Chapter 5

1. 100

nor

B, C → (nor gate)
A →

And → X

$A(\overline{B+C}) = X$

Chapter 3

1. $\overline{a}\overline{b}\overline{a}\overline{b}$

$\overline{\overline{a}\overline{b}a} \quad \overline{\overline{a}\overline{b}b} \quad \overline{a\overline{b}a} \quad \overline{a\overline{b}b}$

$\overline{(\overline{a}+\overline{b})a} + \overline{(\overline{a}+\overline{b})b} + \overline{(\overline{a}+\overline{b})a} + \overline{(\overline{a}+\overline{b})b}$

$(\overline{a}\overline{b})a + (\overline{a}\overline{b})b + (\overline{a}\overline{b})a + (\overline{a}\overline{b})b$

$(a\overline{b})a + (\overline{a}b)b + (\overline{a}b)(b) + (\overline{a}b)(b)$

$(\overline{a}\overline{b}+\overline{a}\overline{b})a\overline{b} + (\overline{a}\overline{a}+\overline{a}\overline{b})(b)$

$\overline{a}\overline{b} + \overline{b}\overline{a} + \overline{b}\overline{a} + \overline{b}\overline{a}$

$\overline{b}a + \overline{b}\overline{a} \quad XOR$

2.

High / low

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15