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Feb 24 - 26 on test I, Feb 25

Upload old test

NAND only network

$f = \Sigma m(?,?,?,?)$

2 SOP → bubbles

Demorgan's

? D

D

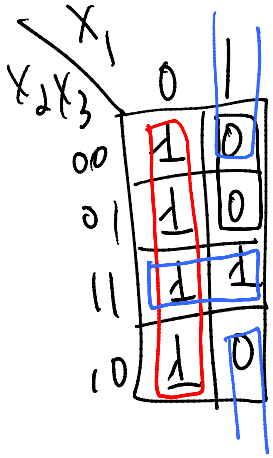
NOR only network

POS → D

D

Given $f = \Sigma m(0,1,2,3,7)$ $\Pi M(4,5,6)$

1s 0s



f in sop ⇒ $f = \bar{X}_1 + X_2 X_3$

f in pos ⇒ $f = (\bar{X}_1 + X_2)(\bar{X}_1 + X_3)$

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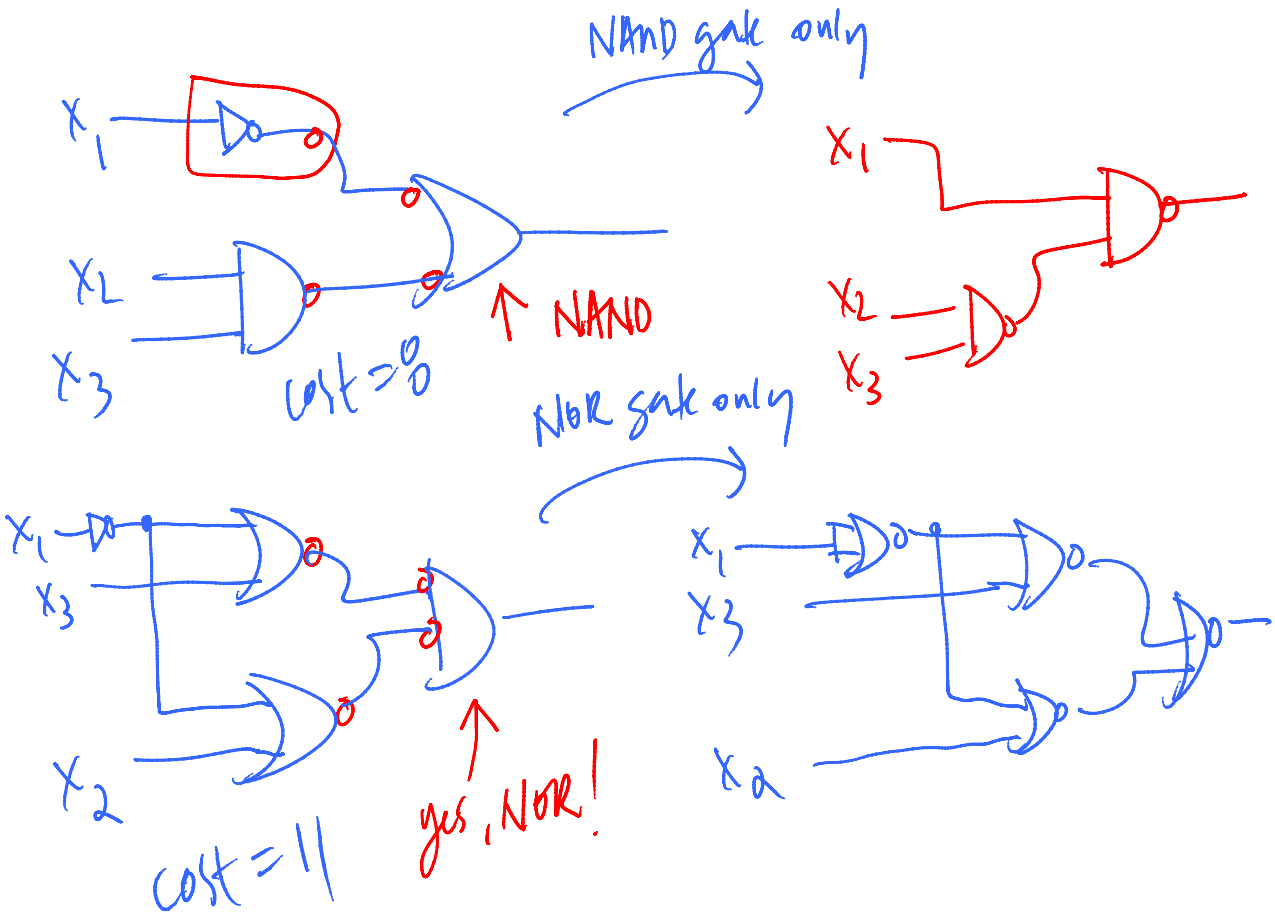
f in sop $\Rightarrow f = \bar{x}_1 + x_2 x_3$

