_1 x_2 = x_1 \odot x_2$ XNOR

Friday, February 06, 2009
1:38 PM

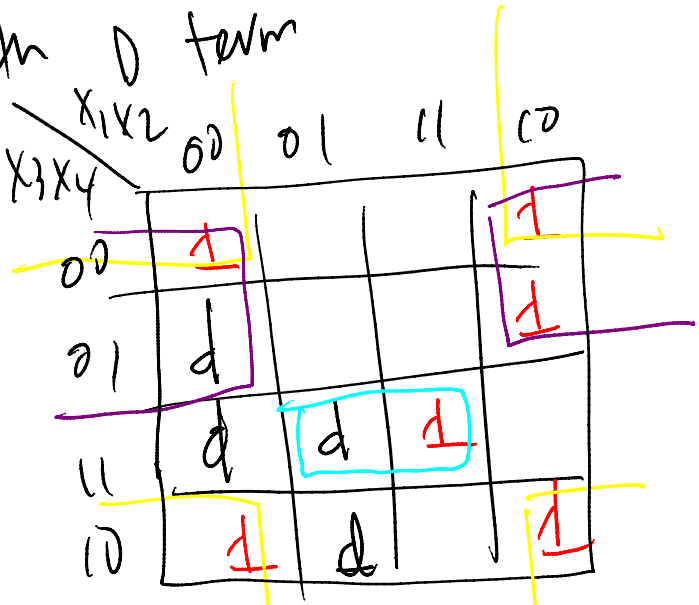
$f(x_1, x_2, x_3, x_4) = \Sigma m(0, 2, 8, 9, 10, 15) + D(1, 3, 6, 7)$

without considering D term



$f = \bar{x}_2 \bar{x}_4 + x_1 \bar{x}_2 \bar{x}_3 + x_1 x_2 x_3 x_4$

with D term



4 variable pvo

1x1 4_variable

2x1 or 1x2 } 3_variable

2x2 4x1 1x4 } 2_variable

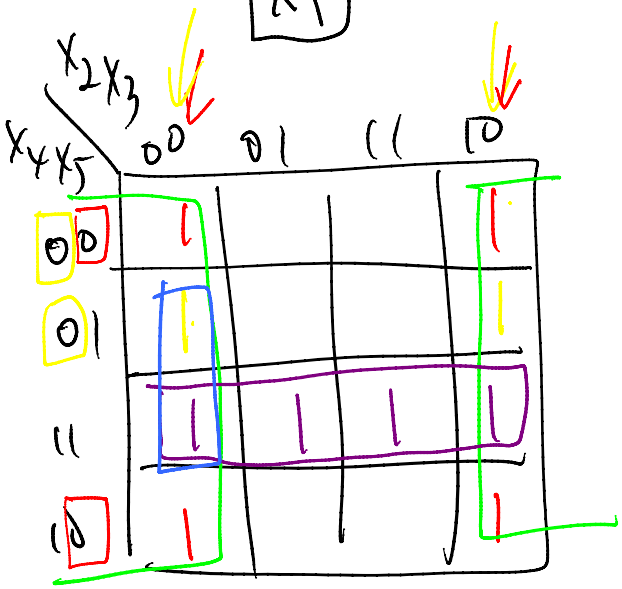
$f = \bar{x}_2 \bar{x}_4 + \bar{x}_2 \bar{x}_3 + x_2 x_3 x_4$

Friday, February 06, 2009
1:38 PM

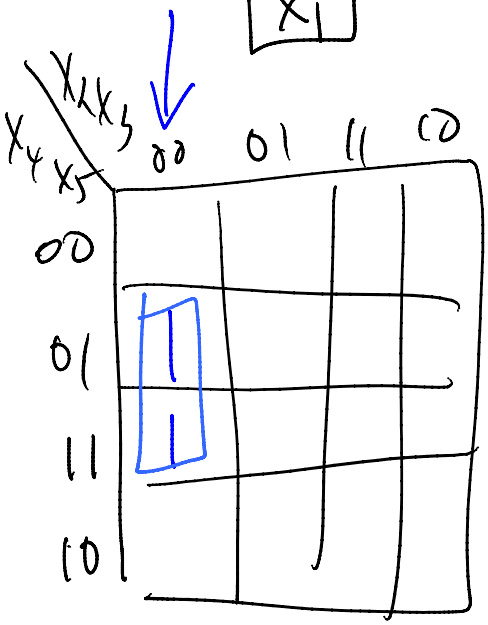
2.25

$$f = \bar{x}_1\bar{x}_3\bar{x}_5 + \bar{x}_1\bar{x}_3\bar{x}_4 + \bar{x}_1x_4x_5 + x_1\bar{x}_2\bar{x}_3x_5$$

$\bar{x}_1$



x_1



$$\bar{x}_1\bar{x}_3 + \bar{x}_1x_4x_5 + \bar{x}_2\bar{x}_3x_5$$