f in pos $\Rightarrow f = (\bar{x}_1 + x_3)(\bar{x}_1 + x_2)$



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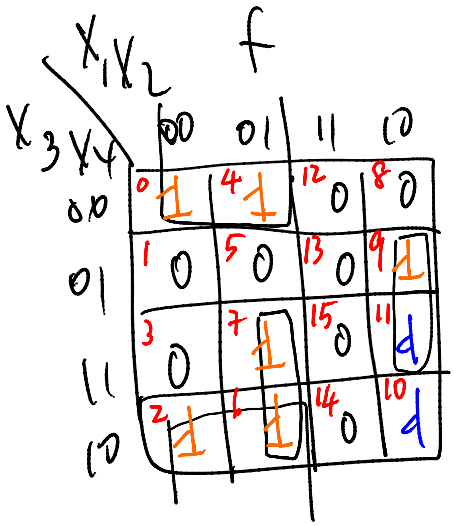
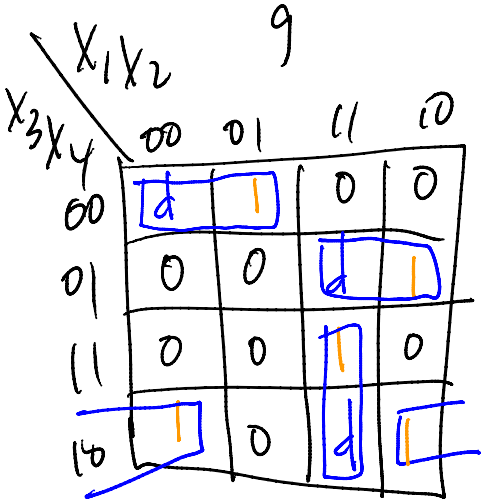
problem 4.12 (page 239 of text book)

$$f(x_1, \ldots x_4) = \Sigma m(0,2,4,6,7,9) + D(10,11)$$

$$g(x_1 \ldots, x_4) = \Sigma m(2,4,9,10,15) + D(0,13,14)$$





$$f = \bar{x}_1 \bar{x}_4 + x_1 \bar{x}_2 x_4 + \bar{x}_1 x_2 x_3$$

cost = 15

$$g = \bar{x}_1 x_3 \bar{x}_4 + \bar{x}_2 x_3 \bar{x}_4 + x_1 x_2 x_3 + x_1 \bar{x}_3 x_4$$

cost = 21

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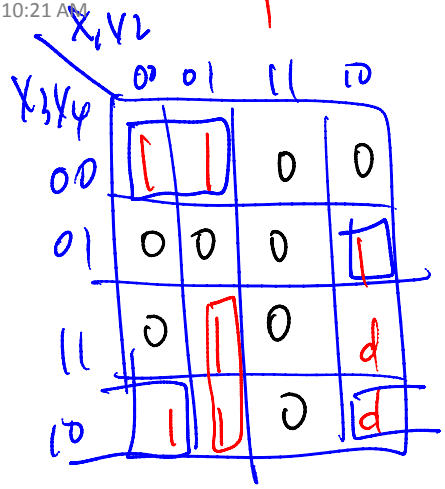
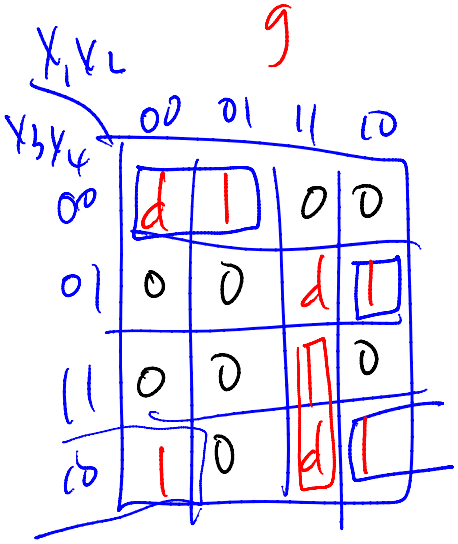
f

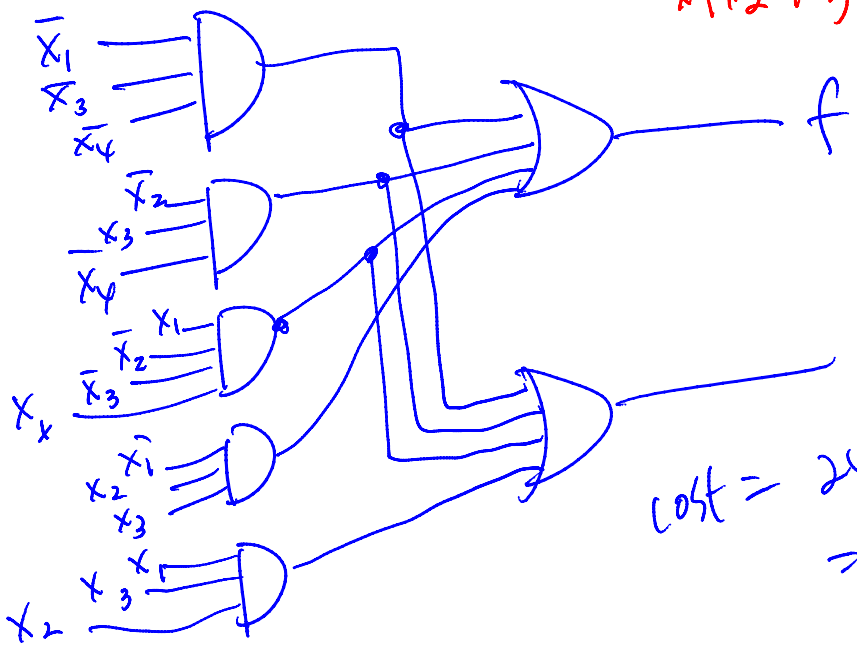


g



$f = \bar{X}_1\bar{X}_3\bar{X}_4 + \bar{X}_2X_3\bar{X}_4 + X_1\bar{X}_2\bar{X}_3X_4 + \bar{X}_1X_2X_3$

$g = \bar{X}_1\bar{X}_3\bar{X}_4 + \bar{X}_2X_3\bar{X}_4 + X_1\bar{X}_2\bar{X}_3X_4 + X_1X_2X_3$



cost = 24 + 7
= 31